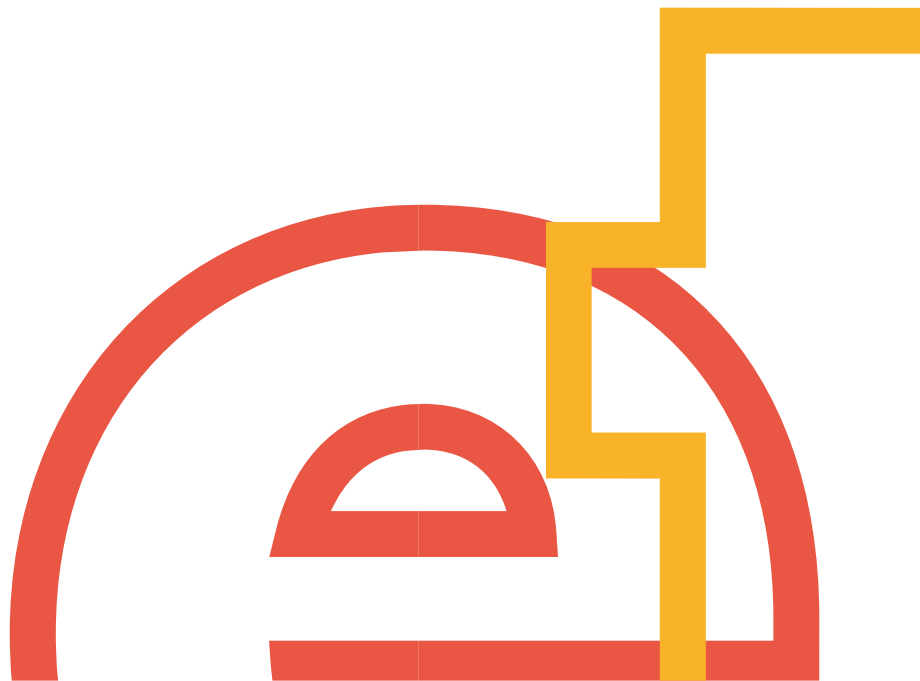




**Thirteen Housing Group Ltd  
Contract for Works**

**Contract Ref: THIR 24 201**



The Agreement

The Group	Thirteen Housing Group Ltd, 2 Hudson Quay, Windward Way, Middlesbrough, TS2 1QG, a charitable Community Benefit Society registered under the Co-operative and Community Benefits Societies Act (Registered number 7522)
The Contractor	Warsett Ltd, Room 103 The Innovation Centre, Kirkleatham Business Park, Redcar, Cleveland, England, TS10 5SH registered in England and Wales, company registration number 06226181.

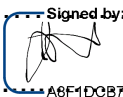
BACKGROUND

- 1. The Group has invited tenders for the refurbishment, repairs and thermal upgrade works of 21 Edward Street, South Bank, Redcar.
- 2. The Contractor has submitted a tender for the above, which has been accepted by the Group.

THE AGREEMENT

- 1. The following documents are incorporated into this Agreement:
  - i) The Tender accepted by the Group (including all the documents referred to in the Tender and specifically the answers to questions in Quality Section).
  - ii) The Contract Conditions.
  - iii) The Specification.
- 2. The documents in 1 are termed "the Contract Documents".
- 3. In consideration of the amounts to be paid for the Works by the Group in accordance with the Contract Documents the Contractor agrees with the Group to provide the Works to the Group's satisfaction in accordance with the Contract Documents.

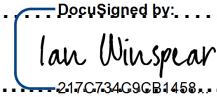
SIGNED by duly authorised signatories of the Group and the Contractor respectively.

Signed by: .....  
  
A6F1D0B7C4A04B9.....

Print Name

.....  
Matt Forrest  
.....

Print Name

Signed by: .....  
  
217C734C9CB4458.....

Print Name

.....  
Ian winspear  
.....

Print Name

for the Group

for the Contractor



## CONTRACT PARTICULARS

<b>Contract reference</b>	<b>THIR 24 201</b>
<b>Commencement date</b>	<b>28/04/2025</b>
<b>Contract period (including extension periods)</b>	<b>6 weeks</b>
<b>Initial term expiry date</b>	<b>13/06/2025</b>
<b>Contract term end date</b>	<b>13/06/2025</b>
<b>Contract value (including extension periods)</b>	<b>£40,514.13</b>
<b>Company</b>	Thirteen Housing Group Ltd, 2 Hudson Quay, Windward Way, Middlesbrough, TS2 1QG
<b>Authorised Officer</b>	David Murray
<b>Contractor</b>	Warsett Ltd Room 103 The Innovation Centre Kirkleatham Business Park Redcar TS10 5SH
<b>Contract Manager</b>	<b>Ian Winspear</b>
<b>Goods/ Service(s)</b>	<b>Refurbishment, repairs and thermal upgrade works of 21 Edward Street, South Bank, Redcar</b>
<b>Employers Liability insurance</b>	£10,000,000.00 for each and every claim
<b>Public Liability insurance</b>	No less than £5,000,000.00 for each and every claim
<b>Professional Indemnity insurance</b>	No less than £5,000,000.00 for each claim
<b>Specification</b>	<b>Refer to schedule 1</b>
<b>Pricing schedule</b>	<b>Refer to schedule 2</b>

**Thirteen Housing Group Ltd**  
**STANDARD TERMS AND CONDITIONS OF CONTRACT**  
**FOR THE PURCHASE OF WORKS**

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## **PART A – OPERATIVE PROVISIONS**

### **A1. DEFINITIONS**

The terms and expressions used in these Conditions shall have the meanings set out below:

words importing the singular meaning include where the context so admits the plural meaning and vice versa;

words importing the masculine include the feminine and the neuter;

the words “include”, “includes” and “including” are to be construed as if they were immediately followed by the words “without limitation”;

references to any person shall include natural persons and partnerships, firms and other incorporated bodies and all other legal persons of whatever kind and however constituted;

references to any statute, enactment, order, regulation or other similar instrument shall be construed as a reference to the statute, enactment, order, regulation or instrument as amended by any subsequent enactment, modification, order, regulation or instrument as subsequently amended or re-enacted;

headings are included for ease of reference only and shall not affect the interpretation or construction of these Conditions;

references in these Conditions to any Paragraph or sub-paragraph without further designation shall be construed as a reference to the paragraph or sub-paragraph of the relevant Schedule to these Conditions so numbered;

reference to a Clause is a reference to the whole of that clause unless stated otherwise;

Authorised Officer

the person duly appointed by the Company and notified in writing to the Contractor to act as the representative of the Company for the purpose of the Contract in the Contract Particulars or as amended from time to time and in default of such notification the Company’s head of procurement or similar responsible officer

Business Day

any day, which is not a Saturday or a Sunday, or a public or bank holiday in England

Change in Law

the coming into effect or repeal (without re-enactment or

consolidation) of any Law, or any amendment, modification, or variation to any Law, or any judgement of a relevant court of law which changes binding precedent in England in each case after the date of this Contract

Commencement Date

the commencement date set out in the Contract Particulars

Confidential Information

any information which has been designated as confidential by either party in writing or that ought to be considered as confidential (however it is conveyed or on whatever media it is stored) including information which relates to the Goods or Services, the business, affairs, properties, assets, pricing, financial trading practices, developments, trade secrets, Intellectual Property Rights, know-how, personnel, customers and suppliers of either party, all personal data and sensitive personal data (within the meaning of the GDPR) or information the disclosure of which would, or would be likely to, prejudice the commercial interests of any person

Contract

the agreement in respect of the provision of the Goods and/or the Services consisting of the following listed documents, which shall be read as one document. In the event of ambiguity, conflict or contradictions between these documents the conflict will be resolved according to the following order of priority

the Contract Particulars;

the Standard Terms and Conditions; and

the Tender except to the extent that any element of the Tender has been included in the Contract Particulars

Contractor

the contractor identified on the Contract Particulars with whom the



	Company enters into the Contract and where applicable this shall include the contractor's Employees, sub-contractors, agents, representatives, and permitted assigns and, if the contractor is a consortium or consortium leader, the consortium members.
Contract Manager	the person identified in the Contract Particulars as the contract manager and any replacement from time to time in accordance with clause B3.2
Contract Particulars	the specific core terms agreed between the parties with regard to the Goods and/or Services as set out within the Contract.
Contract Period	the period as set out in the Contract Particulars (and any extension in accordance with term B1
Control	control as defined by section 416 of the Income and Corporation Taxes Act 1988
Company	Thirteen Housing Group Ltd or any Group Company that may be identified in the Contract Particulars.
Data Protection Legislation	the Data Protection Act 2018 and any subordinate legislation made under such Act from time to time together with any codes of practice issued by the Information Commissioner or relevant government department in relation to such legislation.
Delivery Instructions	the instructions provided in the Contract Particulars and any other information that the Company considers appropriate to the provision of the Goods and/or Services
EIR	The Environmental Information Regulations 2004.
FOIA	The Freedom of Information Act 2000.

Force Majeure

any event or occurrence which is outside the reasonable control of either party concerned and which is not attributable to any act or failure to take preventative action by that party, including without limitation: acts of God, war, industrial action (subject to clause H6), protests, fire, flood, storm, tempest, epidemic, explosion, acts of terrorism and national emergencies, violent storm, persistent and malicious damage.

Good Industry Practice

the standards, practices, methods and procedures conforming to the Law and using the exercise of such degree of skill, diligence, care and foresight which would reasonably and ordinarily be expected from a skilled and experienced contractor engaged in the supply of services similar to the Services under the same or similar circumstances as those applicable to the Contract.

Goods

any goods, which are to be supplied by the Contractor under the Contract, as specified in the Contract Particulars

Group Company

in relation to either party, a subsidiary of that party or a holding company of that party or any other subsidiary of that holding company.

HRA

The Human Rights Act 1998.

Intellectual Property Rights

patents, inventions, trademarks, service marks, logos, design rights (whether registerable or otherwise), applications for any of the foregoing, copyright, know-how rights, brand names, database rights, domain names, trade or business names, moral rights and other similar rights or obligations whether registerable or not in any country (including but not limited to the United Kingdom) and the right to sue for passing off and including all applications and rights to apply for any

	of the same together with all or any goodwill relating to the same.
Invitation to Tender	the Company's invitation to contractors for offers to supply it with the Goods and/or Services pursuant to the Contract
Key Personnel	those persons named in the Contract Particulars as being key personnel and any replacement from time to time under clause B3.
Law	any applicable Act of Parliament, subordinate legislation within the meaning of section 21(1) of the Interpretation Act 1978, exercise of the royal prerogative, enforceable community right within the meaning of section 2 of the European Communities Act 1972, bye-law, regulatory policy, guidance or industry code, judgement of a relevant court of law, or directives or requirements of any regulatory body of which the Contractor is bound to comply.
Liabilities	in relation to any matter, all costs, actions, demands, expenses, losses, damages, claims, proceedings, awards, fines, orders and other liabilities (including reasonable legal and other professional fees and expenses) whenever arising or brought.
Order	an order for Goods and/or Services issued by the Company from time to time to be provided where the Contract is identified in the Contract Particulars to be delivered by call off
Price	the price of the Goods and/or Services as set out in the Contract Particulars. Unless otherwise stated, any reference to Price shall be regarded as being exclusive of properly chargeable VAT, which shall be separately accounted for

Pricing Schedule	the schedule from the Tender detailing the pricing and more particularly defined in the Contract Particulars (if applicable)
Regulated Activity	as defined in the Safeguarding of Vulnerable Groups Act 2006 (as amended by the Protection of Freedoms Act 2012 and any other subsequent relevant legislation)
Replacement Contractor	any third party, company, organisation or person appointed by the Company who replaces the Contractor in relation to the supply of any goods and/or services which are the same as or substantially similar to any of the Goods and/or Services following termination or expiry of all or part of this Contract
Services	the services described in the Specification to be supplied by the Contractor together with all equipment required and any associated goods provided by the Contractor in relation to those Services.
Special Terms and Conditions	the additional terms and conditions attached which were set out in the Invitation to Tender
Specification	the specification included in the Contract Particulars setting out the Company's detailed requirements in relation to the Goods and/or Services
Standard Terms and Conditions	the terms and conditions set out in this document
Tender	the documents submitted by the Contractor to the Company in response to the Company's Invitation to Tender to supply it with the Goods and/or Services pursuant to the Contract
Transferring Employees	all employees of the Contractor or any subcontractor assigned to the provision of the Services immediately

before the termination or expiry of all or any part of the Services or the Contract (as appropriate)

TUPE

The Transfer of Undertakings (Protection of Employment) Regulations 2006

Working Hours

means the normal working hours of the Company as notified to the Contractor by the Company from time to time

Any reference to a person shall include any natural person, partnership, joint venture, body corporate, incorporated association, government, governmental agency, persons having a joint or common interest, or any other legal or commercial entity or undertakings and their successors and permitted assignor transferees.

A reference to any statute, enactment, order, regulation or similar instrument shall be construed as a reference to the statute, order, regulation or instrument as amended by any subsequent statute, order, regulation or instrument or as contained in any subsequent re-enactment.

## **A2. HEADINGS**

A2.1 The index and headings to the clauses and appendices to and schedules of this Contract are for convenience only and will not affect its construction or interpretation.

## **A3. NOTICES**

A3.1 Any notice required by this Contract to be given by either party to the other shall be in writing and shall be served personally or by sending it by registered post or recorded delivery to the address as set out in the Contract Particulars.

A3.2 Any notice served personally will be deemed to have been served on the day of delivery; any notice sent by post will be deemed to have been served 48 hours after it was posted; save where the deemed date of service falls on a day other than a Business Day in which case the date of service will be the following Business Day.

## **A4. ENTIRE AGREEMENT**

A4.1 The Contract constitutes the entire agreement between the parties relating to the subject matter of the Contract. The Contract supersedes all prior negotiations, representations and undertakings, whether written or

oral, except that this clause A4 shall not exclude liability in respect of any fraudulent misrepresentation.

- A4.2 These Standard Terms and Conditions shall apply to each contract to the exclusion of any other terms and conditions on which any quotation or Tender which has been given by the Contractor to the Company or subject to which the Order is accepted or purported to be accepted by the Contractor.

## PART B – BASIS OF THE PROVISION OF GOODS AND/OR SERVICES

### **B1. CONTRACT PERIOD**

- B1.1 The Contract shall commence on the Commencement Date and shall continue for the Contract Period unless it is otherwise terminated in accordance with the provisions of the Contract or otherwise lawfully terminated or extended under clause B1.2.
- B1.2 If the Contract Particulars includes an option to extend the Contract Period and the Company intends to take up the option, the Contractor shall be notified in writing within the period stated in the Contract Particulars prior to the commencement of the extension. If no such notification is issued the Contract shall automatically expire after the initial Contract Period.

### **B2. PERFORMANCE**

- B2.1 The Contractor shall supply and, where relevant, install the Goods and/or provide the services in accordance with the Specification in the Contract Particulars and supply the Contractor with any instruction or other information required to enable the Company to accept delivery of the Goods and/or services.
- B2.2 The Contractor shall supply the Services in accordance with the Company's requirements as set out in these Terms and Conditions, the Contract Particulars and the Service Levels. The Contractor will supply the Company with any instruction or other information required to enable the Company to accept performance of the Services.
- B2.3 The Goods and/or Services shall be delivered to the address specified in the Contract Particulars and in accordance with any Delivery Instructions. If no time for delivery is stated in the Delivery Instructions the Goods and/or Services shall be delivered between 9 a.m. and 5 p.m. on a Business Day. The Company reserves the right to amend any delivery instruction before or during the performance of the Contract.
- B2.4 The time of the delivery of the Goods and/or performance of the Services is of essence to the Contract. If the Contractor fails to deliver the Goods and/or perform the Services within the time specified in the Contract Particulars or fails to meet any milestones specified in the Contract

Particulars or fails to meet the agreed Service Levels, the Company may release itself from any obligations to accept and pay for the Goods and/or Services and/or terminate the Contract, in either case, without prejudice to any other rights and remedies of the Company.

- B2.5 The Company shall be under no obligation to accept or pay for any Goods supplied and/or Services performed earlier than the date for delivery/performance stated in the Contract Particulars.
- B2.6 If requested by the Company, the Contractor shall provide the Company with samples of Goods for evaluation and approval, and such Goods shall be provided at the Contractor's cost and expense.
- B2.7 The Contractor shall ensure that the Goods are fully compatible with any of the Company's equipment, to the extent specified in the Contractor Particulars.
- B2.8 The Company will have the right to observe the Contractor's performance of the Services if the Services are not being performed on the Company's premises, or inspect or test the Goods either when they are complete or when they are in the process of manufacture, during the normal business hours on reasonable notice at the Contractor's premises.
- B2.9 If the Contractor at any time becomes aware of any act or omission, or proposed act or omission by the Company which prevents or hinders, or may prevent or hinder the Contractor from performing the Services or delivering the Goods in accordance with the Contract, the Contractor shall inform the Company and the Company may, at its absolute discretion, extend the period of the Contract accordingly.
- B2.10 Where the Goods are delivered by the Contractor, the point of delivery shall be when they are removed from the transporting vehicle and delivered in accordance with the Delivery Instructions. Where the Goods are collected by the Company from the Contractor, the point of delivery shall be when they are loaded onto the Company's vehicle.
- B2.11 Except where otherwise provided in the Contract, delivery shall include the uploading or stacking of the Goods by the Contractor at such places the Company may direct in the Contract Particulars.
- B2.12 The issue by the Company of a receipt note for the Goods shall not constitute any acknowledgement of the condition or nature of those Goods. The Company shall not be deemed to have accepted any Goods until it has had reasonable opportunity to inspect them following delivery or within a reasonable time after any latent defect in the Goods has become apparent.
- B2.13 A delivery note stating the number of the Order must accompany each consignment of the Goods and must be displayed prominently.

- B2.14 All Goods must be properly packaged to survive transit without damage, clearly and legibly labelled and addressed. The Company will not be liable to pay for any pallets, packages or containers in which Goods are supplied and, if required by the Company, the Contractor will pay all reasonable costs incurred by the Company for the disposal of any packaging in accordance with all relevant Laws.
- B2.15 Unless expressly agreed to the contrary, the Company shall not be obliged to accept delivery by instalments. If the Company does specify or agree to delivery by instalments, delivery of any one instalment not in accordance with the Delivery Instructions shall, without prejudice to any other rights or remedies of the Company, entitle the Company to terminate the whole of any unfulfilled part of the Contract without further liability to the Contractor.
- B2.16 If the Contractor at any time becomes aware of any material matter that could affect the performance of the Services or the Goods in accordance with the Contract, the Contractor shall inform the Company immediately.
- B2.17 The Company retains the Contractor for the performance of the Services or provision of the Goods on a non-exclusive basis.
- B2.18 The Company shall be entitled to reject all or part of the Goods delivered or the Services performed which are not in accordance with the Contract, including a right to reject defective Goods even if the defect is minor.
- B2.19 The Company shall not be deemed to have accepted the Goods merely by virtue of its having incorporated or converted them into other products or works.
- B2.20 The Company shall not be deemed to have accepted the Goods or Services by virtue of having required the Contractor to repair or replace Goods or Services under the Contract.

### **B3. CONTRACT MANAGER**

- B3.1 The Contractor shall employ a competent and authorised Contract Manager empowered to act on behalf of the Contractor for all purposes connected with the Contract.
- B3.2 The Contractor shall forthwith give notice in writing to the Company of any change in the identity, address and telephone numbers of the person appointed as Contract Manager. The Contractor shall give maximum possible notice to the Company before changing its Contract Manager.



#### **B4. ORDERING PROCESS**

- B4.1 Where this Contract is identified as requiring Orders in the Contract Particulars the Contractor shall accept Orders made in writing by the Company under the provisions of this clause.
- B4.2 Except where specified Orders are required to call off the Goods and/or Services the Company gives no guarantees whatsoever as to when any Order will be placed during the Contract Period or under the Contract.

#### **B5. RISK IN AND TITLE TO GOODS**

- B5.1 Risk in any Goods or goods provided as part of the Services shall pass to the Company upon delivery without prejudice to any rights of rejection which may accrue to the Company under the Contract or otherwise.
- B5.2 The property in the Goods or the goods provided, as part of the Services shall pass to the Company upon delivery, unless payment for the Goods or Services is made prior to delivery, when it shall pass to the Company once payment has been made and the Goods and/or Services have been appropriated to the Contract.

#### **B6. WARRANTY**

- B6.1 The Contractor warrants to the Company that it is fully experienced, qualified and equipped to perform its obligations under the Contract, and warrants that the Goods will:
- B6.1.1 be of satisfactory quality within the meaning of the Sale of Goods Act 1979 and fit for purpose as required by the Specification or held out by the Contractor
  - B6.1.2 be free from defects in design, material and workmanship
  - B6.1.3 correspond with any Specification or sample
  - B6.1.4 be provided in accordance with the Contract, correspond with the Specification and any drawings, samples or descriptions provided by the Contractor
  - B6.1.5 is so formulated, designed, constructed, finished and packaged as to be safe and without risk to health
  - B6.1.6 comply with all statutory requirements, bye-laws and EU directives and regulations relating to the manufacture and sale of the Goods, product safety, packaging, labelling, use, installation and maintenance (including the appropriate British Standard or equivalent specification unless otherwise agreed); and

- B6.1.7 comply with the general requirements of safety in terms of risk presented to the health and safety of persons
- B6.2 The Contractor warrants to the Company that to the extent that services are associated with the installation/delivery of the Goods be performed by appropriately qualified, trained and experienced personnel with a high standard of skill, care and diligence and in accordance with Good Industry Practice.
- B6.3 The Contractor warrants to the Company that the Services will be provided:
  - B6.3.1 in a proper, skilful and workmanlike manner;
  - B6.3.2 by a sufficient number of appropriately qualified, trained and experienced personnel with a high standard of skill, care and due diligence and in accordance with Good Industry Practice;
  - B6.3.3 in accordance with the Contract and any descriptions provided by the Contractor;
  - B6.3.4 with all reasonable care and skill by appropriately trained personnel and in accordance with the Service Levels, if any;
  - B6.3.5 to the reasonable satisfaction of the Authorised Officer;
  - B6.3.6 by Key Personnel (if any) who shall not be released from providing the Services permanently without the agreement of the Company, except by reason of sickness, maternity leave, paternity leave, termination of employment or because they have been requested to do so by the Company, or the element of the Services in respect of which the individual was engaged has been completed to the Company's satisfaction or other extenuating circumstances explained to the Company. Any replacements for the Key Personnel shall be subject to the agreement of the Company and such replacements shall be of at least equal status or of equivalent experience and skills to the Key Personnel being replaced and be suitable for the responsibilities of that person in relation to the Services. The cost of effecting such replacement shall be borne by the Contractor; and
  - B6.3.7 in a way that the Contractor takes every reasonable precaution to safeguard the Company's property entrusted to the care of the Contractor
- B6.4 The Contractor warrants to the Company that to the extent that any goods, equipment or consumables are provided as part of the Services they will:
  - B6.4.1 be free from defects in design, material and workmanship; and

- B6.4.2 be so formulated, designed, constructed, finished and packaged as to be safe and without risk to health
- B6.5 Each right or remedy of the Company is without prejudice to any other right or remedy of the Company, whether or not under the Contract.
- B6.6 If Goods are not delivered or Services are not performed on the due date then the Company shall be entitled to:-
  - B6.6.1 deduct from the Price or (if the Company has paid the Price) to claim from the Contractor by way of liquidated damages for delay the percentage of the Price specified in the Contract Particulars if any; and/or
  - B6.6.2 cancel the Order (or any part) or any other orders placed with the Contractor without liability to the Company and purchase substitute items or services elsewhere and recover from the Contractor any loss or additional costs incurred.
- B6.7 Without prejudice to the Company's rights to terminate under clause D1 (Termination), if any of the Goods and/or Services supplied are not in accordance with the Contract, the Company shall be entitled to:
  - B6.7.1 require the Contractor to provide replacement Goods and/or Services in accordance with the Contract as soon as reasonably practicable and in any event within fourteen (14) days of a request to do so; or
  - B6.7.2 subject to clause E2 (Indemnity and Liability) require repayment of the proportion of the Price which has been paid in respect of such Goods and/or Services together with payment of any additional expenditure over and above the Price reasonably incurred by the Company in obtaining replacement Goods and/or Services.

## **B7. CONTRACTOR'S EMPLOYEES**

- B7.1 The Company reserves the right under the Contract to refuse to admit to, or to withdraw permission to remain on, any premises occupied by or on behalf of the Company:
  - B7.1.1 any Employees; and/or
  - B7.1.2 any person employed or engaged by a sub-contractor, agent or servant of the Contractor

whose admission or continued presence would be, in the reasonable opinion of the Company, undesirable.

- B7.2 When directed by the Company, the Contractor shall provide a list of the names and addresses of all persons (if any) who it is expected may require admission in connection with the Contract to any premises occupied by or on behalf of the Company, specifying the capacities in which they are concerned with the Contract and giving such other particulars as the Company may reasonably desire.
- B7.3 The Employees, engaged within the boundaries of any of the Company's premises, shall comply with such rules, regulations and requirements (including those relating to security arrangements) as may be in force from time to time for the conduct of personnel when at that establishment and when outside that establishment.
- B7.4 The decision of the Company as to whether any person is to be refused access to any premises occupied by or on behalf of the Company shall be final and conclusive.
- B7.5 The Contractor shall replace any of the Employees who the Company reasonably decides have failed to carry out their duties with reasonable skill and care. Following the removal of any of the Employees for any reason, the Contractor shall ensure such person is replaced promptly with another person with the necessary training and skills to meet the requirements of the Services.
- B7.6 The Contractor shall bear the cost of or costs arising from any notice, instruction or decision of the Company under this clause.

## **B8. CONTRACTOR'S PERSONNEL**

- B8.1 Where the provision of the Services requires any of the Contractor's employees or volunteers to work in a Regulated Activity with children and/or vulnerable adults, the Contractor will make checks in respect of such employees and volunteers with the Disclosure & Barring Service (DBS) for the purpose of checking at an enhanced level of disclosure for the existence of any criminal convictions subject to the Rehabilitation of Offenders Act 1974 (Exceptions) Order 1975 (as amended) or other relevant legislation and that the appropriate check of the Children's Barred List relating to the protection of children.
- B8.2 The Contractor will comply with the requirements of the Safeguarding of Vulnerable Groups Act 2006 (as amended by the Protection of Freedoms Act 2012 and any other subsequent relevant legislation) in respect of such employees and volunteers that work in a Regulated Activity.
- B8.3 The Contractor will ensure that all enhanced checks for a Regulated Activity including the appropriate barred list check or checks are renewed every three years.
- B8.4 The Contractor will not employ any person or continue to employ any person to provide the Regulated Activities who is prevented from carrying

out such activities under the Safeguarding of Vulnerable Groups Act 2006 and will notify the Company immediately of any decision to employ such person in any role in connection with the Contract or any other agreement or arrangement with the Company.

- B8.5 The Contractor undertakes to ensure that they shall adhere to and comply with any guidelines and/or codes of practice issued by the Company when selecting and/or recruiting personnel who may have substantial and/or unsupervised access to children and vulnerable adults.
- B8.6 Where the provision of the Services does not require any of the Contractor's employees or volunteers to work in a Regulated Activity but where the Contractor's employees or volunteers may nonetheless have contact with children and/or vulnerable adults the Contractor will in respect of such employees and volunteers:
- B.8.6.1 Carry out appropriate employment checks; and
- B.8.6.2 Carry out such other checks as may be required by the DBS from time to time throughout the Contract Period
- B8.7 Neither the Contractor nor any sub-contractors are to have direct contact with children and/or vulnerable adults during any delivery or attendance at the premises of the Company. The Contractor shall ensure that those engaged in undertaking the duties under the Contract, including employees, servants, agents, volunteers and others are of suitable standing and good character.
- B8.8 The Contractor shall provide details of employee disciplinary and grievance procedures and other policies, which the Company may request from time to time.

## **PART C - PRICE AND PAYMENT**

### **C1. PRICE AND PAYMENT**

- C1.1 The Company shall pay the Price for the Goods and/or Services to the Contractor. Unless otherwise stated on the Contract Particulars, the Price shall include all charges for packaging, shipping, carriage, insurance and delivery of the Goods and or Services to the Company's specified delivery address and any duties, imposts or levies other than VAT.
- C1.2 The Company shall be entitled to a discount for prompt payment, bulk purchase, volume or purchase customarily granted by the Contractor. The Contractor shall immediately notify the Company of any increase in any credit period and/or rates of discount which the Contractor extends to its customers.
- C1.3 Unless otherwise stated in the Order the Contractor may only invoice the Company on or after delivery of the Goods or the supply of the Services

with a separate invoice for each individual delivery or supply. Invoices will not be accepted unless they quote the number of the relevant Order. Invoices shall be sent to the address specified in the Contract Particulars.

- C1.4 The Contractor shall submit a single VAT invoice to the Company no later than seven (7) days after the end of each calendar month detailing the Services provided during the calendar month and the amount payable. All invoices must include a valid Purchase Order in the format of 4Alpha/6numeric and contract reference as specified in the Contract Particulars.
- C1.5 The Authority shall accept and process for payment an electronic invoice submitted for payment by the Supplier where the invoice is undisputed and where it complies with the standard on electronic invoicing.
  - C1.5.1 For the purposes of paragraph C1.5, an electronic invoice complies with the standard on electronic invoicing where it complies with the European standard and any of the syntaxes published in Commission Implementing Decision (EU) 2017/1870
- C1.6 Payment of any undisputed invoice will be made no later than thirty (30) days following the date of receipt of the invoice by the Company.
- C1.7 Time of payment shall not be of the essence of the Contract.
- C1.8 The Company reserves the right to withhold payment of the relevant part of the Price without payment of interest where the Contractor has either failed to provide the Goods and/or Services at all or has provided the Goods and/or Services inadequately and any invoice relating to such Goods and/or Services will not be paid unless or until the Goods and/or Services have been performed to the Company's satisfaction.
- C1.9 The Contractor is not entitled to suspend provision of the Goods and/or Services as a result of any overdue sums.
- C1.10 The Company will be entitled but not obliged at any time or times without notice to the Contractor to set off any liability of the Company to the Contractor against any liability of the Contractor to the Company (in either case howsoever arising and whether any such liability is present or future, liquidated or unliquidated and irrespective of the currency) and may for such purpose convert or exchange any sums owing to the Contractor into any other currency or currencies in which the obligations of the Company are payable under this Contract. The Company's rights under this clause will be without prejudice to any other rights or remedies available to the Company under this Contract or otherwise.
- C1.11 The Contractors rates and prices set in the Tender shall be adjusted after each anniversary of the Commencement Date in proportion to the change at that date in the Consumer Price Index during the previous twelve

month period. Such adjusted rates and prices shall be deemed to be the rates and prices in the Tender in substitution for the previous said rates and prices for the purposes of all of the Services provided from the first day of the thirteenth month. All adjusted rates and prices must be agreed and signed by all parties.

C1.12 Further details of payment, if any, are set out in the Pricing Schedule.

C1.13 The contractor agrees to pay and sub contractors employed to perform services for or in relation to the contract within 30 days.

Contracting authorities shall ensure that every public contract which they award contains suitable provisions to require the following:

(a) that any payment due from the contracting authority to the contractor under the contract is to be made no later than the end of a period of 30 days from the date on which the relevant invoice is regarded as valid and undisputed;

(b) that any invoices for payment submitted by the contractor are considered and verified by the contracting authority in a timely fashion and that undue delay in doing so is not to be regarded as sufficient justification for failing to treat an invoice as valid and undisputed; and

(c) that any subcontract awarded by the contractor imposes, as between the parties to the subcontract

(i) obligations similar to those which sub-paragraphs (a) and (b) require to be imposed as between the parties to the public contract; and

(ii) an obligation requiring the subcontractor to include in any subcontract which it in turn awards provisions imposing, as between the parties to that subcontract, requirements similar to those required by paragraphs (i) and (ii) of this sub-paragraph.

## **PART D - TERMINATION AND CONSEQUENCES OF TERMINATION**

### **D1. TERMINATION**

D1.1 Subject to the provisions of clause H6 (Force Majeure) the Company may terminate the Contract with immediate effect by notice in writing to the Contractor on or at any time if:

D1.1.1 the Contractor is unable to pay its debts as they fall due or is insolvent;

D1.1.2 the Contractor suspends making payments on any of its debts or announces an intention to do so;

D1.1.3 a moratorium is declared in respect of the Contractor's indebtedness;

D1.1.4 the Contractor ceases or threatens to cease to carry on its business or substantially the whole of its business;

- D1.1.5 the Contractor is dissolved or struck off;
- D1.1.6 any action, legal proceedings or other procedure or step is taken by any person in any jurisdiction in relation or with a view to: -
  - D1.1.6.1 the winding up, dissolution, administration or reorganisation of the Contractor;
  - D1.1.6.2 a composition, assignment or arrangement with any creditor of the Contractor;
  - D1.1.6.3 the appointment of a liquidator, trustee in bankruptcy, judicial custodian, compulsory manager, receiver, administrative receiver, administrator, nominee, supervisor or similar officer in respect of the Contractor or any of its assets;
  - D1.1.6.4 the enforcement of any security over any of the assets of the Contractor;
  - D1.1.6.5 the commencement of any analogous procedure or step in relation to the Contractor in any jurisdiction other than England and Wales; or
- D1.1.7 the Company reasonably believes that any of the events mentioned above is about to occur in relation to the Contractor and notifies the Contractor accordingly;
- D1.1.8 the Contractor is convicted of a criminal offence; or
- D1.1.9 the Contractor ceases or threatens to cease to carry on its business; or
- D1.1.10 the Contractor has a change in Control which the Company believes will have a substantial impact on the performance of the Contract; or
- D1.1.11 there is a risk or a genuine belief that reputational damage to the Company will occur as a result of the Contract continuing; or
- D1.1.12 the Contractor is in material or substantial breach of any of its obligations under this Contract that is capable of remedy and which has not been remedied to the satisfaction of the Company within 14 days, or such other reasonable period as may be specified by the Company after issue of a written notice specifying the breach and requesting it to be remedied; or
- D1.1.13 there is a material or substantial breach by the Contractor of any of its obligations under this Contract which is incapable of remedy; or
- D1.1.14 the Contractor commits persistent minor breaches of this Contract whether remedied or not



- D1.2 For the purposes of Terms D1.1.12, D1.1.13 and D1.1.14;
- D1.2.1 a breach is capable of remedy if time is not of the essence in performance of the obligation and if the Contractor can comply with the obligation within the 14 day period;
  - D1.2.2 a breach can be material irrespective of whether any actual loss has been incurred or will be incurred as a consequence of the breach or intended breach; and
  - D1.2.3 a material breach means a breach (including an anticipatory breach), which is serious in the widest sense of having a serious effect on the benefit, which the Company would otherwise derive from a substantial portion of these Terms over any [one] month
- D1.3 The Company reserves the right to terminate the Contract in part in the case of termination under Terms D.1.1.12, D1.1.13 and D1.1.14.
- D1.4 Where this Contract is subject to Orders as specified in the Contract Particulars the Company has the right to terminate any individual Order or Orders or the whole Contract under the provisions of this clause D1.
- D1.5 The Company reserves the right to terminate the Contract at will, in whole or in part, at any time with or without notice except that it will give as much notice as possible in the circumstances.

## **D2. CONSEQUENCES OF TERMINATION**

- D2.1 Any expiry or termination of this Contract for whatever reason shall not affect any rights or liabilities which have accrued on or before the date of termination or expiry and the provisions of any clauses expressed to have effect after expiry or termination of this Contract shall continue to have effect.
- D2.2 If this Contract is terminated in whole or in part the Company shall:
- D2.2.1 be liable to pay to the Contractor only such elements of the Price, if any, that have properly accrued in accordance with the Contract or the affected part of the Contract up to the time of the termination; and/or
  - D2.2.2 except for termination under clause D1.5, be entitled to deduct from any sum or sums which would have been due from the Company to the Contractor under this Contract or any other contract and to recover the same from the Contractor as a debt any sum in respect of any loss or damage to the Company resulting from or arising out of the termination of this Contract. Such loss or damage shall include the reasonable cost to the Company of the time spent by its officers in terminating the

Contract and in making alternative arrangements for the supply of the Goods and/or Services or any parts of them; and/or

D2.2.3 where termination arises under clause D1.5, pay to the Contractor any reasonable, direct and quantifiable costs reasonably incurred by the Contractor due to early termination subject to the maximum liability provision in clause E2.3 and/or

D2.2.4 in the event that any sum of money owed by the Contractor to the Company (the Contractor's debt) exceeds any sum of money owed by the Company to the Contractor (the Company's debt) under this Contract then the Company shall, at its sole discretion, be entitled to deduct the Contractor's debt from any future Company's debt or to recover the Contractor's debt as a civil debt.

D2.3 Upon the termination of the Contract for any reason, subject as otherwise provided in this Contract and to any rights or obligations which have accrued prior to termination, neither party shall have any further obligation to the other under the Contract.

### **D3. DISPUTE RESOLUTION PROCEDURE**

D3.1 If a dispute arises between the Company and the Contractor in connection with the Contract, the parties shall each use reasonable endeavours to resolve such dispute by means of prompt discussion at an appropriate managerial level.

D3.2 If a dispute is not resolved within fourteen (14) days of referral under clause D3.1 then either party may refer it to the Chief Executive or appropriate nominated officer of each party for resolution who shall meet for discussion within 14 days or longer period as the parties may agree.

D3.3 Provided that both parties consent, a dispute not resolved in accordance with clauses D3.1 and D3.2, shall next be referred at the request of either party to a mediator appointed by agreement between the parties within 14 days of one party requesting mediation with the costs of mediation determined by the mediator.

D3.4 Nothing in this clause shall preclude either party from applying at any time to the English courts for such interim or conservatory measures as may be considered appropriate.

### **D4. SURVIVAL**

D4.1 The following clauses will survive termination or expiry of the Contract: Clause B5 (Risk in and Title to the Goods), Clause D2 (Consequences of Termination), Clause F1 (Intellectual Property), Clause F2 (Confidentiality and Publicity), Clause F3 (Data Protection), Clause F4 (Freedom of Information), Clause F5 (Record Keeping and Monitoring), Clause G4

(TUPE and Re-Tendering), Clause H4 (Severance), Clause H10 (Non Solicitation and Offers of Employment) and Clause H12 (Law and Jurisdiction).

## **PART E – INSURANCE AND LIABILITIES**

### **E1. INSURANCE**

- E1.1 The Contractor shall maintain insurance necessary to cover any liability arising under the Company as set out in the Contract Particulars.
- E1.2 The Contractor shall prior to the Commencement Date and on each anniversary of the Commencement Date and/or upon request provide evidence that all premiums relating to such insurances have been paid.
- E1.3 If the Contractor does not maintain the necessary insurances under the Contract the Company may insure against any risk in respect of the default and may charge the Contractor the cost of such insurance together with a reasonable administration charge.

### **E2. INDEMNITY AND LIABILITY**

- E2.1 Neither party seeks to exclude or limit its liability for:
  - E2.1.1 death or personal injury caused by its negligence (but will not be liable for death or personal injury caused by the other party's negligence);
  - E2.1.2 fraudulent misrepresentation; or
  - E2.1.3 any other matter in respect of which, as a matter of Law, liability cannot be excluded or limited
- E2.2 Except as specifically provided, neither party shall in any event be liable to the other for any indirect or consequential loss (including loss of profit, loss of business opportunity, loss of business, loss of goodwill, loss of production and pure economic loss) however caused.
- E2.3 Subject to clauses E2.1, E2.2 and E2.5, the Contractor's liability to the Company under the Contract whether in contract, tort (including negligence) or otherwise shall be limited to 100% of the proportion of the Price which is paid and payable at the time that the liability arises.
- E2.4 Subject to clauses E2.1 and E2.2, the Company's liability to the Contractor under the Contract whether in contract, tort (including negligence) or otherwise shall be limited to 100% of the proportion of the Price which is paid and payable at the time that the liability arises.

- E2.5 The Contractor shall indemnify the Company in full without limit of liability for any direct loss of or damage to the real or personal property of the Company or any third party, including Intellectual Property Rights, or injury claimed by any third party and against all Liabilities awarded against or incurred by the Company (including legal expenses on an indemnity basis) arising from: -
- E2.5.1 the Contractor's negligence;
  - E2.5.2 any defect or fault in the Goods and/or Services or any act or omission of the Contractor in delivering the Goods and/or Services;
  - E2.5.3 any act or omission of the Contractor or its employees, agents or sub-contractors in supplying, delivering and installing the Goods and in performing the Services, including any injury, loss or damage to persons caused or contributed to by any of their negligence or by faulty design, workmanship or materials (except to the extent that the injury, loss or damage is caused by the negligent act or omission of the Company);
  - E2.5.4 any liability under the Consumer Protection Act 1987 in respect of the Goods;
  - E2.5.5 any liability under the General Product Safety Regulations 2005 in respect of the Goods and any claims which might arise as a result of the Goods being a risk to health and safety/unsafe;
  - E2.5.6 breach of any warranty given by the Contractor in relation to the Goods or the Services; [any claim made against the Company in respect of any breach or alleged breach by the Company of any statutory provision, regulation or laws arising from the acts or omissions of the Contractor or its employees, agents or subcontractors.

## **PART F - PROTECTION OF INFORMATION**

### **F1. INTELLECTUAL PROPERTY**

- F1.1 Nothing in this Contract shall give the Contractor any rights in respect of any Specification or Intellectual Property Rights of the Company.
- F1.2 All Intellectual Property Rights in any specifications, instructions, plans, data, drawings, databases, patents, patterns, models, designs or other material:
  - F1.2.1 provided to the Contractor by the Company shall remain the property of the Company;

- F1.2.2 prepared by or for the Contractor specifically for the use, or intended use, in relation to the performance of the Contract shall belong to the Company subject to any exceptions set out in the Contract Particulars;
- F1.3 The Contractor will assign with full guarantee and all attached rights, all Intellectual Property Rights created by this Contract to the Company as soon as reasonably practicable or on the reasonable request of the Company.
- F1.4 The Contractor shall obtain necessary approval before using any material, in relation to the performance of the Contract, which is or may be subject to any third party Intellectual Property Rights. The Contractor shall grant or procure that the owner of the Intellectual Property Rights shall grant to the Company a non-exclusive licence, or if the Contractor is itself a licensee of those rights, the Contractor shall grant to the Company an authorised sub-licence, to use, reproduce, and maintain the Intellectual Property Rights. Such licence or sub-licence shall be non-exclusive, royalty-free, perpetual and irrevocable, shall include the right to sub-license, transfer, novate or assign to other Group Companies, the replacement Contractor or to any other third party providing services to the Company, and shall be granted at no cost to the Company.
- F1.5 It is a condition of the Contract that the Goods and/or Services will not infringe any Intellectual Property Rights of any third party and the Contractor shall during and after the Contract Period on written demand indemnify and keep indemnified without limitation the Company against all Liabilities which the Company may suffer or incur as a result of or in connection with any breach of this clause, except where any such claim relates to the act or omission of the Company.
- F1.6 At the termination of the Contract or at any time during the Contract Period upon the Company's reasonable request the Contractor shall at the request of the Company immediately return to the Company all materials, work or records held in relation to the Goods and/or Services, including any back-up media.

## **F2. CONFIDENTIALITY AND PUBLICITY**

- F2.1 Any documents provided by the Company and information which the Contractor may acquire as a result of the Contract shall to the extent that they are not in the public domain or required to be disclosed by operation of Law remain confidential to the Company and shall not be disclosed disposed of or used for any purpose without prior written consent from the Company.
- F2.2 All Confidential Information provided by the Company to the Contractor shall be returned to the Company at the end of the Contract.

F2.3 Each party agrees in relation to the Confidential Information belonging to the other that during the Contract Period and for three years afterwards: -

F2.3.1 it shall keep Confidential Information and the terms of the Contract confidential and shall not disclose it to any third party;

F2.3.2 it shall keep Confidential Information separate from all other information; and

F2.3.3 it shall use the Confidential Information only in so far as is necessary to perform its obligations under the Contract

F2.4 The duty of confidence shall not apply to: -

F2.4.1 Confidential Information that is required by any Law, regulations or pursuant to an order of a competent authority (but only to the extent that the purpose of the disclosure is required by Law); and

F2.4.2 where the receiving party, of which can demonstrate by documentary evidence, has been in possession prior to disclosure by the other party and not subject to any other obligations as to confidentiality

F2.5 Without prejudice to any other rights and remedies each party may have each party agrees that the Confidential Information is valuable and that damages may not be an adequate remedy for any breach of this term F2 and accordingly each party agrees that the parties will be entitled, without proof of special damages, to the remedy of an injunction and other equitable relief for any actual or threatened breach of this term F2.

F2.6 Without prejudice to the Company's obligations under the EIR neither party shall make any press announcements or publicise the Contract or any part thereof in any way, except with the written consent of the other party (such consent not to be unreasonably withheld or delayed).

F2.7 Both parties shall take all reasonable steps to ensure the observance of the provisions of this clause by all of their servants, Employees, sub-contractors, agents, professional advisors and consultants.

### **F3. DATA PROTECTION**

F3.1 Each party shall ensure that it shall comply with the provisions and obligations imposed on it by the Data Protection Legislation.

All personal data acquired by either party from the other shall be returned or deleted (at the option of the requesting party) on request, except to the extent Contract or under any applicable legislation relating to the Goods and/or Services or their performance or to the parties.

- F3.2 Where personal data is requested, the Company's Data Subject Access Request procedure must be followed. Under the terms of the Data Protection Act 2018, any individual has the right to request access to information held about them. The Company will consider whether the information can be provided, or whether an exemption under the Data Protection Act 2018 needs to be applied to enable the request to be denied. Where a third party can be identified from the information, we are not obliged to comply with the request.
- F3.3 The Contractor shall be responsible for the acts and omissions of any third party with whom it contracts or who processes data on its behalf as it is for its own acts and omissions in relation to the matters provided for by this term F3.
- F3.4 The parties acknowledge that the Company is the data controller of all personal data processed by the Contractor for the Company in providing the Goods and/or Services. The Contractor will act in relation to such personal data of which the Company is the data controller as data processor on behalf of the Company as data controller and shall act only in accordance with the Company's reasonable instructions in relation to the personal data.
- F3.5 Without prejudice to the Contractor's other obligations in respect for information security, the Contractor shall: -
- F3.5.1 having regard to the state of technological development and to the cost of implementing any measures provide a level of security (including appropriate technical and organisational measures) appropriate to: -
  - F3.5.2 the harm that might result from unauthorised or unlawful processing of such personal data or accidental loss, destruction or damage of such personal data; and
  - F3.5.3 the nature of the data;
  - F3.5.4 take reasonable steps to ensure the reliability of the Contractor's personnel who have access to the personal data; and
  - F3.5.5 inform the Company as soon as reasonably practicable of any particular risk to the security of any of the Company's computer networks of which it becomes aware and of the categories of personal data and individuals which may be affected. The Company will then respond to the breach or potential breach in accordance with our own policies and mechanisms. The Contractor will be responsible for cooperating with the Company in response to any investigation and / or risk assessment which needs to be conducted.

F3.6 The Contractor shall not, and shall procure that third parties with whom it contracts to process data on its behalf shall not, transfer personal data processed for the Company to another territory outside the European Economic Area except on terms substantially in accordance with the EU standard contractual clauses for the transfer of personal data to processors established in third countries under Directive 95/46 or to a country in which the data protection regime is regarded as adequate for the purposes of the Data Protection Legislation and will not operate in relation to such personal data in any way which will put the Client in breach of its obligations under the Data Protection Legislation.

F3.7 The Contractor shall promptly, and in any event not later than reasonably required in order to enable the Company to fulfil its duties under any: -

F3.7.1 pass on to the Company any enquiries or communication (including subject access requests) from end users relating to their personal data or its processing; and

F3.7.2 provide such information as may be required for the purpose of responding to any such end users or otherwise to comply with duties under Data Protection Legislation

#### **F4. CHANGE OF CONTROL**

F4.1 If the Contractor has a change in Control, the Contractor shall inform the Company as soon as reasonably practicable. The Company may in its absolute discretion terminate the Contract if the Contractor experiences a change of Control.

#### **F5. RECORD KEEPING, SECURE DESTRUCTION AND MONITORING**

F5.1 In order to assist the Company in its record keeping and monitoring requirements (including any auditing requirements) shall keep and maintain for six (6) years (or such longer time period required in accordance with any specific legislation) after the Contract has been completed, full and accurate records of the Contract including the Goods and/or Services supplied under it, all expenditure reimbursed by the Company, and all payments made by the Company.

F5.2 In regard to retention of personal information, the Data Protection Act 2018 stipulates that personal data should not be kept longer than necessary, or excessively. Therefore, it is essential that personal data is not shared where unnecessary and destroyed once the need for the information has ceased. All parties should have in place a records retention schedule document which sets out the classes of records retained and the length of time records need to be retained before final disposal action is taken. The document retention schedule must apply to information regardless of its format or the media in which it is created or might be held.

F5.3 Disposal action must be undertaken in a secure and timely manner.



- F5.4 The Contractor shall on request allow the Company or the Company's representatives such access to (and copies of) those records as may be required by the Company in connection with the Contract
- F5.5 The Contractor will at its own cost, provide any information that may be required by the Company to comply with the Company's internal procedures for monitoring of the Contract.
- F5.6 The Contractor recognises that the Company reserves the right to quality check data, to check for accuracy and make amendments where necessary. Principle 4 of the Data Protection Act 2018 states that information stored must be accurate and, where necessary, up-to-date.
- F5.7 Information provided must be transferred in a secure manner which does not compromise the security of the data. Information must also be made available in a compatible format, electronically if required. Records stored and shared via IT systems must be compatible, i.e. will not result in corruption or loss of data

## **PART G – STATUTORY OBLIGATIONS**

### **G1. HEALTH AND SAFETY**

- G1.1 The Contractor shall comply with all health and safety legislation in force and all health and safety policies of the Company.

### **G2. CORPORATE REQUIREMENTS**

- G2.1 The Contractor shall comply with all obligations under the HRA.
- G2.2 The Contractor shall comply with all Company policies and rules, such as, but not limited to:
- G2.2.1 equality and diversity policies;
  - G2.2.2 sustainability;
  - G2.2.3 information security rules;
  - G2.2.4 whistleblowing and/or confidential reporting policies; and
  - G2.2.5 all site rules relevant to the fulfilment of the Contractor's obligations in the performance of the Services
- G2.3 The Contractor shall not unlawfully discriminate within the meaning and scope of any law, enactment, order, or regulation relating to discrimination (whether age, race, gender, religion, disability, sexual orientation or otherwise) in employment.

G2.4 The Contractor shall comply with all relevant legislation relating to its Employees however employed including (but not limited to) the compliance in law of the ability of the Employees to work in the United Kingdom.

G2.4.1 If the Contractor has a finding against it relating to its obligations under clause G2.4 it will provide the Company with:

G2.4.2 details of the finding; and

G2.4.3 the steps the Contractor has taken to remedy the situation

### **G3. LAW AND CHANGE IN LAW**

G3.1 The Contractor shall comply at all times with the Law in its performance of the Contract.

G3.2 On the occurrence of a Change in Law which has a direct effect upon the Price the parties shall meet within fourteen (14) days of the Contractor notifying the Company of the Change in Law to consult and seek to agree the effect of the Change in Law and any change in the Price as a result following the principle that this clause is not intended to create an artificial cushion from market forces for the Contractor. If the parties, within fourteen (14) days of this meeting, have not agreed the occurrence or the impact of the Change in Law, either party may refer the matter to dispute resolution in accordance with clause D3.

G3.3 Any agreed additional sums payable as a result of the operation of clause G3.2 shall be included in the Price. For the avoidance of doubt nothing in this Contract is intended to allow the Contractor double recovery of any increase in costs.

### **G4. TUPE AND RE-TENDERING**

G4.1 In the event of expiry or termination of this Contract or whenever reasonably requested by the Company in preparation for tendering arrangements the Contractor will provide the Company with such assistance as the Company may require and provide at no cost to the Company any information the Company (whether on its own account or on behalf of any potential or confirmed Replacement Contractor) may request in relation to the Employees including but not limited to, providing employee liability information if required under Regulation 11 of TUPE.

G4.2 The Contractor authorises the Company to pass any information supplied to any Replacement Contractor or potential Replacement Contractor and the Contractor will secure all necessary relevant consents from the Employees in order to do this

- G4.3 The Contractor will keep the Company and any Replacement Contractor indemnified in full against all Liabilities arising directly or indirectly in connection with any breach of this clause or inaccuracies in or omissions from the information provided.

## **PART H – GENERAL PROVISIONS**

### **H1. CONTRACT VARIATION**

- H1.1 Subject to clause H1.2, no variation or modification to the Contract is valid unless it is in writing and signed by the Company and the Contractor.
- H1.2 The Company shall be entitled to issue to the Contractor in writing or, in case of urgency orally (provided the Company confirms oral instructions in writing as soon as it is practicable), variation orders requiring the addition, suspension, reduction or cessation of provision of any Goods and/or Services and/or the provision of emergency Goods and/or Services in accordance with revised Delivery Instructions. The Contractor shall charge for the impact of the variation order in accordance with the rates and prices used to calculate the Price in the Tender.

### **H2. THIRD PARTY RIGHTS**

- H2.1 This Contract is enforceable by the original parties to it, by their successors in title and permitted assignees. Any rights of any person to enforce the terms of this Contract pursuant to The Contracts (Rights of Third Parties) Act 1999 are excluded.

### **H3. NO WAIVER**

- H3.1 Failure by either party at any time to enforce any one or more of the provisions of this Contract or to require performance by the other party of any of the provisions shall not constitute or be construed as a waiver of the provision or of the right at any time subsequently to enforce all terms and conditions of this Contract nor affect the validity of the Contract or any part of it or the right of the parties to enforce any provision in accordance with its terms.
- H3.2 No waiver of any of the provisions of this Contract shall be effective unless it is expressed to be a waiver in writing and communicated in accordance with clause A3 (Notices).

### **H4. SEVERANCE**

- H4.1 If any provision of the Contract shall become or shall be declared by any court of competent jurisdiction to be invalid or unenforceable in any way, such invalidity shall not impair or affect any other provision all of which shall remain in full force and effect.

## **H5. ASSIGNMENT, SUB-CONTRACTING AND RESPONSIBILITY**

- H5.1 Subject to any express provision of this Contract, the Contractor shall not without the prior written consent of the Company, assign all or any benefit, right or interest under this Contract or sub-contract any element of the provision of the Services.
- H5.2 The Company shall be entitled to assign, novate or dispose of its rights and obligations under this Contract either in whole or part.
- H5.3 The Contractor shall remain responsible and liable for the acts and omissions of any other members of a consortium arrangement, sub-contractors, servants, agents and Employees as though they were its own.

## **H6. FORCE MAJEURE**

- H6.1 Neither party shall be liable for failure to perform its obligations under the Contract if such failure results from Force Majeure.
- H6.2 If the Company or the delivery location is affected by circumstance of Force Majeure, the Company shall be entitled to, totally or partially, suspend the date or dates for delivery of the Goods and/or the performance of the Services until the circumstances of the Force Majeure have ceased. The suspension shall not give rise to any claim by the Contractor against the Company nor entitle the Contractor to terminate the Contract.
- H6.3 Industrial action by, or illness or shortage of the Contractor's Employees, agents or subcontractors, failure or delay by any of the Contractor's suppliers to supply goods, components, services or materials and breach of the Contractor's warranties under clause B6 shall not be regarded as an event of Force Majeure.
- H6.4 If the event of Force Majeure continues for more than two (2) months either party may give written notice to the other to terminate the Contract immediately or on a set termination date.
- H6.5 If the Contract is terminated in accordance with clause H6.4 neither party will have any liability to the other except that any rights and liabilities, which accrued prior to termination, will continue to exist.

## **H7. INDUCEMENTS**

- H7.1 The Contractor shall not offer or give, or agree to give, to any employee, agent, servant or representative of the Company any gift or consideration of any kind as an inducement or reward for doing, any act in relation to

the obtaining or execution of the Contract or any other contract with the Company, or for showing or refraining from showing favour or disfavour to any person in relation to the Contract or any such contract.

- H7.2 The Contractor warrants that it has not paid commission nor agreed to pay any commission to any Employee or representative of the Company by the Contractor or on the Contractor's behalf.
- H7.3 Where the Contractor engages in conduct prohibited by clauses H7.1 and H7.2 in relation to this or any other contract with the Company, the Company has the right to:
- H7.3.1 terminate the Contract and recover from the Contractor the amount of any loss suffered by the Company resulting from the termination, including the cost reasonably incurred by the Company of making other arrangements for the provision of the Services and any additional expenditure incurred by the Company throughout the remainder of the Contract Period; or
- H7.3.2 recover in full from the Contractor any other loss sustained by the Company in consequence of any breach of this clause whether or not the Contract has been terminated

## **H8. COSTS AND EXPENSES**

- H8.1 Each of the parties will pay their own costs and expenses incurred in connection with the negotiation, preparation, execution, completion and implementation of this Contract.

## **H9. NO AGENCY OR PARTNERSHIP**

- H9.1 Nothing contained in this Contract, and no action taken by the parties pursuant to this Contract, will be deemed to constitute a relationship between the parties of partnership, joint venture, principal and agent or employer and employee. Neither party has, nor may it represent that it has, any authority to act or make any commitments on the other party's behalf.

## **H10. NON SOLICITATION AND OFFERS OF EMPLOYMENT**

- H10.1 The Contractor agrees that it will not, without the prior written consent of the Company, whether directly or indirectly, and whether alone or in conjunction with, or on behalf of, any other person and whether as a principal, shareholder, director, Employee, agent, consultant, partner or otherwise during the Contract Period or for a period of 12 months following termination of this Contract:
- H10.1.1 solicit or entice, or endeavour to solicit or entice, away from the Company, any person directly related to the Goods and/or the Services employed in a senior capacity in a managerial,

supervisory, technical, sales or administrative capacity by, or who is or was a consultant to, the Company at the date of the termination of this Contract or at any time during the period of one month immediately preceding the date of termination; or

H10.1.2 attempt, or knowingly assist or procure any other person to do the above

## **H11. INSPECTION OF CONTRACTOR'S PREMISES**

H11.1 The Contractor shall permit the Company to make any inspections or tests, which may reasonably be required in respect of the Contractor's premises in relation to the Contract.

## **H12. LAW AND JURISDICTION**

H12.1 This Contract shall be governed by the laws of England and shall be subject to the exclusive jurisdiction of the English courts.

## **H13. MODERN SLAVERY ACT (2015)**

H13.1 The Modern Slavery Act 2015 (The Act) makes provision about slavery, servitude and forced or compulsory labour and human trafficking, including provision for the protection of victims. Also provision for an Independent Anti-slavery Commissioner and for connected purposes. You agree to ensure that your organisation and any of your supply chain utilised on this contract or working with Thirteen Group in any capacity adhere to the Modern Slavery Act (2015).

## **SCHEDULE 1 - SPECIFICATION**











## SCHEDULE 2 - PRICING













ITEM	DESCRIPTION	AMOUNT
<b>1</b>	<b>GENERALLY</b>	
.1	All information within this document is to be read in conjunction with the specification requirements and accompanied reference documents. No claim will be accepted for lack of knowledge of the pricing document.	NIL
.2	It is not intended that this Works Schedule should contain complete descriptions of the items required. For this the Contractor is referred to the specifications and accompanying referenced documents, and from their site survey.	NIL
.3	The Contractor is to allow for making good all works damaged or disturbed by the Contractor and any Temporary Works.	NIL
.4	The Contractor is to include in their rates for all labour, plant and materials not specifically referred to in the Work Schedule that are necessary to enable them to carry out the Contract Works.	NIL
.5	The Contractor is to include in their rates for all works necessary temporary for the completion of the Contract Works.	NIL
.6	The Contractor is to include in their rates for any temporary protection required until Practical Completion.	NIL
.7	The Provisional Sums within the tender may or may not be expended. No claim arising from loss of anticipated profit due to failure to expend Provisional Sums in the whole or in part will be accepted.	NIL
.8	The Contractor is to include in their rates for the coordination of their work with that of all subcontractors.	NIL
.9	The Contractor is to take into account all the requirements of the Preliminaries and should price accordingly within the relevant section of these documents.	NIL
.10	Remove, take out, etc., shall be deemed to mean disposal off site, unless	NIL
.11	The contractor is to provide and maintain all temporary plant, hoists, ladders	NIL
.12	Allow for complying with all local authority and statutory requirements for the	NIL
.13	All works are to be undertaken in accordance with all Building Regulations,	NIL
.14	All works to be carried out strictly in accordance with the Health and Safety at Work Act and the Construction (Design & Management) Regulations 2015. All costs associated to this to be included within this Schedule of Rates.	NIL
.15	The Contractor is responsible to apply for, obtain and pay for any skip licences from the Local Authority.	NIL
✓ .16	The Contractor is responsible to apply for, obtain and pay for any other necessary Statutory Services charges in order to fully implement these works.	NIL
✓ .17	The contractor is to provide and maintain all temporary plant, hoists, ladders	NIL
✓ .18	Alternatives to those specified will be considered but the contractor must	NIL
	<b>GENERALLY (END)</b>	
	To Contract Sum Analysis (£)	NIL



ITEM	DESCRIPTION	AMOUNT
<b>2</b>	<b>SITE SET UP</b>	
✓ .1	Contractor to create site compound and submit proposals as part of Construction Phase Plan. Location of site compound to be agreed.	NIL
✓ .2	Contractor to erect Herras fencing around site compound for the duration of the works. Allow for suitable signing as per Pre-Construction Information. Fence to be removed upon completion.	NIL
✓ .3	Following self sufficient temporary secure accommodation, but not limited to, to be provided for the duration and removed on completion:  Site cabin (Include chairs and table, heating etc)  Welfare Cabin (Allow for regular cleaning and emptying)  Storage Cabin  Secure skip	NIL
✓ .4	Contractor to allow for required generators to power plant and provide power to the accommodation for duration of contract.	NIL
✓ .5	Scaffold to be sheeted and a temporary roof provided over the works for the	NIL
.6	Allow for safe access to all areas to facilitate the work.	NIL
.7	Allow for suitable mechanism to safely remove all debris from the building.	NIL
.8	Appropriate protection to the Penthouse Apartment is required whilst the work	NIL
	N.B. The Contractor will not be able to access individual properties for these	
	<b>SITE SET UP (END)</b>	
To Contract Sum Analysis (£)		NIL no room for set up, welfare maintained within property

ITEM	DESCRIPTION	AMOUNT
<b>3</b>	<b>WORK ITEMS</b>	
<b>1</b>	<b>ROOF</b>	
	Work to be carried out in accordance to: H22 of the Specification. H60 of the Specification. L21 of the Specification. P10 of the Specification. Approved Document B: Structure. Approved Document F: Ventilation. Approved Document L1: Conservation of fuel and power.	
.1	Contractor to obtain Building Control Permission for this work.	415.00
.2	Strip off existing roof including underfelt and slates. Cart away all arisings.	NIL
.3	Supply and install complete new roof to include: includes access and waste& 10 y New tiles - calderdale Breather type roofing membrane. Treated s/w timber tiling battens. Lead flashings chased into brickwork with cement where required. Allow for dry ridge and dry verge. Cross flow ventilation with proprietary ridge ventilators and over fascia rafter	8,810.70
.4	Ensure insulation is to a thermal conductivity 0.04 W/m2K between ceiling ties	550.00
.5	PV panels to be supplied and installed by others. Please allow a price to	100.00
.6	Fire seal voids in brickwork of party wall in roof void.	180.00
.7	Replace existing loft hatch with lockable type. Allow to enlarge opening if required.	140.01

	<b>2</b>	<b>CHIMNEYS</b>	
		Work to be carried out in accordance to: F10 of the Specification	
	.1	Remove flag copings and apply new cowl on fresh cement flaunching.	187.98
	.2	Supply and install Hit & Miss Pattern Vent - 242 x 89mm - 3741mm <sup>2</sup> Free Air	71.92
	.3	Make good damage around opening ready for decoration.	71.92
	<b>3</b>	<b>RAINWATER GOODS / SOIL WASTE WATER PIPES</b>	
		Work to be carried out in accordance to: R10 of the Specification	
		Please refer to R10 of the Specification for manufacturers details.	
	.1	Remove existing rainwater goods and soil waste pipes in their entirety and cart away	NIL
	.2	Replace with deep flow gutters and circular downcomers onto new fixings.	1,493.53
	.3	Replace with new soil waste water pipes to existing connections.	628.85
	.4	Clear out gully to rear yard.	60.00
	.5	PV sum to carry out pressure jet of drains.	800.00

	<b>.4</b>	<b>WINDOWS, DOORS &amp; JOINERY</b>	
		Work to be carried out in accordance to: L10 of the Specification	
	.1	Rake out mastic / cement fillets to all windows and doors apply new.	140.31
	.2	Deep clean uPVC - internal and external including mould.	180.94
	.3	PV sum to replace failed glazing.	400.00
	.4	Remove timber board and fit new double glazed unit with beading. Make good	175
	.5	Remove ill fitting glass to rear door and fit new double glazed unit with beading.	150
	.6	Hack off paint / loose cement / stone from the front ground floor window sill.	60
		PV sum to replace lintel	1,200.00
	.7	Overhaul ironmongery, easing and adjusting where possible. If not then	384.65
	<b>.5</b>	<b>ELEVATIONS</b>	
		Work to be carried out in accordance to: F10 of the Specification	
	.1	Carefully clean off brickwork to rear elevation.	NIL
	.2	Apply cement mortar to any voids in the brickwork pointing.	450.00
	.3	Apply masonry waterproof seal as per manufacturers recommendations, TBC	434.40

✓ .6	<b>HARDSTANDING / BOUNDARIES</b>	
	Work to be carried out in accordance to: F10 of the Specification M60 of the Specification R10 of the Specification	
✓ .1	Cut back and remove all vegetation. Allow to treat to restrict re-growth.	98.00
✓ .2	Rake out all loose mortar and repoint areas where it is missing.	NIL
✓ .3	Overhaul the gate. Ease and adjust to allow proper operation. Rub down,	67.55
✓ .7	<b>INTERNAL</b>	
	Work to be carried out in accordance to: M40 of the Specification M50 of the Specification M60 of the Specification N11 of the Specification P20 of the Specification	
	KITCHEN	
	Please refer to the relevant parts of the Specification detailed above for	
✓ 1.	Cap off services. Remove the existing kitchen in its entirety including	NIL
✓ 2.	Prepare surfaces and supply and install new kitchen.	5,296.90

	Units to match existing layout. Worktops. Appliances. Splash back tiling. Flooring.	
	BATHROOM (Current)	
✓ .3	Cap off services. Remove existing bathroom in its entirety including, toilet, sink	NIL
✓ .4	Carefully take down the previous airing cupboard and make good disturbed	85.00
✓ .5	Prepare existing bathroom to be converted into a bedroom. Block up openings,	795.10
✓ .6	Replace the frosted glass with clear glass.	150.00
	REAR BEDROOM (Current)	
✓ .7	Please refer to the relevant parts of the Specification detailed above for	NIL
✓ .8	Prepare ready for new bathroom suite. Supply and install connecting to	3,784.11
	Toilet. Wash hand basin with mixer tap. Bath with mixer unit. Complete shower cubicle/tray and unit connected to boiler. Flooring. Tiled splashback to sink and bath and tiling to shower surround.	

13	Rub down, prepare and redecorate all previous decorated items throughout.	1,919.27
14	Deep clean upon completion.	250.00
15	Prepare flooring and lay new carpet with underlay.	3,082.25
	Note: Allow for appropriate removal / disposure of asbestos bitumen adhesive	
16	Overhaul doors: ease and adjust or replace where damaged.	420.00

**Please price these works separately.**  
**Do not include in the overall tender price.**

#### INTERNAL FACE OF EXTERNAL WALLS

c.	Remove skirting, and other joinery.	NIL
d.	Fix insulated plasterboard leaving void between existing wall and ventilation gap	1,820.00
e.	Plaster.	518.70
f.	Allow for new skirting and other joinery.	390.00
g.	Prime, undercoat and decorate new joinery.	95.00
h.	Prime and undercoat walls, emulsion allowed for elsewhere.	110.00

8	<b>MECHANICAL &amp; ELECTRICAL</b>	
	Work to be carried out in accordance to: T90 of the Specification	
.1	Drain radiators, flush and install inhibitor.	137.71
.2	Install magflo to boiler as per manufactures recommendations .	193.00
.3	All for new radiator to new bedroom and towel radiator to new bathroom.	439.60
.4	Remove intruder alarm and make good damage prior to decoration.	120.00
.5	Replace face plates to switches and sockets and apply new.	NIL
.6	Carry out a complete re-wire replacing all sockets / switches / roses etc. with	3,894.10
.7	Replace mechanical vent to kitchen 60l/s and bathroom 15l/s and intermittent	349.36
.8	Cut back redundant pipes to the previous airing cupboard. Make good	48.00
.9	Insulate cold water supply within the building.	75.00
.10	Repair smoke / fire alarms to leave in full working order.	490.49
.11	Gas Safe Test certificate	75.00
.12	Electric Test certificate	120.00
	<b>WORK ITEMS (END)</b>	
To Contract Sum Analysis (£)		43,447.43



ITEM	DESCRIPTION	AMOUNT
4	<b>OTHER WORKS (contractor to list hereunder)</b>	
	The contractor is to insert and include descriptions/prices for any additional items to assist with the scope of works and specification.	NIL
	To Contract Sum Analysis (£)	NIL
ITEM	DESCRIPTION	AMOUNT
5	<b>OVERHEADS AND PROFIT</b>	
.1	The contractor is to allow for overheads of profit in this section.	NIL
6	<b>PRELIMINARIES</b>	
.1	The contractor is to allow all preliminaries in this section. (Do not double count with those already included elsewhere)	NIL
	To Contract Sum Analysis (£)	NIL

ITEM	DESCRIPTION	AMOUNT
7	<b>CONTRACT SUM ANALYSIS</b>	
.1	Item 1 Generally	-
.2	Item 2 Site Set Up	-
.3	Item 3.1 Roof	10,527.53
.4	Item 3.2 Walkway	-
.5	Item 3.3 Rainwater Goods	2,982.38
.6	Item 3.4 Windows, Doors & Joinery	2,690.90
.7	Item 3.5 Elevations	884.40
.8	Item 3.6 Balconies	23,428.92
.8	Item 4 Others	-
.9	Item 5 Overheads	-
.10	Item 6 Preliminaries	-
TOTAL (£)		40,514.13



# **Thirteen Group Specification**

**October 2023**

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F  
Masonry

## F10 Brick/ block walling

To be read with Preliminaries/ General conditions.

### POINTING OF EXTERNAL WALLS AND CHIMNEYS

#### TYPES OF WALLING

#### 100 GENERAL

- Ensure all scaffolding costs are incorporated.

#### 105 EXTERNAL WALLS POINTING

- In various patches / areas, rake out mortar joints to a minimum depth of 20mm using either a 110v grinder, a twin bladed wall chaser or a mortar router. All cutting tools are to have a vacuum unit to reduce dust. Quantity: Maximum 8m<sup>2</sup> unless approved by client.
- Clean the brickwork via a power wash to a minimum pressure of 100psi in order to provide a clean surface to the brickwork and remove all debris and fungi. At no time should the pressure jet be so high as to cause damage to the substrate being cleaned. Quantity: Maximum 8m<sup>2</sup> unless approved by client.
- Wet mortar joints with clean water prior to repointing. Repoint brickwork using 1part cement and 4 parts building sand. Press mortar firmly into joint with a pointing trowel to ensure key to existing mortar. Finish off joint with a weather struck pointing finish. After initial curing of the pointing brush down wall with a soft haired brush to remove excess mortar. Quantity: Maximum 8m<sup>2</sup> unless approved by client.

#### 106 CHIMNEYS

- Rake out mortar joints to a minimum depth of 20mm using either a battery-operated grinder, a twin bladed wall chaser or a mortar router. All cutting tools are to have a vacuum unit to reduce dust. Quantity: 3m<sup>2</sup>.
- Clean the brickwork via a power wash to a minimum pressure of 100psi in order to provide a clean surface to the brickwork and remove all debris and fungi. At no time should the pressure jet be so high as to cause damage to the substrate being cleaned. Quantity: 3m<sup>2</sup>.
- Wet mortar joints with clean water prior to repointing. Repoint brickwork using 1 part cement and 4 parts building sand. Press mortar firmly into joint with a pointing trowel to ensure key to existing mortar. Finish off joint with a weather struck pointing finish. After initial curing of the pointing brush down wall with a soft haired brush to remove excess mortar. Quantity: 3m<sup>2</sup>.
- Carefully hack off and renew cement haunching to chimney stack and re-bed up to 4 chimney pots if defective. If the works are carried out the contractor must carry out a smoke test before and after to ensure that no obstructions are present.
- If any major work is carried out to any chimney stacks, i.e. renewal of brickwork, cowl renewal or any works, which may interfere with the safe operation of any gas appliances, then any affected appliance must be dis-connected prior to any works starting. Following completion of work, all affected appliances must be re-commissioned by a fully qualified gas engineer. All work must conform to Safety in the Installation and Use of Gas Systems and Appliances 1998.

#### 107 BRICK / BLOCK COMPARTMENTATION WALLS IN ROOF SPACE

- The existing compartment wall should meet the underside of the roof covering or deck and should also be continued across any eaves to maintain the continuity of the fire resistance

and stop the risk of fire spreading to adjoining compartments (properties).

- Contractor or Thirteen Group operatives to assess the condition of the compartment wall during improvement works. Any gaps / penetrations through the compartment wall to be repaired / re-pointed from both sides of the compartment wall.
- Refer to Building Regulation Approved Document B for details.
- Any properties without a compartment wall to be reported back to the project officer for instruction.

#### 108 BOUNDARY WALLS

- Bricks: To BS EN 771-1.
- Brick size: 215 x 102.5 x 65mm.
- Brick bond: English garden.
  - Note: An alternative bond may be required to suit a specific area or scheme. This must be approved by the client at design stage.
- Type: Perforated class B engineering brick.
  - Manufacturer: Wienerberger Building Materials Solutions (similar or approved).
  - Product reference: Terca (similar or approved).
  - Material: Clay.
  - Colour: Red.
  - Location used: On wall and pillars of brick wall.
- Type: Solid class B engineering brick.
  - Manufacturer: Wienerberger Building Materials Solutions (similar or approved).
  - Product reference: Terca (similar or approved).
  - Material: Solid clay.
  - Colour: Red.
  - Location used: Brick on edge on pillar tops.
- Type: Solid class B engineering brick.
  - Manufacturer: Hanson Group (similar or approved).
  - Product reference: Moroccan smooth (similar or approved).
  - Material: Solid clay.
  - Colour: Brown.
  - Location used: Brick on edge on main wall.
- Samples: Samples of 'similar or approved' bricks 'must' be submitted for approval by the client prior to any work proceeding.
- Wall size (approximate):
  - Brick wall without railing:
    - Pillar: 440mm x 440mm width, 1000mm height.
    - Wall: 215mm width (brick width), 600mm height.
  - Brick wall with metal railing:
    - Pillar: 440mm x 440mm width, 1615mm height.
    - Wall: 215mm width (brick width), 540mm height.
    - Railing: 900mm metal secured to brick wall.
  - Note: Non-standard wall sizes / design that do not comply with the above 'must' be approved by the client prior to work proceeding.
- Gate: See clause Q40 for full gate details:
  - Metal, hot dip galvanised to a black powder coated finish.
  - Gaps between rails to be maximum 99mm.
  - Gate to have a clear opening of 900mm.
  - Frame to be built into new brick wall.
- Additional information:
  - Existing brick wall to be removed to two courses below ground level (including pillars) and new wall to be built to suit sizes above or existing height. To be assessed by project officer on site. Project officer to confirm that existing foundation and brickwork being left insitu is in a suitable condition, any remedial works to be carried out following approval by the client. All materials to match the specification.
  - Gate to boundary wall junction: If the new metal gate and posts are higher than the new



brick wall, then pillars must be built either side of the gate posts and be at least the same height as the top of the gate / posts.

#### WORKMANSHIP GENERALLY

- 430    CONDITIONING OF CLAY AND CALCIUM SILICATE BRICKS AND CLAY BLOCKS
  - Bricks and blocks delivered warm from manufacturing process: Do not use until cold.
  - Absorbent bricks in warm weather: Wet to reduce suction. Do not soak.
- 560    COURSING BRICKWORK
  - Gauge: Four brick courses including bed joints to 300 mm.
- 561    COURSING BRICKWORK WITH EXISTING
  - Gauge: Line up with existing brick courses.
- 635    JOINTING
  - Profile: Consistent in appearance.
- 690    ADVERSE WEATHER
  - General: Do not use frozen materials or lay on frozen surfaces.
  - Air temperature requirements: Do not lay bricks/ blocks:
    - In cement gauged mortars when at or below 3°C and falling or unless it is at least 1°C and rising.
    - In hydraulic lime:sand mortars when at or below 5°C and falling or below 3°C and rising.
    - In thin joint mortar glue when outside the limits set by the mortar manufacturer.
  - Temperature of walling during curing: Above freezing until hardened.
  - Newly erected walling: Protect at all times from:
    - Rain and snow.
    - Drying out too rapidly in hot conditions and in drying winds.

#### ADDITIONAL REQUIREMENTS FOR FACEWORK

- 750    COLOUR CONSISTENCY OF MASONRY UNITS
  - Colour range: Submit proposals of methods taken to ensure that units are of consistent and even appearance within deliveries.
  - Conformity: Check each delivery for consistency of appearance with previous deliveries and with approved reference panels; do not use if variation is excessive.
  - Finished work: Free from patches, horizontal stripes, and racking back marks.
- 760    APPEARANCE
  - Brick/ block selection: Do not use units with damaged faces or arrises.
  - Cut masonry units: Where cut faces or edges are exposed cut with table masonry saw.
  - Quality control: Lay masonry units to match relevant reference panels.
    - Setting out: To produce satisfactory junctions and joints with built-in elements and components.
    - Coursing: Evenly spaced using gauge rods.
  - Lifts: Complete in one operation.
  - Methods of protecting facework: Submit proposals.
- 780    GROUND LEVEL
  - Commencement of facework: Not less than 150 mm below finished level of adjoining ground or external works level.
- 830    CLEANLINESS
  - Facework: Keep clean.

- Mortar on facework: Allow to dry before removing with stiff bristled brush.
- Removal of marks and stains: Rubbing not permitted.

H  
Cladding/Covering

## H22 Plastics weatherboarding

### PLASTICS WEATHERBOARDING

To be read with Preliminaries/ General conditions.

#### 100 GENERAL

- Carefully remove existing rainwater guttering from two elevations, ready for renewal.  
Quantity: 10 metres.
- Carefully remove the first two rows of eaves tiles from each side of the roof. Remove two tile battens and insert new rigid 300mm DPC support tray screwed directly to each rafter. Each tray should be overlapped by a minimum of 100mm. Install new reinforced underlay lapped under the existing felt and support tray finishing at the fascia. Refit existing roof tiles and make good all areas disturbed. Quantity: 10 metres for terraced properties, 15 metres for end terrace / semi-detached properties.
- Ensure that new timber support noggins are installed when not over boarding and a full replacement is carried out. This will provide sound fixing points for the new fascia board across the length of the eaves, fascia must not be fixed into the end grain of the roof rafters.
- Ensure that the installation of the weatherboarding does not restrict the window vent operation. It will be the responsibility of the contractor, carrying out the work, to inspect each property and clarify that the installation of the weatherboarding does not affect any vents from opening. Any issues must be reported to Thirteen at the earliest possible opportunity for instruction. Any window operation found to be restricted on completion of the weatherboarding will be the responsibility of the contractor to rectify, at no cost to Thirteen.

#### 105 SCAFFOLDING

- Ensure all scaffolding costs are incorporated.

#### 112 PLASTICS WEATHERBOARDING Fascia's

- Manufacturer: Eurocell (similar or approved).
- Standard: To BS 7619. BBA Approved.
- Substrate: Existing timber fascia or, where rotten, to a new timber backboard.
- Weatherboarding:
  - Product reference: Eurocell roofline profile
  - Cellular foam PVCu capping.
  - 5m lengths
  - Profile: Minimum 9mm thick and 200mm deep when over boarding.
  - Profile: Minimum 18mm thick and 200mm deep for new.
  - Colour: White.
  - Finish/ Texture: Smooth.
  - Quantity: 10m on mid terrace properties, 15m on end terrace / semi-detached properties.  
Quantities over and above those stated to be priced per metre.
  - Method of fixing: Secured with plastic headed polytop stainless steel roofing ring nails.  
Size to suit board thickness
- Accessories/ Trims: All corners to have proprietary jointing connectors.
- Other requirements: Fascia to have a fire rating to BS476 Part 7: Class 1.
- Additional: 20-year guarantee against discolouration, warping and cracking.

- 113 PLASTICS WEATHERBOARDING Soffits
- Manufacturer: Eurocell (similar or approved).
  - Standard: To BS 7619. BBA Approved.
  - Substrate: Existing timber soffit or, where rotten, to a new timber backboard.
  - Weatherboarding:
    - Product reference: Eurocell roofline profile
    - Cellular foam PVCu capping.
    - 5m lengths
    - Profile: Minimum 9mm thick and 150mm deep when over boarding.
    - Profile: Minimum 18mm thick and 150mm deep for new.
    - Colour: White.
    - Finish/ Texture: Smooth.
    - Quantity: 10m. Quantities over and above 5m are to be priced per metre.
    - Method of fixing: Secured with plastic headed polytop stainless steel roofing ring nails.  
Size to suit board thickness
  - Accessories/ Trims: All corners to have proprietary jointing connectors.
  - Other requirements: Soffit to have a fire rating to BS476 Part 7: Class 1.
  - Additional: 20-year guarantee against discolouration, warping and cracking.
- 114 PLASTICS WEATHERBOARDING Barge Boards
- Manufacturer: Eurocell (similar or approved).
  - Standard: To BS 7619. BBA Approved.
  - Substrate: Existing timber soffit or, where rotten, to a new timber backboard.
  - Weatherboarding:
    - Product reference: Eurocell roofline profile
    - Cellular foam PVCu capping.
    - 5m lengths
    - Profile: Minimum 9mm thick and 200mm deep when over boarding.
    - Profile: Minimum 18mm thick and 200mm deep for new.
    - Colour: White.
    - Finish/ Texture: Smooth.
    - Quantity: 5m. Quantities over and above 5m are to be priced per metre.
    - Method of fixing: Secured with plastic headed polytop stainless steel roofing ring nails.  
Size to suit board thickness
  - Accessories/ Trims: All corners to have proprietary jointing connectors.
  - Other requirements: Bargeboard to have a fire rating to BS476 Part 7: Class 1.
  - Additional: 20-year guarantee against discolouration, warping and cracking.
- 115 ROOF TILE VENTS
- Manufacturer: Manthorpe Building Products (similar or approved).
  - Standard: BS5534, BS5250, BS491.
  - Substrate: Existing roof covering and roof covering.
  - Product reference: GTV range.
    - Profile: To suit tile manufacturer and roof requirements.
    - Colour: Slate grey, dark brown, terracotta, anthracite black or antique red. Determined by existing / new roof tile selection and colour.
    - Quantity: 4no (2 to each side).
  - Vents to have a 20-year guarantee.
  - Additional:
    - Method of fixing: Installed as per manufacturers fixing instructions.
    - Carefully remove 4 existing roof tiles, two to each side, and install four PVC tile vents to match existing profile with integral 4mm insect grill to match tile profile.
    - Pay particular attention to the cutting and forming of the vent through the existing undercloak.
    - Include for all fixtures and fittings to install the roof tile vent into the roof structure.

#### 116 DRY VERGE

- Manufacturer: Manthorpe Building Products (similar or approved).
- Standard: To BS 5534.
- Substrate: Existing roof verge. Remove old mortar bedding prior to installation. Install timber section running from eaves to ridge for support if required.
- Dry Verge 1: SmartVerge Dry Verge: To be used as standard.
  - Compatible with most interlocking concrete tiles 280mm to 345mm gauge.
  - Profile: Left hand (GDV-LH) and right hand (GDV-RH) units, size to suit existing roof structure.
  - Colour: Slate Grey, Dark Brown, or Terracotta (determined by existing roof).
  - Quantity: 5m. Quantities over and above 5m are to be priced per metre.
  - Accessories:
    - Ridge cap - angled GDV-END-A.
    - Ridge cap - round GDV-END-R.
    - Eaves closure unit GDV-EC.
- Dry Verge 2: SmartVerge Linear Dry Verge:
  - Compatible with all fibre cement and natural slate tiles and interlocking plain tiles. Also compatible with some plain tiles and concrete interlocking tiles.
  - Profile: Left hand (GLV-LH) and right hand (GLV-RH) units, size to suit existing roof structure.
  - Colour: Slate Grey, Dark Brown, or Terracotta (determined by existing roof).
  - Quantity: 5m. Quantities over and above 5m are to be priced per metre.
  - Accessories:
    - Ridge cap - angled GDV-END-A.
    - Ridge cap - round GDV-END-R.
    - Verge union GLV-VU.
    - Fixing clip GLV-FC.
    - Linear dry verge eaves end GLV-EE.
- Guarantee: 20-year guarantee against discolouration, warping and cracking.
- Additional:
  - Method of fixing: Installed as per manufacturers fixing instructions.
  - Include for all fixtures and fittings to install the dry verge to the existing roof structure.

#### 117 DRY RIDGE

- Manufacturer: Manthorpe Building Products (similar or approved).
- Standard: To BS 5534.
- Substrate: Existing roof ridge structure.
- Retain existing roof covering:
  - Remove all old mortar bedding and ridge tiles and clean mortar from top row of roof tiles.
  - Allow to strip back top row of tiles, remove tile battens, and roll back existing membrane to allow fixing of straps on existing rafters.
  - Allow for re-fitting the tiles, battens, and membrane once the fixing straps are installed.
  - Install new ridge system and ridge tiles as per manufacturer's instructions.
- New roof covering:
  - Strip existing roof covering and install new roof covering, new ridge system and ridge tiles as per manufacturer's instructions.
- Product reference: Roll-out dry fix ridge system.
  - Ridge tile (determined by existing / new roof).
  - Ridge union GDRR-RU.
  - Vent roll GDRR-R (6 metres) or GDRR-3M (3 metres). Black (BL), terracotta (TR) or dark brown (BR) available.
  - 25mm x 38mm timber ridge batten.
  - Galvanised steel batten support bracket GDRR-BS.
  - Stainless steel 304 grade fixing screw, neoprene rubber washer, 304 grade stainless steel clamping plate and expanded polypropylene foam spacer.
  - Ridge end caps - GDV-END-A (angled) or GDV-END-R (round).

- Colour: Choice available on certain materials. Colour to suit roof tile.
- Quantity: To suit roof.
- Guarantee: 20 years.
- Additional:
  - Method of fixing: Installed as per manufacturers fixing instructions.
  - Include for all fixtures and fittings to install the dry ridge system.

#### 118 DRY HIP

- Manufacturer: Manthorpe Building Products (similar or approved).
- Standard: To BS 5534.
- Substrate: Existing roof ridge structure.
- Retain existing roof covering:
  - Remove all old mortar bedding and hip tiles and clean mortar from roof tiles.
  - Allow to strip off and re-fitting of tiles at hip junction as required.
  - Install new hip system and hip tiles as per manufacturer's instructions.
- New roof covering:
  - Strip existing roof covering and install new roof covering, new hip system and hip tiles as per manufacturer's instructions.
- Product reference: Roll-out dry fix hip system.
  - Hip tile (determined by existing / new roof).
  - Ridge union GDRR-RU.
  - Hip support tray GDRH-ST.
  - Vent roll GDRR-R (6 metres) or GDRR-3M (3 metres). Black (BL), terracotta (TR) or dark brown (BR) available.
  - 50mm x 38mm timber battens. Build up on hip rafter as per installation instructions.
  - Stainless steel 304 grade fixing screw, neoprene rubber washer, 304 grade stainless steel clamping plate and expanded polypropylene foam spacer.
  - Hip end cap GDRH-HC. Black (BL) or buff (BF)
- Colour: Choice available on certain materials. Colour to suit roof tile.
- Quantity: To suit roof.
- Guarantee: 20 years.
- Additional:
  - Method of fixing: Installed as per manufacturers fixing instructions.
  - Include for all fixtures and fittings to install the dry ridge system.

## H41 Glass fibre reinforced plastics cladding/ features

To be read with Preliminaries/ General conditions.

### TYPES OF CLADDING/ FEATURES

#### 145 GRP CANOPIES

- Manufacturer: Architectural Fibreglass Mouldings Limited (similar or approved).
  - Product reference, type, and finish: To be confirmed on a scheme-by-scheme basis to suit location.
  - Colour: White with option of Grey, Brown, or Terracotta tile. Colour to be confirmed on specific scheme.
  - Dimensions:
    - To suit size requirements on site.
    - Where possible select from standard product sizes.
    - All canopies available in non-standard lengths on request. This option must be approved by the client for approval prior to
- Primary support structure: Existing structure.
- Fixings and fasteners: Installed as per manufacturers recommendations.
- Joints: Rear edge sealed to existing structure to ensure watertight structure.
- Accessories: Optional leg brackets.
- Additional:
  - Allow for the inclusion of a synthetic lead flashing, lapped into the brickwork on canopy installations above bay windows where the canopy is forming part of the envelope. Design to be confirmed by client design team in conjunction with canopy manufacturer.
  - Allow for the inclusion of loose laid insulation within the canopy-on-canopy installations above bay windows, which are forming part of the envelope. Design to be confirmed by client design team in conjunction with canopy manufacturer.

### DESIGN/ PERFORMANCE REQUIREMENTS

#### 220 WEATHER RESISTANCE

- Requirement: Weathertight, with full allowance made for deflections and other movements.

#### 321 DESIGN SAMPLES

- GRP samples: Before general manufacture obtain approval of appearance.
  - Extent: Showing proposed colour and texture.
  - Action: Obtain approval of appearance before proceeding.

### MANUFACTURE

#### 410 QUALITY OF WORK

- Manufacture: Compliant with design and performance requirements.
  - Materials: Appropriate and compatible.
  - Workmanship: Appropriate and in accordance with manufacturers' recommendations.
- Resins: Used as supplied and not adulterated.
- Fillers and admixtures: Submit proposals.
- Standard of finish: Appropriate to end use and position in building.
  - Prohibited blemishes: Including, but not limited to, wrinkling, spotting, striations, fibre patterning, fisheyes, blisters, crazing, cracking, dry patches and uneven or inconsistent colour.



## INSTALLATION

### 605 PREPARATION

- Prefabrication: Complete products and attach fixings in workshop wherever possible.
- Identification: Mark or tag products. Do not mark surfaces visible in the complete installation.
- Electrolytic corrosion: Isolate dissimilar metals.

### 616 SUITABILITY OF STRUCTURE

- Contractor's survey:
  - Scope: Survey supporting structure, checking line, level, and fixing points.
  - Give notice: If structure will not allow required accuracy or security of erection.

### 680 CLEANING DOWN

- General: Return to site at completion or when instructed and thoroughly clean down the entire area of the GRP work. Cleaning agents for the purpose must be approved by the GRP manufacturer.

## H60 Plain roof tiling

To be read with Preliminaries/General conditions.

### GENERAL ROOF PERFORMANCE SPECIFICATION

#### 101 ROOF REPLACEMENT

##### RE-INSTATING GAS DURING A PARTIALLY COMPLETE ROOF REPLACEMENT

Reference to works around re-instating gas whilst roofing works are continuing, on partially completed roofs (without the tiles fitted). Due to risks involved the following, additional control measures are to be implemented to control any potential risk during the works.

- A method statement should be provided to the client prior to any work being carried out.
- Before works start on the roof, where the boiler flue terminates through the roof space or is terminating into a working area, the boiler should be isolated and labelled to ensure it cannot be used until works are completed.
- When work is completed on the roof or workspace the boiler must be commissioned by a gas safe registered engineer to ensure it is working safely. This check must include a visual inspection in the loft space and have a CP12 completed.
- If the roof structure is incomplete additional control measures must be put in place before the boiler is brought back into operation at the end of the day. This should happen at the end of each day the roof is incomplete.
  - Boiler can then be commissioned to ensure it is working safely, this check must include a visual inspection in the loft space and a CP12 completed.
  - Timber supports should be secured each side of the vertical flue terminal (2x1 sections) to give the flue extra stability until tiles are installed.
  - All fans that operate through the loft space must be isolated when the gas is in operation (only when the roof is incomplete).
  - A battery-operated carbon monoxide alarm should be placed inside the loft space (remove the following day when the boiler is isolated).
  - A do not enter sign is placed over the loft hatch to ensure no one enters the loft space.
- Thirteen's gas department will undertake audits to ensure this process is followed by all contractors.

##### PRIOR TO COMMENCEMENT

- Thirteen Group to engage with selected roof tile manufacturer at design stage to utilise their design service. Thirteen to obtain all material specifications, design & detail drawings, and installation guides for approval prior to any work commencing on site.
- The proposed roof tile manufacturer must provide all relevant certification on product performance (DOP / BBA) and warranty / guarantee confirmation prior to any formal specification of the product.
- Thirteen Group to obtain all party wall approval documentation prior to the commencement to ensure continuity once the scheme is underway.
- The appointed roofing contractor must include for all scaffold requirements to ensure safe working at height throughout the duration of the roof replacement. Safe access for residents must be maintained as agreed with the Thirteen Group.
- The contractor / Thirteen Group must liaise with the resident to arrange for any services, which are position at the roof / roofline, to be relocated onto the scaffold for the duration of the work. The contractor must ensure that the residents TV works throughout the duration of the work and that it is working once the aerial / satellite has been re-fitted to the house. The contractor / Thirteen Group will liaise with BT and Openreach to allow cables to be removed from the fascia / soffit (where required) to allow new materials to be installed.

Thirteen Group will confirm the new location for the cables to be fitted, note they must not be re-fitted on the fascia or soffit unless confirmed by the project manager.

The contractor must highlight any other fixtures / fittings that are fixed to the fascia / soffit area for further instruction. Any redundant fittings to be removed.

## ROOF TILING

- General: Fix tiling and accessories to make the whole roof sound and weathertight at earliest opportunity.
- Existing gutters and pipes: Keep free of debris. Clean out at completion.
- Refer to sections H22: Plastics Weatherboarding and R10: Rainwater Drainage Systems if roof line works and rainwater goods are to be included within roof replacement.
- Concrete roof tiles shall be manufactured to BS EN 490:2004 and BS EN 491:2011.
- Clay Roof tiles shall be manufactured to BS EN 1304: 2013.
- Slate roof tiles shall be manufactured to BS EN 12326-1:2004.
- All pitched roofs shall be designed and fixed in accordance with the recommendations of BS 5534:2014 The British Standard Code of practice for slating and tiling.
- Roof space ventilation must be provided in accordance with the requirements in Building regulation F2 and the recommendations given in BS5250: 2002 The British code of practice for control of condensation in buildings.
- All pitched roofing workmanship should be carried out in accordance with the recommendations given in BS 8000: part 6: The British Standard code of practice for slating and tiling of roofs and claddings to meet building regulation's part C.
- A dry fix GRP bonding gutter to be fitted where thirteen properties meet private dwellings to allow easy maintenance. To be fitted to manufacturers printed instructions and be fire rated to comply with BS746: Part 3 SAB and part 7 class 3.
- Tiles shall be chosen by the Client and are to be fixed in accordance with the manufacturers printed instructions.
- A dry ridge/hip/verge system shall be used when fitting any roof system in accordance with BS5534:2014 No wet system to be used unless prior agreement has been obtained from the client.
- Tiling battens shall be tanalised softwood free from decay or insect attack, free from any split's shakes, waness permissible on one arris only, knots or knot holes less than one third width of any sound surface with a maximum of 22% moisture content at time of fixing.
- The battens to be secured to the rafters with round wire nails of adequate length and gauge to provide secure fixing to BS1202 the joints of battens must meet halfway across the top face of a rafter and are to be clear cut with a saw. Chopping of battens with an axe will not be allowed.
- Under slating felt shall be reinforced felt to BS8747 and BS EN 13707:2013.
- Eaves ventilation shall comply with the requirements of Building regulations approved document F2: 1995, BS5250 and BS 5534, Part 1 and shall be fixed in accordance with the

manufacturers printed instructions.

- Slate and Tile ventilators shall comply with the requirements of building regulations approved document F2: 1995, BS 5250 and BS 5534, Part 1 and shall be fixed in accordance with the manufacturers printed instructions.
- All lead work to be renewed (all flashings, soakers etc).
- Where we have a shared chimney with a private property the front and rear aprons are to be left in situ and the leadwork will be overlaid on Thirteen Group side.
- All leadwork is to be milled sheet conforming to BS EN 12588:2006 and used as follows:
  - Code 4 for all soakers, flashings, and general weathering's.
  - Code 5 for roof and wall coverings and associated details.
  - Tacks shall be cut from the being fixed, minimum 40mm wide.
- Solder shall be to BS EN 29543:1994 Grade D or J.
- Nails for fixing lead shall be copper to BS 1202:2002, Part 2, Table 2, and large round headed.
- All lead in flashings and weathering's to have 100mm laps at all joints.
- All lead flashing brickwork joints shall be sealed with lead mate sealant, which conforms to current standards. No mortar joints will be permitted unless agreed with the client.
- All flashings etc, adjacent to slate roofing are to be coated with approved patination oil or boiled linseed oil to BS 259.

#### WORKMANSHIP

- Carefully strip off existing roof coverings: Strip off designated roof slopes of all coverings, felt battens, flashings, aprons, soakers, hip, and ridge capping's etc with minimum disturbance of adjacent retained tiling (Thirteen Group or Private).
- Tiles: Set aside for disposal, re-use, or sale to reclamation company as pre-agreed by Thirteen Group project manager.
- Protection: Provide all necessary protection, tarpaulins, dust sheets and the like for the duration of the works. Any damage to the property, occupier's belongings, goods, chattels, etc. shall be made good at the Constructors expense and he shall be responsible for maintaining the building in watertight condition at no additional expense to the contract. Polythene sheet shall be laid horizontally within the roof space prior to the commencement of the works, to enable all falling debris to be removed more easily.
- Cleaning: Upon completion of the works, the roof affected shall be cleared of all fallen debris, as a result of the works, ie. Battens, felt, broken slates, tiles, mortar etc.
- Defective roof timbers: Defective roof timbers shall be brought to the attention of Client representative.
- Separating fire break walls: Completely fill space between the top of the wall and underside of tiles with mineral wool quilt to provide fire stopping.  
Boxed eaves: Completely seal air paths in plane of separating wall with wire reinforced mineral wool, not less than 50mm thick, fixed to rafters and carefully cut to shape to provide fire stopping.

Underlay shall be fixed as follows:

- a) Lay parallel to eaves commencing at eaves and with a slight drape between rafters. Maintain consistent tautness.
- b) Lap 150mm at sides and ends with laps centred over rafters.
- c) Tack/nail sufficiently to make secure until battens are fixed.
- d) Lay over any tilting fillets and extend into gutter. Prevent any snagging which could trap water.
- e) Do not extend over fire breaks or party walls.
- f) Lay a strip over the ridge to overlap general underlay by 150mm minimum.
- g) Lay a 600mm minimum strip at verge below general underlay and to lap by 150mm minimum.
- h) Lay 600mm minimum strip at hips over general underlay and extend fully to eaves line.
- i) Extend underlay up wall at top abutment to suit cover flashing.
- j) Handling: Do not tear or puncture.
- k) Penetrations: Use proprietary underlay seals or cut underlay to give a watertight fit around pipes and components.
- l) Ventilation paths: Do not obstruct.

Battens/ Laths shall be securely fixed with copper/ stainless steel nails to rafters as follows:

- a) At centres to give the correct lap. Align parallel to straight edge in straight horizontal lines to gauge of tiles. Align on adjacent areas.
- b) In long lengths, minimum length to be supported by at least 3 rafters with both ends supported
- c) With ends cut square and centred over rafters and nailed without splitting.
- d) Packed where necessary to maintain level.
- e) Provide additional battens/ laths and tilting fillets at eaves, ridges, and other perimeter features.
- f) Provide additional battens/ laths if necessary to prevent wind lift of horizontal laps in the underlay.
- g) Nail penetration into rafters shall be a minimum of 50mm.

Health and Safety

- a) No storing of tiles will be allowed on the scaffold unless said scaffold loadings have been assessed.
- b) Tiles to be raised and lowered by a Bumpa tile lift system similar or approved.
- c) Any storing of tiles at ground level to include segregation from the residents and the public.
- d) Consideration of how tools are carried up and down ladders (three points of contact).

L  
Windows/Doors/Stairs

## L10 Windows/ Rooflights/ Screens/ Louvres

To be read with Preliminaries/ General conditions.

### GENERAL

#### 100 MANUFACTURING STANDARDS

- The manufacturing process of the windows should achieve BS 7412:2007, BS 7950:1997, PAS 23-1:1999, PAS 24-1:2016, BS EN ISO 9001:2015 and be BFRC approved.

#### 105 WINDOW PERFORMANCE STANDARDS

- The performance of windows shall be in accordance with BS 7412:2007 and BS 6375 Parts 1 and 2 test method for windows and achieve BS EN ISO 14001:2015, BS EN ISO 12608:2016.

#### 110 EVIDENCE OF PERFORMANCE

- Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.

#### 121 SITE DIMENSIONS AND SURVEY

- Procedure: Before starting work on designated items take internal and external site dimensions, record on shop drawings and use to ensure accurate fabrication. Provide design drawings to be approved by client.
- The internal and external condition will be surveyed to highlight any apparent defects. Any defects shall be noted in writing and action agreed to rectify the problem.

#### 122 WEATHER RESISTANCE To achieve exposure category 1200

- i) Air permeability: When tested in accordance with BS EN 1026 they shall meet the performance requirements of BS 6375 Part 1 table 1 for a severe rating of 200pa.
- ii) Water tightness: When tested in accordance with BS EN 1027 to meet severe rating 200pa. Performance requirements of BS 6375 Part 1.
- iii) Wind loading: When tested in accordance with BS EN 12211 they shall meet the performance requirements of BS 6375 Part 1 table 1 for severe rating of 1200pa. Wind loads to be determined in accordance with BS 6375 Part 1 or BS 6399 Part 2.

#### 123 THERMAL PERFORMANCE

- Shall be in accordance with BS EN ISO 12567-1 and must meet the new building regulation's part L.

#### 124 SECURITY

- Shall be to PAS24: 2016 (formally BS 7950).

#### 125 VENTILATION

- Permanent or adjustable ventilation is to be provided to all windows, to comply with current building regulations and current gas board regulations. Ventilator will provide 5000m<sup>2</sup> of equivalent free air in habitable rooms and 2500m<sup>2</sup> in non-habitable rooms as per document F. Ventilator must have test data for compliance to Part J and BS 5440:2000.
- Ventilator to deflect air upwards as standard. Mechanical affixed options will not be considered. Vents must be fitted in strict accordance with manufacturers recommendations and glazing height must be reduced as necessary to accommodate the vent.
- Trickle vent to be inserted into the top of each opening light.

#### 140 WINDOW REINFORCEMENT

- All windows must be reinforced in accordance with BS 7412:2007. Sashes and outer frames must be reinforced with an extruded, PVCu based, recycled composite material.
- All window transoms and mullions must be fully reinforced according to static calculations. Reinforcing will be galvanised mild steel to BS EN 10327.

#### PRODUCTS

#### 351 PVC-U WINDOWS

- Manufacturer: Sekura Group
  - Standards:
    - Manufactured to BS 7412, PAS 24 (formerly) BS 7950, BS 6375.
    - Window suppliers must be registered with the British Fenestration Rating Council. All windows must be fitted with the relevant Energy Rating Label to show compliance.
    - PVCu profiles have obtained registration with the British Standards Institution in accordance with ISO 9001 (formerly BS 5750) quality assurance scheme.
    - Manufactured for minimum dimensions of clear openings for escape purposes refer to BS Code of Practice 5588 Part 1 and Building Regulations Part B.
  - Product reference: Optima system.
  - Colour: White. The system is to be through coloured.
  - PVCu profiles are manufactured from high impact modified PVCu and has a front to back frame depth of 67 - 70mm. The profile will consist of five chambers with a minimum external thickness of 3mm.
  - Corners and jointing are to be hot plate welded with mitred joints grooved and transom / mullion joints grooved to match mitres. No adhesive bonding.
- Glazing details: All glazing complies to BS 6262 and glazing unit should meet the specification of BS EN 1279
  - Glass:
    - Glazing to all windows coming within 800mm of floor level shall be safety glass (toughened or laminated) as standard and should comply with Document K.
    - Insulating glass units to have an BFRC Energy Rating of grade C incorporating a double-glazed unit comprising 'K' glass (or similar), argon gas fill, warm edge spacer bar, float glass configuration.
    - Obscure glazing: Pilkington stippolyte (similar or approved). To be fitted to all bathroom, W.C. windows, top half of doors and where previously fitted. Pattern to be approved by client prior to manufacture.
    - Beading: Internal. Corners shall be neatly mitred. Some fixed panels may require external beading where internal services prevent internal glazing. Units shall be retained using a security bead that is not easily removable from the outside.
    - Gasket: All gaskets and seals are extruded from EPDM (Ethylene Polypropylene Diene Monomer) and comply with BS 4255. Double seals are provided to all casements.
- Ironmongery: See section P21 for ironmongery specification. All ironmongery to be manufactured from Austenitic 304 stainless steel (high corrosion resistance).
- Fixing:
  - Fixings to be sized to penetrate a minimum of 25mm into timber, or 40mm into plugged holes into brick, block, masonry, and steel lintels, with appropriate thread cutting screws. Fix all four sides, secured as follows:
    - Corner fixings between 150mm and 250mm from external corner.
    - No fixing should be less than 150mm from the centreline of a mullion or transom.
    - Intermediate fixings at centres no greater than 600mm.
    - A minimum of two fixings on each jamb.
    - The heads of all fixing screws are covered with appropriate coloured plastic cover caps.
- Additional requirements:
  - Window catches and similar fittings are located within easy reach of occupants with exception of security / restrictor stays.
  - Lockable night vent keep facility.



- Cills are either 180mm or 150mm. Ensure that all cills have a 40mm clear overhang from building face and cill endcaps are provided.
- Where stone cills are fills are present, stub cills may be used, but must be approved by the client prior to manufacture.
- Packers to be used adjacent to fixings. They should be resistant to compression, rot and corrosion and must span the full depth of the frame.
- Where metal profiles are used as a reinforcing medium, they comprise of galvanised mild steel to BS 2989, Grade G 275N.
- Drainage slots are formed in all windows to permit free drainage. All slots are concealed so far as drainage via the underside of the cill section. No drainage discharge via the face of the frame.
- Each window is permanently labelled in an unobtrusive position not visible when the opening light is closed with an identifying mark detailing the manufacturers name, date of manufacture and extrusion to be identified without removal of the window. On a fixed light the markings are under the bead.
- The frame is resistant to chemicals, does not support fungal growth, vermin proof and resistant to attack by cement mortars and other materials used in building construction.

## EXECUTION

### 711 PROTECTION OF COMPONENTS

- General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry floored and covered storage. Adequate protection is provided by adhesive tapes / protective packings to ensure frames are not scratched.
- Stored components: Stack vertical or near vertical on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.
- Completion: On completion of the work all protection will be removed, and the frames and glass will be cleaned with household detergents (solvent cleaners are not permitted) and all hinges and window furniture will be lightly oiled and checked to ensure correct operation.

### 715 REVEALS

- Where required chop off existing render / pebbledash for installation of window and make good.
  - Render finishes: decoration of external render finishes should be included on completion of reveal remedial works. Include for touch up or full render decoration works as instructed by thirteen prior to the project proceeding. When patching, the paint should suitably match the existing colour to minimise flashing between old and new. If decoration works are more extension, then consideration should be given to full render decoration.
  - Pebbledash: no decoration required; however, a best match mortar and stone mix around reveals should be provided to minimise flashing between old and new finishes. Approval of samples should be obtained by thirteen prior to final application.

### 730 PRIMING/ SEALING

- Wood surfaces inaccessible after installation: Prime or seal as specified before fixing components.

### 732 COVER TRIMS

- No cover trims to be installed unless prior agreement with client is obtained.

### 734 PERIMETER GAPS

- All perimeter gaps to be foam filled. After curing, cut the foam back to a depth of 9mm from the face of the PVCu frame to receive an appropriate polyurethane mastic sealant.

- 736 IRREGULARITIES ON SUBSTRATES
  - Allow for add on sections to cater for all irregularities on substrates.
- 755 PVC-U WINDOW INSTALLATION
  - Standard: In accordance with clause 783 and British Plastics Federation 'Code of practice for the survey and installation of windows and external door sets'.
- 758 WINDOW / DOOR COMBINATIONS
  - Where PVCu window / door combinations are to be installed, a suitable coupling bar is to be used. Exact dimensions, locations and fixing details are to be agreed with the contractor and manufacturer prior to installation
- 759 PORCH CORNER POST
  - Porches to have 7739 corner post with 4004 steel.
- 765 WINDOW INSTALLATION GENERALLY
  - Installation: Into prepared openings.
  - Gap between frame edge and surrounding construction:
    - Minimum: 8mm.
    - Maximum: 10mm.
  - Distortion: Install windows without twist or diagonal racking.
- 766 LOCATION OF OPENABLE WINDOWS IN NATURALLY VENTILATED BUILDINGS
  - Location: Over 10 m from sources of external pollution.
- 785 FIXING OF PVC-U FRAMES
  - Standard: See previous clause 351 above and as section Z20.
  - Spacing: See previous Clause 351.
- 789 REPLACEMENT GLAZING
  - Windows shall be such that glazing or re-glazing on site is possible without the need to remove the outer frame from the structure of the building.
- 820 IRONMONGERY
  - Fixing: Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
  - Checking/ Adjusting/ Lubricating: Carry out at completion and ensure correct functioning.
- 825 EXISTING CABLES
  - Provision should be made for the re-clipping of any cables running through the frame that are removed to enable the new window installation.
- 830 INSPECTION
  - All windows will be inspected by the client to check for correct installation and possible damage incurred to the frame and glazing. Any damaged PVCu windows will be replaced with a new window. It shall be at the sole discretion of the client as to whether any repair to a damaged window is acceptable
- 835 RECYCLING
  - Provide written evidence to the client on the recycling of all materials arising from the renewal of the windows to include glass, PVCu frames, gaskets, seals and ironmongery.

## L20 Doors/ shutters/ hatches

To be read with Preliminaries/ General conditions.

### GENERAL

#### 111 EVIDENCE OF PERFORMANCE

- Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.
- Doors must have third party PAS 23 and PAS 24 Certification and be manufactured by a secure by design (SBD) accredited company.

#### 115 FIRE RESISTING DOORS/ DOORSETS/ ASSEMBLIES

- Evidence of fire performance: Provide certified evidence, in the form of a product conformity certificate, directly relevant fire test report or engineering assessment, that each door/ door set/ assembly supplied will comply with the specified requirements for fire resistance if tested to BS 476-22, BS EN 1634-1 or BS EN 1634-3. Such certification must cover door and frame materials, glass and glazing materials and their installation, essential and ancillary ironmongery, hinges, and seals.

#### 120 NON-FIRE RESISTING DOORS/ DOORSETS/ ASSEMBLIES

- Provide certified evidence, in the form of a product conformity certificate or engineering assessment, that each door/ door set/ assembly supplied will comply with the specified requirements to BS EN 14351-1. Such certification must cover door and frame materials, glass and glazing materials and their installation, essential and ancillary ironmongery, hinges, and seals.

#### 152 SITE DIMENSIONS AND SURVEY

- Procedure: Before starting work on designated items take site dimensions, record on shop drawings, and use to ensure accurate fabrication. Structural opening to be measured internally and externally. Provide design drawings to be approved by client.
- Any defects, structural cracks, or damage to be recorded and highlighted to the client prior to work commencing.

#### 160 DOOR FRAME REINFORCEMENT

- All door sashes must be fully reinforced according to static calculations. Reinforcing will be with an extruded PVCu based, recycled composite material.

#### 161 DOORSET COMBINATION

- To be made in two sections and pre-drilled for onsite assembly.

## PRODUCTS

### 251 WOOD PANELLED DOORS

- Location: Internal.
- Manufacturer: Jeld-wen UK Ltd (similar or approved).
- Standard: FSC Certified and to BS 4787.
- Product reference: Paint Grade Premium. Code: PGPR.
  - Type: Flush, paint grade. MDF finish with cellular core.
  - Finish: White, smooth. Pre-primed ready for final finish application.
  - Thickness: 35mm.
  - Size: To suit existing door frame.
- Ironmongery:
  - Handle: Polished chrome lever with latch and keep.
  - Hinge: 2no. polished chrome butt hinges.
  - Bathroom and WC to have a polished chrome privacy lock fitted. Thumb turn and release facility.
- Guarantee: 10 years.
- Additional:
  - Structural floor clearance: 10 - 20mm dependant on the floor finish.
  - Fire door options available to suit property requirements.

### 481 EXTERNAL DOORSETS

- Manufacturer: Sekura Group.
  - Product reference:
    - Castle Range GRP composite door.
    - Profile 22.
- Range: Front
  - Choice 1: Chillingham Solid.
  - Choice 2: Chillingham Glazed.
  - Choice 3: Alnwick Solid.
  - Choice 4: Alnwick Glazed.
- Range: Rear
  - Choice 1: Alnwick Solid.
  - Choice 2: Lumley.
- Colour:
  - Front: Black, white, red, or blue
  - Rear: White only.
  - No variation from these colours is permitted unless situations highlighted within the additional comments below, i.e. conservation area or specialist scheme.
- Ironmongery:
  - Include: Handles, letter plates, door numbers, hinges and Winkhaus multi-point locking mechanisms, locking cylinder.
  - See full ironmongery requirements in section P21.
  - Anodised silver as standard (gold anodised available on request).
  - No deviation from agreed ironmongery unless approval is obtained from the client. Samples and benefits of proposed updates to be submitted.
    - Handle: Hoppe Birmingham series.
    - Multi-point locking system: Winkhaus Trulock.
    - Cylinder: UAP key anti-bump cylinder (3 keys).
    - Cylinder: UAP key / thumb turn anti-bump cylinder (3 keys).
    - Hinges: Sekura own brand.
    - Letter plate: 12" Firemaster.
    - Letter plate shroud: Hidden fix for internal mounting.
    - Door viewer: Fire Check 160° door viewer.
    - Number: 3" door numbers.
- Glazing: Both clear and obscure glass options are available for resident choice to suit property conditions. A consultation with the resident should take place to determine best choice.

- Lifecycle: Minimum 25 years.
- Warranty:
  - Door set (including glass and multipoint lock): Minimum 10 years.
  - Door furniture: Minimum 10 years.
  - Surface finish: Minimum 5 years.
- Additional Information:
  - PVCu door sidelights are to match windows and low-level thresholds must match the window profiles and a colour match and quality must be provided.
  - Tenants own fittings such as cat flats, doorbells and the like are to be carefully removed and set aside for re-use (allowance for new cat flats should be made if required. Project manager to be notified and approval obtained prior to manufacture).
  - Thresholds to be manufactured from aluminium and be able to be removed without removing the door frame if required.
  - Door cill to be removed on internal doors at DPA properties where required – alternative low-level thresh to be installed.
  - Glazing: In critical locations as detailed in the Building Regulations Approved Document K, must be safety glass complying with Document K and BS 6206.
- Additional upgrade choices available for new build properties and designed projects if required. Choices must be approved by project team prior to any deviation from the standard specification.
- Conservation areas: Doors installed in conservation areas 'may' have different requirements. These schemes will be assessed on an individual basis and alternative products will be proposed if stipulated by the local authority after consultation.
- Site surveys and measures to be carried out by the door manufacturer.
- Door manufacturer to supply resident choice sheets for consultation events.

#### 482 FLAT ENTRANCE DOORSETS Enclosed Communal Areas

- Doors within enclosed communal areas, inclusive of general needs blocks and extra care settings should be reviewed and specified on an individual basis to determine the specific fire rating and security requirements to suit the building configuration, usage, and clientele.
- Flat entrance fire doors within buildings housing residents with limited mobility and/or strength may need to utilise an alternative closer to enable easier operation. This will be assessed on an individual building basis.
- Flat entrance fire doors within general needs accommodation blocks to utilise the standard ironmongery.
  - However, consideration should be given to utilise an alternative closer, where the property is general needs, but the resident may have limited mobility or strength. These should be reviewed on an individual basis to determine if additional assistance is required. The project team should liaise with the scheme manager or neighbourhood officer to determine if there are any residents that may have specific requirements or require additional assistance.
- Alternative closer to be utilised if necessary (on approval by Thirteen Asset Department):
  - Rutland UK TS5204 or TS9205 so suit specific requirement (similar or approved).
- Tolerance Gap Between Doorframe and Structure on Fire Rated Doors Contractor to ensure that the tolerance gap between the doorframe and the building structure is sealed with an approved fire-stopping product to ensure compartmentation.
  - Product: Intumastic, installed in strict accordance with manufacturer's instructions.
  - Expanding foam infill within tolerance gap to be cut back / applied to suit the application requirements of the Intumastic.

#### 484 COMMUNAL STORE DOORSETS Enclosed Communal Areas

- Doors within enclosed communal areas, inclusive of general needs blocks and extra care settings should be reviewed and specified on an individual basis to determine the specific fire rating and security requirements to suit the building configuration, usage, and clientele.
- Tolerance Gap Between Doorframe and Structure on Fire Rated Doors Contractor to ensure that the tolerance gap between the doorframe and the building structure is sealed with an approved fire-stopping product to ensure compartmentation.
  - Product: Intumastic, installed in strict accordance with manufacturer's instructions.
  - Expanding foam infill within tolerance gap to be cut back / applied to suit the application requirements of the Intumastic.

#### 485 EXTERNAL COMMUNAL DOORSETS

- Communal door sets to be assessed on an individual scheme by scheme basis.
- All external communal door set specifications 'must' be approved by Thirteen prior to manufacture.
- External communal door sets to be reviewed in conjunction with the door entry system.

#### 631 LOFT ACCESS TRAPS

- Manufacturer: Glidevale Limited (similar or approved).
  - Product reference: LA2 hinge-down trap.
- Standards: Conform to Building Regulations approved documents C (condensation control), L (thermal insulation) and B (fire).
- Visible colour: White.
- Material: Injection-moulded polypropylene with phenolic insulation or expanded polystyrene infill and a black PVC back.
- Size: 618mm x 775mm external dimension, 520mm x 680mm clear opening.
  - Alternative sizes available to suit
- Fire resistance:
  - No rating on standard LA2 loft trap. For use in standard domestic bungalows and two storey houses.
  - Fire rated options available for properties over two stories in height and communal access stairwells:
    - LA5 FR: 30 minutes.
    - LA6 60 minutes.
- Features:
  - Complete airtight unit.
  - Twin latches hold door against the closed cell gaskets. Frame attached to door with two hinges.
  - Access pole for opening.
- Fixing: Suitable for 600mm joist centres. See manufacturers installation instructions.
- Additional option: Lockable security bolt.

#### 681 GARAGE DOORS Door set (door and frame).

- Use: Garage door replacements and new build garage blocks.
- Manufacturer: Garador (similar or approved).
- Product reference / type: Up and over garage door (door and frame).
  - Alternative styles available subject to site conditions.
- Style: Horizontal ribbed appearance as standard.
  - Alternative styles available to suit site conditions.
- Size: To suit existing garage block.
- Material: Steel panel.
- Operation: Manual.
- Ironmongery / locking: Euro cylinder with handle and solid locking rods.

- Colour: Polyester powder coated white as standard on one off replacements.
  - Alternative colours available to suit site conditions.
  - Colour to be agreed on new build and existing full garage blocks.
- Warranty: 10 years as standard.
- Standards: To EN ISO 9001 and SBD.
- Installation and maintenance: As per manufacturers recommendations.
- Additional:
  - Include for the removal of the existing door and making good ready to receive the new door.
  - Include for all purpose made closer trims, weather seals (head, base, and jambs).
  - Include for all builder's work associated with the installation of the garage door.

## EXECUTION

### 710 PROTECTION OF COMPONENTS

- General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry, floored, and covered storage.
- Stored components: Stacked on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

### 730 PRIMING/ SEALING

- Wood surfaces inaccessible after installation: Primed or sealed as specified before fixing components.

### 830 FIXING IRONMONGERY GENERALLY

- Fasteners: Supplied by ironmongery manufacturer.
  - Finish/ Corrosion resistance: To match ironmongery.
- Holes for components: No larger than required for satisfactory fit/ operation.
- Adjacent surfaces: Undamaged.
- Moving parts: Adjusted, lubricated, and functioning correctly at completion.

### 835 REGLAZING

- Glazing shall be such that re-glazing is possible without the removal of the door or by causing damage to the door or overall tightness of the leaf.

### 850 LOCATION OF HINGES

- Primary hinges: Where not specified otherwise, positioned with centre lines 250 mm from top and bottom of door leaf.
- Third hinge: Where specified, positioned as manufacturers recommendations.
- Hinges for fire resisting doors: Positioned in accordance with door leaf manufacturer's recommendations.

M

Surface finishes



## M40 Stone/ concrete/ quarry/ ceramic tiling/ mosaic

To be read with Preliminaries/ General conditions.

### TYPES OF TILING/ MOSAIC

#### 100 DEMOLITIONS AND ALTERATIONS Kitchen and Bathroom

- Remove all ceramic wall tiles, make good wall plaster to receive new wall tiling or upstand / splashback, and dispose of debris off site.
- Allow for plaster patch and area skimming to walls as necessary to accommodate tiling, upstand / splashback works as selected by resident. Include for preparation, bonding and feathering edges where required.
  - If re-tiled, then the areas should be made good to accept new tiling. Areas not covered by tiling should be skimmed to a smooth finish to accept decoration.
  - If upstands / splashbacks are being installed, then then any visible areas should be made good and skimmed to a smooth finish to accept decoration.
  - Small: Up to 4m2.
  - Medium: Up to 6m2.
  - Large: Up to 8m2.
  - Any variations from these quantities should be reported to the project manager for instruction. Variations below these quantities should be deducted as savings.
- Carefully remove up to two layers of existing wallpaper from the walls of the kitchen (30m2). Allow for making good wall and ceiling surfaces following removal of wallpaper. Prepare existing walls to receive new emulsion paint finish.
- Carefully remove up to two layers of existing wallpaper from the walls of the bathroom (18m2). Prepare existing walls to receive new emulsion paint finish (moisture resistant).

#### 111 TILING TO Kitchen

- Tiles: Above length of worktop, full height to wall units and fully tiled behind the cooker position. Wall tiles to be returned into window reveals and include a tiled window cill.
  - Manufacturer / Supplier: Ceramic Tile Distributors (similar or approved).
  - Range: Gemini / Fabresa (similar or approved - approval by client required prior to any installation).
  - Choices: The tile choice is dictated by the set kitchen choice, see kitchen choices and choice sheet to see which tile is fitted with which kitchen.
    - Bumpy tile 150 x 150mm or brick tile 200 x 100mm in white.
    - Bumpy tile 150 x 150mm or brick tile 200 x 100mm in rice.
  - Note: No deviation from the two tiles, no border or insert tiles are to be offered.
  - Finish: Glazed.
  - Size: Bumpy tile: 150mm x 150mm, Bevelled brick tile: 200mm x 100mm.
  - Thickness: Bumpy tile: 5mm, Bevelled tile: 7.5mm.
  - Quantity: 4m2. Any deviation from this quantity 'must' be approved by the client prior to installation.
  - BS EN 14411:2003
  - Background/ Base: Existing wall
  - Preparation: As M40:100
  - All tiling to extend across and behind cooker space.
- Bedding:
  - Adhesive: Travis Perkins 4Trade waterproof adhesive (10L pack). Refer to section Z20.

- Joint width: As spacer lugs Homelux Vitrex LS250/2mm (similar or approved).
- Grout: Travis Perkins 4Trade mould proof wall tile grout (2kg and 5kg available). Refer to section Z20.
- Mould proof silicone at tile / surface abutments, tile trim and all exposed edges: Refer to section Z22 for silicone.
- Tile trim: Include for genesis regular tile trim (similar or approved), colour to suit tile.
- 1 year guarantee.
  
- Note: Were the resident has chosen a laminate upstand and splashback in lieu of the tiled finish then the kitchen walls should be suitably finished to accept decoration. See clause 100 for details. The laminate will match the kitchen suite / worktop selected.

#### 112 TILING TO Standard Bathroom and DPA Bathroom

- Tiles:
  - Apply 250mm high (one course) splashbacks over the wash hand basin.
  - Apply full height tiling to all sides of the bath.
  - DPA: Apply to full shower area.
  - Manufacturer/ Supplier: CTD.
  - Range: Gemini.
  - Choices:
    - Bumpy white A4171.
    - Note: No deviation from the tile choice, no border or insert tiles are to be offered.
  - Finish: Glazed.
  - Size: 250mm x 200mm.
  - Thickness: 5mm.
  - Quantity: 5m2. Any deviation from this quantity 'must' be approved by the client prior to installation.
  - BS EN 14411:2003
  - Background/ Base: Existing wall
  - Preparation: As M40:100.
- Bedding:
  - Adhesive: Travis Perkins 4Trade waterproof adhesive (10L pack). Refer to section Z20.
- Joint width: As spacer lugs Homelux Vitrex LS250/2mm (similar or approved).
- Grout: Travis Perkins 4Trade mould proof wall tile grout (2kg and 5kg available). Refer to section Z20.
- Mould proof silicone between tile and sanitary ware and all exposed edges. Refer to section Z22 for silicone.
- Tile trim: Include for genesis regular tile trim (similar or approved), colour to suit tile.
- 1 year guarantee.
- Additional:
  - Supply and install decorative water-resistant wall boards to shower area. To include grounds adhesives, jointing trim, and fixings as per manufacturer's instructions.

#### GENERAL

#### 210 SUITABILITY OF BACKGROUNDS/ BASES

- Background/ base tolerances: To permit specified flatness/ regularity of finished surfaces given the permissible minimum and maximum thickness of bedding.
- New background drying times (minimum):
  - Concrete walls: 6 weeks.
  - Brick/ block walls: 6 weeks.
  - Rendering: 2 weeks.
  - Gypsum plaster: 4 weeks.
- New base drying times (minimum):
  - Concrete slabs: 6 weeks.
  - Cement:sand screeds: 3 weeks.

250 SAMPLES

- General: Submit representative samples of the following: Each type of tile.

PREPARATION

310 EXISTING BACKGROUNDS/BASES GENERALLY

- Efflorescence, laitance, dirt, and other loose material: Remove.
- Deposits of oil, grease, and other materials incompatible with the bedding: Remove.
- Tile, paint, and other nonporous surfaces: Clean.
- Wet backgrounds: Dry before tiling.

330 EXISTING PLASTER

- Defective areas: Remove plaster that is loose, soft, friable, badly cracked or affected by efflorescence. Cut back to straight horizontal and vertical edges.
- Making good: Use plaster or non-shrinking filler.

360 EXISTING PAINT

- Paint with unsatisfactory adhesion: Remove so as not to impair bedding adhesion.

380 NEW PLASTER

- Plaster: Dry, solidly bedded, free from dust and friable matter.
- Plaster primer: Apply if recommended by adhesive manufacturer.

390 PLASTERBOARD BACKGROUNDS

- Boards: Dry, securely fixed, and rigid with no protruding fixings and face to receive decorative finish exposed.

FIXING

510 FIXING GENERALLY

- Colour/shade: Unintended variations within tiles for use in each area/room are not permitted.
  - Variegated tiles: Mix thoroughly.
- Adhesive: Compatible with background/base. Prime if recommended by adhesive manufacturer.
- Cut tiles: Neat and accurate.
- Fixing: Provide adhesion over entire background/base and tile backs.
- Final appearance: Before bedding material sets, make adjustments necessary to give true, regular appearance to tiles and joints when viewed under final lighting conditions.
- Surplus bedding material: Clean from joints and face of tiles without disturbing tiles.

531 SETTING OUT

- Joints: True to line, continuous and without steps.
  - Joints on walls: Horizontal, vertical, and aligned round corners.
  - Joints in floors: Parallel to the main axis of the space or specified features.
- Cut tiles: Minimise number, maximise size and locate unobtrusively.
- Joints in adjoining floors and walls: Align.
- Joints in adjoining floors and skirtings: Align.
- Movement joints: Where locations are not indicated, submit proposals.

550 FLATNESS/ REGULARITY OF TILING

- Sudden irregularities: Not permitted.
- Deviation of surface: Measure from underside of a 2 m straightedge placed anywhere on surface. The straightedge should not be obstructed by the tiles and no gap should be greater than 3 mm.

- 650 THIN BED ADHESIVE - RIBBED (WALLS)
- Application: Apply 3 mm floated coat of adhesive to dry background in areas of approximately 1 m<sup>2</sup>. Trowel to ribbed profile.
  - Tiling: Press tiles firmly onto float coat.
- 651 THIN BED ADHESIVE - SOLID (WALLS)
- Application: Apply floated coat of adhesive to dry background in areas of about 1 m<sup>2</sup>. Comb surface.
  - Tiling: Apply thin even coat of adhesive to backs of dry tiles. Press tiles firmly onto float coat.
  - Finished adhesive thickness (maximum): 3 mm.
- 670 THICK BED ADHESIVE - SOLID (WALLS)
- Application: Apply floated coat of adhesive to dry background. Comb surface.
  - Tiling: Apply thin even coat of adhesive to backs of dry tiles. Press tiles firmly onto float coat.
  - Finished adhesive thickness: Within range recommended by manufacturer.

## M50 Rubber/ plastics/ cork/ lino/ carpet tiling/ sheeting

To be read with Preliminaries/ General conditions.

### TYPES OF COVERING

#### 100 DEMOLITIONS AND ALTERATIONS Kitchen and Bathroom

- Remove all existing floor coverings and prepare the existing sub-base to receive new vinyl floor covering; remove / dispose of existing materials / debris off site (NB: if existing floor covering is carpet, the contractor is to assume that there is vinyl sheet / tiles below. This is also to be removed).

#### 112 FLOOR FINISH Vinyl - Roll

- Location: Kitchen.
- Base: Existing.
  - Preparation: Floorboards: Allow for over boarding existing floorboards with 6mm exterior quality plywood fixed at 150mm centres with 25mm self-countersinking screws countersunk into plywood, cross laid. Check all existing floorboards are securely fixed prior to new being installed.
  - Preparation: Concrete - Allow for making good existing concrete floor, allowing for removal of all contaminates. If uneven allow for the use of a self-levelling acrylic screed, which should be applied in strict conjunction with manufacturer's instructions.
- Manufacturer: Tarkett.
- Product reference / colour option: To be read in conjunction with kitchen specification as only set choices are being offered to residents.

#### Magnet Contract Kitchen Solutions:

- Suite 1: Contract Wood Faro 2 Anthracite: 25098072 (with luna midnight kitchen).
- Suite 2: Contract Wood Oak Dark Brown: 25098077 (with luna white kitchen).
- Suite 3: Contract Wood Oak Dark Brown: 25098077 (with ascoli pebble kitchen).
- Suite 4: Contract Wood Faro 2 Anthracite: 25098072 (with nova white kitchen).
- Suite 5: Contract Wood Faro 2 Anthracite: 25098072 (with luna grey kitchen).

#### Benchmarx Kitchens & Joinery:

- Suite 1: Contract Wood Faro 2 Anthracite: 25098072 (with matt white kitchen).
- Suite 2: Contract Wood Oak Dark Brown: 25098077 (with cashmere grey kitchen).
- Suite 3: Contract Wood Faro 2 Anthracite: 25098072 (with urban grey kitchen).
- Suite 4: Contract Wood Faro 2 Anthracite: 25098072 (with grey oak kitchen).
- Suite 5: Contract Wood Faro 2 Anthracite: 25098072 (with midnight blue kitchen).
- Rolls: Non-slip.
  - Thickness: 2mm.
  - Roll width: 2000mm.
  - Quantity: Maximum 8m2
  - BS EN 428 and manufacturer's instructions.
- Adhesive: Tarkett embond 170 or Tarkett tarkspray adhesive.
- Finishing: Flooring to be extended 200mm past kitchen plinths.
- Other requirements:
  - Seam welding: Weld any seams with Tarkett colour coded weld rod. All seam positions must be approved by client prior to floor being laid.
  - Apply bead of silicone sealant at all edge junctions of flooring. Colour to match flooring.
  - To have 10-year guarantee.

- Colours to be made available for 10 years from installation or whole floor to be replaced at manufacturers cost.
- Acoustic options for upper-level flats if requested.

113 SKIRTING TO EXPOSED WALLS

- Location: Kitchen.
- Supply and Install 100 x 19mm moulded softwood skirting boards to exposed wall perimeter
- Quantity: 6m.
- Include for decoration.

114 DOOR TRIM

- Location: Kitchen.
- Supply and install s.a. floor trim to thresh of door opening
- Quantity: 1no.

115 FLOOR FINISH Sheet flooring for shoes and barefoot in wet environments

- Location: Bathroom and Cloaks. Includes:
  - Full bathroom (bath, WC and WHB in one room).
  - Separate bathroom and WC, separated by dividing wall on same floor.
  - separate cloaks on ground or first floor.
- Base: Existing.
  - Preparation: Allow for over boarding existing floorboards with 6mm exterior quality plywood fixed at 150mm centres with 25mm self-countersinking screws countersunk into plywood, cross laid. Check all existing floorboards are securely fixed prior to new being installed - See clause 561.
  - Preparation: Concrete - Allow for making good existing concrete floor, allowing for removal of all contaminates. If uneven allow for the use of a self-levelling acrylic screed, which should be applied in strict conjunction with manufacturer's instructions.
  - Quantity: 3m2 for bathroom.
  - Quantity: 1.5m2 for separate cloaks.
- Flooring roll: Homogeneous PVC.
  - 3m2
  - Manufacturer: Altro Flooring Limited.
  - Product reference: Pisces.
  - BS EN 13553 and manufacturer's instructions.
  - Thickness: 2mm.
  - Roll width: 2000mm.
  - Colour / pattern:
    - Cuttlefish SB2002, Driftwood SB2004, Anchor SB2008.
    - Choice to be confirmed by project officer through consultation with resident.
  - Adhesive: Altrofix A19 Plus.
- Finishing: Flooring to be extended 200mm past bath panel and cut around WC and WHB.
- Other requirements:
  - No joining seams allowed unless approved by client. Where joining seams are approved, they must be hot welded with a matching altro welding rod.
  - Apply bead of silicone sealant at all edge junctions of flooring. Colour to match flooring.
  - To have 10-year guarantee.
  - Colours to be made available for 10 years from installation or whole floor to be replaced at manufacturers cost.
  - Alternative colours may be requested at the approval of Thirteen Group to meet the requirements of an occupational therapist recommendation. The change must be approved by Thirteen Group Asset Department prior to installation.
- Self-coved skirting (to level access showers and wet rooms):
  - Where the flooring is used to form the covered skirting, make certain that the wall background is smooth, clean, and dry enough to allow full adhesion.

- Cove former: 38R.
- Turn flooring material up wall and securely bond to cove former and background, with top edge straight. Accurately mitre corners.
- Minimum height: 100mm.
- Top edge: Altro: C7 Capping Seal (painted walls not in shower area) / C8 Captile Strip (Tiled Walls).
- Adhesive: As specified by flooring manufacturer.
- Junctions between self-coved skirtings and door frames/architraves:
  - Trim back of cove formers in proximity to door openings and terminate self-coved skirtings against side of architraves.
- NOTE: When installing coved skirting - to prevent water ingress behind adjacent timber skirtings, the coved skirtings should be continued along full walls or to a minimum of 1500mm past the edge of the level access shower tray. If the edge of the level access shower tray finishes on an 'outside' corner, the coved skirting should be continued around the corner for the full length of the wall or to a minimum of 1500mm past the corner. Coved skirtings should also be provided to any timber pipe boxings within these risk areas. Any concerns or queries regarding the installation of coved skirting, please contact the Building Surveying Team.

#### 116 SKIRTING TO EXPOSED WALLS

- Location: Bathroom.
- Supply and Install 100 x 19mm moulded softwood skirting boards to exposed wall perimeter
- Quantity: 3m.
- Include for decoration.

#### 117 DOOR TRIM

- Location: Bathroom.
- Supply and install s.a. floor trim to thresh of door opening
- Quantity: 1no.

#### 118 PIPE BOXINGS

- Location: Bathroom.
- Renew pipe boxings, average girth 300mm.
- Quantity: 1no at 1.5m.
- Allow for painting pipe boxing.

### GENERAL REQUIREMENTS

#### 210 WORKMANSHIP GENERALLY

- Base condition after preparation: Rigid, dry, sound, smooth and free from grease, dirt, and other contaminants.
- Finished coverings: Accurately fitted, tightly jointed, securely bonded, smooth and free from air bubbles, rippling, adhesive marks, and stains.

#### 220 SAMPLES

- Before placing orders, submit for approval a representative sample of each type of covering. Ensure that delivered materials match samples.

#### 320 MARKING AND STORAGE

- Ensure that materials are delivered to site in original packing, clearly marked with batch number.
- Store materials in a clean, warm, dry, well-ventilated place. Keep in original packing until work commences.

### 330 COMMENCEMENT

- Required condition of works prior to laying materials:
  - Building is weathertight and well dried out.
  - Wet trades have finished work.
  - Paintwork is finished and dry.
  - Conflicting overhead work is complete.
  - Floor service outlets, duct covers and other fixtures around which materials are to be cut are fixed.
- Notification: Submit not less than 48 hours before commencing laying.

### 340 CONDITIONING

- Prior to laying: Condition materials by unpacking and separating in spaces where they are to be laid. Maintain resilient flooring rolls in an upright position. Unroll carpet and keep flat on a supporting surface.
- Conditioning time and temperature (minimum): As recommended by manufacturer with time extended by a factor of two for materials stored or transported at a temperature of less than 10°C immediately prior to laying.

### 350 ENVIRONMENT

- Temperature and humidity: Before, during and after laying, maintain approximately at levels which will prevail after building is occupied.
- Ventilation: Before during and after laying, maintain adequate provision.

### 360 FLOORS WITH UNDERFLOOR HEATING

- Commencement of laying: Not before a period of 48 hours after heating has been turned off.
- Post laying start-up of heating system: Slowly return heating to its operative temperature not less than 48 hours after completing laying.

## PREPARING BASES

### 410 NEW BASES

- Suitability of bases and conditions within any area: Commencement of laying of coverings will be taken as acceptance of suitability.

### 420 EXISTING BASES

- Notification: Before commencing work, confirm that existing bases will, after preparation, be suitable to receive coverings.
- Suitability of bases and conditions within any area: Commencement of laying of coverings will be taken as acceptance of suitability.

### 430 NEW WET LAID BASES

- Base drying aids: Not used for at least four days prior to moisture content testing.
- Base moisture content test: Carry out in accordance with BS 5325, Annexe A or BS 8203, Annexe A.
  - Locations for readings: In all corners, along edges, and at various points over area being tested.
- Commencement of laying coverings: Not until all readings show 75% relative humidity or less.

### 440 SUBSTRATES TO RECEIVE THIN COVERINGS

- Trowelled finishes: Uniform, smooth surface free from trowel marks and other blemishes. Abrade suitably to receive specified floor covering material.

### 471 BASES FROM WHICH EXISTING FLOOR COVERINGS HAVE BEEN REMOVED



- Substrate: Clear of covering and all adhesives. Skim with smoothing underlayment compound to give smooth, even surface.

#### 475 EXISTING FLOORS THAT HAVE NO DAMP PROOF MEMBRANE

- General location: Previous outhouse / store now accessed within main building, i.e. kitchen extension.
- Manufacturer: Sovereign Chemicals Limited.
- Product: Hey'di Flexi Floorcoat (similar approved).
  - Liquid epoxy damp proof membrane, solvent free and low odour.
  - Standard: Design guidance given in BS 8102:2009 Protection of structures against water from the ground.
- Application:
  - Applied to the internal face of the structure (negative tanking) as manufacturers recommendations.
  - Applied with roller.
- Preparation:
  - Concrete surfaces must be prepared by scarifying, vacuum shot-blasting, planning or other suitable method if not in good, sound condition. All traces of concrete hardeners or other contaminants must be removed. The surface must be thoroughly vacuumed to remove concrete dust and be free from liquid water before application of the product and the atmosphere should not be condensing.
- Additional Requirements:
  - In all cases it is imperative that the membrane is not punctured with, for example nails when fixing carpet grippers.

#### 561 PLYWOOD UNDERLAY

- To an approved national standard.
- Bonding quality to BS EN 314: Part 2: Class 3.
- Finish: Plywood SP101.
- Thickness: 6mm.
- Sheet size: 2440 x 1220 mm. / 1220 X 610 – Cut / ordered to suit application.
- Ensure that existing floorboards are securely fixed and acceptably level prior to plywood being installed. Remove or fill any gross irregularities. Punch in any protruding fasteners.
- Lay sheets with cross joints staggered such that no joint within the base and underlay is coincident and with a 0.5-1 mm gap between sheets.
- Fix with 25 mm self-countersinking screws, commencing at the centre of one side of each sheet, at 150 mm grid centres over the area of each sheet and at 100 mm centres along perimeter, set in 12 mm from edge.
- Ensure that fasteners are driven well in, with heads set flush with surface, and do not project through underside of base. Remove and replace fasteners that deform while being driven.

#### LAYING COVERINGS

#### 620 COLOUR CONSISTENCY

- In any one area / room use only coverings from the same production batch to prevent banding or patchiness resulting from colour / flash variation.

#### 640 ADHESIVE FIXING GENERALLY

- Adhesive type: As specified, as recommended by covering/ underlay manufacturer or as approved.
- Primer: Type and usage as recommended by adhesive manufacturer.
- Application: As necessary to achieve good bond.
- Finished surface: Free from trowel ridges, high spots caused by particles on the substrate, and other irregularities.

721 DOORWAYS Generally

- Joint location: On centre line of door leaf.

COMPLETION

821 FINISHING Vinyl Flooring

- Cleaning operations:
  - Wash floor with water containing neutral detergent. If necessary, lightly scrub heavily soiled areas.
  - Rinse with clean water, removing surplus to prevent damage to adhesive. Allow to dry.

880 WASTE

- Spare covering material: Retain suitable material for patching. On completion submit pieces for selection. Hand over selected pieces to Employer.

## M60 Painting/ clear finishing

To be read with Preliminaries/ General conditions.

### COATING SYSTEMS

- 111 EMULSION PAINT KITCHEN
  - Surfaces: Existing walls and ceiling.
    - Preparation: Washing, rubbing down, filling cracks, and applying to new plastered / previously painted / plastered walls and ceilings.
  - Finishing coats: Moisture resistant matt emulsion paint.
    - Number of coats: 2.
  - To comply with BS: 6150
  - Quantity: 38m2
  
- 112 EMULSION PAINT BATHROOM
  - Surfaces: Existing walls and ceiling.
    - Preparation: Washing, rubbing down, filling cracks, and applying to new plastered / previously painted / plastered walls and ceilings.
  - Finishing coats: Moisture resistant matt emulsion paint.
    - Number of coats: 2.
  - To comply with BS: 6150
  - Quantity: 22m2
  
- 131 GLOSS PAINT KITCHEN
  - Surfaces: All new woodwork.
    - Preparation: Prepare and prime before fixing, touch up primer.
  - Undercoats:
    - Number of coats: 2.
  - Finishing coats:
    - Number of coats: 1.
  - Existing timber to be sanded, one coat undercoat and one coat gloss. To include kitchen side of doors.
  
- 132 GLOSS PAINT KITCHEN
  - Surfaces: Exposed pipework and radiators.
    - Preparation: Prime.
  - Undercoats:
    - Number of coats: 2.
  - Finishing coats:
    - Number of coats: 1.
  
- 135 GLOSS PAINT BATHROOM
  - Surfaces: All new and existing woodwork.
    - Preparation: Prepare and prime before fixing, touch up primer.
  - Undercoats:
    - Number of coats: 2.
  - Finishing coats:
    - Number of coats: 1.
  - Existing timber to be sanded, one coat undercoat and one coat gloss. To include bathroom side of doors.

136 GLOSS PAINT BATHROOM

- Surfaces: Exposed pipework and radiators.
  - Preparation: Prime.
- Undercoats:
  - Number of coats: 2.
- Finishing coats:
  - Number of coats: 1.

140 FIRE RETARDANT PAINT HIGH RISE, LOW RISE COMMUNAL ACCESS AREAS (as required).

- Options have been provided for overcoat and upgrade systems to walls and ceilings to provide a Class 0 fire rating.
- Paint manufacturer to carry out site surveys and analysis, where necessary, to determine the appropriate decorative system for individual properties. Manufacturer to provide report on recommendations for review and approval by client.

EMULSION PAINT TO PREVIOUSLY DECORATED CEILINGS OVERCOAT OPTION FOR CLASS 0

- Manufacturer: Crown Trade from Crown Paints.
  - Product reference: Crown Trade Timonox Vinyl Matt.
- Surfaces: Surfaces determined by site surveys.
  - Preparation: All surfaces should be clean, sound, dry and free from anything that may affect the adhesion of coatings to be applied.
- Initial coats: Crown Trade Timonox Bonding Primer to areas of bare substrate, graffiti, or other areas as determined by site surveys.
  - Number of coats: ONE/TWO.
- Undercoats: N/A.
  - Number of coats: N/A.
- Finishing coats: Crown Trade Timonox Vinyl Matt.
  - Number of coats: TWO applied at 14 square metres per litre per coat.

EMULSION PAINT TO PREVIOUSLY DECORATED CEILINGS UPGRADE OPTION FOR CLASS 0

- Manufacturer: Crown Trade from Crown Paints.
  - Product reference: Crown Trade Timonox Vinyl Matt.
- Surfaces: Surfaces determined by site surveys.
  - Preparation: All surfaces should be clean, sound, dry and free from anything that may affect the adhesion of coatings to be applied.
- Initial coats: Crown Trade Timonox Bonding Primer to areas of bare substrate, graffiti, or other areas as determined by site surveys.
  - Number of coats: ONE/TWO.
- Undercoats: Crown Trade Timonox Upgrade Basecoat.
  - Number of coats: ONE applied at 2.5 square metres per litre.
- Finishing coats: Crown Trade Timonox Vinyl Matt.
  - Number of coats: TWO applied at 14 square metres per litre per coat.

EMULSION PAINT TO PREVIOUSLY DECORATED WALLS OVERCOAT OPTION FOR CLASS 0

- Manufacturer: Crown Trade from Crown Paints.
  - Product reference: Crown Trade Timonox Acrylic Eggshell.
- Surfaces: Surfaces determined by site surveys.
  - Preparation: All surfaces should be clean, sound, dry and free from anything that may affect the adhesion of coatings to be applied.
- Initial coats: Crown Trade Timonox Bonding Primer to areas of bare substrate, graffiti, or other areas as determined by site surveys.
  - Number of coats: ONE/TWO.

- Undercoats: N/A.
  - Number of coats: N/A.
- Finishing coats: Crown Trade Timonox Acrylic Eggshell.
  - Number of coats: TWO applied at 14 square metres per litre per coat.

#### EMULSION PAINT TO PREVIOUSLY DECORATED WALLS UPGRADE OPTION FOR CLASS 0

- Manufacturer: Crown Trade from Crown Paints.
  - Product reference: Crown Trade Timonox Acrylic Eggshell.
- Surfaces: Surfaces determined by site surveys.
  - Preparation: All surfaces should be clean, sound, dry and free from anything that may affect the adhesion of coatings to be applied.
- Initial coats: Crown Trade Timonox Bonding Primer to areas of bare substrate, graffiti, or other areas as determined by site surveys.
  - Number of coats: ONE/TWO.
- Undercoats: Crown Trade Timonox Upgrade Basecoat.
  - Number of coats: ONE applied at 2.5 square metres per litre.
- Finishing coats: Crown Trade Timonox Acrylic Eggshell.
  - Number of coats: TWO applied at 14 square metres per litre per coat.

#### GENERAL

##### 211 COMPLETION

- Upon completion of kitchen refurbishment thoroughly clean all surfaces.

##### 215 HANDLING AND STORAGE

- Coating materials: Deliver in sealed containers, labelled clearly with brand name, type of material and manufacturer's batch number.
- Materials from more than one batch: Store separately.

##### 280 PROTECTION

- 'Wet paint' signs and barriers: Provide where necessary to protect other operatives and general public, and to prevent damage to freshly applied coatings.

#### PREPARATION

##### 400 PREPARATION GENERALLY

- Standard: In accordance with BS 6150.
- Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment, and reoccupation, and obtain approval before commencing work.
- Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.
- Substrates: Sufficiently dry in depth to suit coating.
- Efflorescence salts: Remove.
- Dirt, grease, and oil: Remove. Give notice if contamination of surfaces/ substrates has occurred.
- Surface irregularities: Remove.
- Joints, cracks, holes, and other depressions: Fill flush with surface, provide smooth finish.
- Dust, particles, and residues from preparation: Remove and dispose of safely.
- Water based stoppers and fillers:
  - Apply before priming unless recommended otherwise by manufacturer.
  - If applied after priming: Patch prime.
- Oil based stoppers and fillers: Apply after priming.
- Doors, opening windows and other moving parts:
  - Ease, if necessary, before coating.

- Prime resulting bare areas.

#### 420 FIXTURES AND FITTINGS

- Removal: Before commencing work remove: Cover plates, grilles, wall clocks, and other surface mounted fixtures.
- Replacement: Refurbishment as necessary, refit when coating is dry.

#### 440 PREVIOUSLY COATED SURFACES GENERALLY

- Preparation: In accordance with BS 6150, clause 11.5.
- Contaminated or hazardous surfaces: Give notice of:
  - Coatings suspected of containing lead.
  - Substrates suspected of containing asbestos.
- Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment, and reoccupation, and obtain approval before commencing work.
- Significant rot, corrosion, or other degradation of substrates.
- Removing coatings: Do not damage substrate and adjacent surfaces or adversely affect subsequent coatings.
- Loose, flaking or otherwise defective areas: Carefully remove to a firm edge.
- Alkali affected coatings: Completely remove.
- Retained coatings:
  - Thoroughly clean to remove dirt, grease, and contaminants.
  - Gloss coated surfaces: Provide key.
- Partly removed coatings:
  - Additional preparatory coats: Apply to restore original coating thicknesses.
  - Junctions: Provide flush surface.
- Completely stripped surfaces: Prepare as for uncoated surfaces.

#### 461 PREVIOUSLY COATED WOOD

- Degraded or weathered surface wood: Take back to provide suitable substrate.
- Degraded substrate wood: Repair with sound material of same species.
- Exposed resinous areas and knots: Apply two coats of knotting.

#### 580 UNCOATED PLASTER

- Nibs, trowel marks and plaster splashes: Scrape off.
- Overtrowelled 'polished' areas: Key lightly.

#### 590 UNCOATED PLASTERBOARD

- Depressions around fixings: Fill with stoppers/ fillers.

#### 622 ORGANIC GROWTHS

- Dead and loose growths and infected coatings: Scrape off and remove from site
- Treatment biocide: Apply appropriate solution to growth areas and surrounding surfaces.
- Residual effect biocide: Apply appropriate solution to inhibit re-establishment of growths.

### APPLICATION

#### 712 COATING GENERALLY

- Application standard: In accordance with BS 6150, clause 9 and BS 8000 Part 12.
- Conditions: Maintain suitable temperature, humidity and air quality during application and drying.
- Surfaces: Clean and dry at time of application.
- Thinning and intermixing of coatings: Not permitted unless recommended by manufacturer.
- Overpainting: Do not paint over intumescent strips or silicone mastics.
- Priming coats:
  - Thickness: To suit surface porosity.

- Application: As soon as possible on same day as preparation is completed.
- Finish:
  - Even, smooth and of uniform colour.
  - Free from brush marks, sags, runs and other defects.
  - Cut in neatly.
- Doors, opening windows and other moving parts: Ease before coating and between coats.

N  
Furniture/Equipment



## N11 Domestic kitchen fittings, furnishings, and equipment

To be read with Preliminaries/ General conditions.

### PRODUCTS

#### 300 DEMOLITIONS AND ALTERATIONS

- Drain down hot and cold-water supply to allow disconnection of sink unit and appliances.
- All dead legs in pipework must be removed when carrying out installations.
- Strip out existing base units, wall units, worktops, plinths, wall fixings, waste connections, including making good as required and dispose of existing materials off site.
- Carefully remove existing timber skirtings from the walls of the kitchen and prepare to receive new, making good to structure and finishings that are disturbed.
- Allow for moving all existing white goods, set aside and replace / refit prior to handover / completion.
- Kitchen supplier to survey and provide draft layouts and colour 3D design, ensuring all residents white goods are incorporated. All drafts to be approved by the client prior to manufacture. All information to be issued to client in electronic format.

### 311 NEW FITTED UNITS

- Standard: To BS 6222 Part 2 Level H and BS EN 1153 and FIRA Gold Award Accredited.
- Manufacturer:
  - Magnet Contract Kitchen Solutions.
  - Benchmarx Kitchens & Joinery.
- Product suite reference: Note: There is no variation on set suite choices.

#### Magnet Contract Kitchen Solutions:

- Suite 1: Luna Midnight (with White Marble worktop).
- Suite 2: Luna White (with Walnut worktop).
- Suite 3: Ascoli Pebble (with Walnut worktop).
- Suite 4: Nova White (with Black Granite worktop).
- Suite 5: Luna Grey (with Black Granite worktop).

#### Benchmarx Kitchens & Joinery: Richmond Range.

- Suite 1: Matt White (with Black Slate worktop).
- Suite 2: Cashmere Grey (with Blocked Oak worktop).
- Suite 3: Urban Grey (with Black Slate worktop).
- Suite 4: Grey Oak (with Mineral Stone worktop).
- Suite 5: Midnight Blue (with Mineral Stone worktop).

- Structural performance: To BS 6222-2
- Dimensions: To BS EN 1116. Allow for 'U' shaped kitchen.
- Surface finishes: To BS 6222-3.
- Carcass:
  - 18mm carcass which complies to BS EN-312-P2.
  - Rigid construction.
  - Colour: White.
- Base units:
  - To be full height doors with a drawer pack and have adjustable legs, drawers to have metal runners with soft close adaptors fitted on site.
  - Base units to be 600mm deep.
  - Back panels to be inset 66mm for easy access to pipes and services.
- All doors to have 110° hinges as standard where space is restricted, but 170° hinges where kitchen layout allows (to be assessed during kitchen design). All hinges to be 3 way fully adjustable hinges and adjustable draw fronts.
- All exposed chipboard edges must be fully lipped.
- Fridge, under counter fridge and dryer space to be 620mm.
- Cooker space to be 640mm. All gas cookers must have 20mm of free space on either side or as stipulated in the manufacturer's instructions.
- Washer space to be 640mm.
- Wall unit space above cooker space to be 940mm (150mm either side of base unit space).
- Include for under sink drip liner (600mm, 800mm or 1000mm).
- Include for soft door and drawer closers.
- Include for plinth strips between base plinth and floor covering.
- Drawer box to be 3-sided metal (enamel coated) with a 15mm MFC base.
- All kitchens to have cutlery inserts fitted into 500mm or 600mm drawer unit (free of charge from supplier).
- Handles:

#### Magnet:

- Type: Angular C handle 160mm C/C.
- Reference: 60484102.
- Finish: Brushed steel.
- Kitchen supplier to provide plastic template to installers to drill handle holes.

Benchmark:

- Type: Florence Bow handle 128mm C/C.
  - Reference: Benchmark: 135385, Supplier: Hafele 109.53.637.
  - Finish: Brushed nickel.
  - Kitchen supplier to provide plastic template to installers to drill handle holes.
- All wall units to have 2 shelves as standard.
  - Wall units to have fully concealed adjustable wall hanging brackets.
  - Kitchen units to comprise of:
    - Small: <6m<sup>2</sup> (8no. units). Any variation from unit quantity 'must' be approved by the client prior to ordering.
    - Medium: 6 - 10m<sup>2</sup> (10no. units). Any variation from unit quantity 'must' be approved by client prior to ordering.
    - Large: >10m<sup>2</sup> (11no. units). Any variation from unit quantity 'must' be approved by client prior to ordering.
  - Base and wall end panel:
    - To match cabinets of chosen suite.
    - No end panels in appliance spaces (base units).

Magnet:

- Suite 1: Luna Midnight - End of runs on both base and wall units.
- Suite 2: Luna White - End of runs on both base and wall units.
- Suite 3: Ascoli Pebble - End of runs on both base and wall units.
- Suite 4: Nova White - End of runs on base units only. Wall units to have visible carcass.
- Suite 5: Luna Grey - End of runs on both base and wall units.

Benchmark:

- Suite 1: Matt White - End of runs on base units only. Wall units to have visible carcass.
  - Suite 2: Cashmere Grey - End of runs on both base and wall units.
  - Suite 3: Urban Grey - End of runs on both base and wall units.
  - Suite 4: Grey Oak - End of runs on both base and wall units.
  - Suite 5: Midnight Blue - End of runs on both base and wall units.
- Plinths and corner posts: To match cabinet, leg clip fixings to EN 312 Part 5, Type P3. Corner posts to co-ordinate with suite choice.
  - Other requirements: Colours to be made available for 10 years from installation or worktops to be replaced at manufacturers cost.
  - To have 10-year guarantee and 25-year life assessment from HAPM.
  - Where possible the contractor / kitchen installer must utilise double units over two single units to ensure best value on installation for the client.
    - An example of this would be to install a 1000mm base unit over two 500mm base units. The kitchen designer must take this into consideration when setting out the kitchen design.
  - No larder units or breakfast bars to be incorporated into the kitchen designs unless approved by the client.
  - Kitchen manufacturer to provide sample boards and choice sheets for resident consultation events.
  - Kitchen manufacturer must clarify to the resident that kitchen designs are subject to approval by client when issuing designs.
  - Option of upstand and cooker splashback or tiling to be given to resident.

### 312 NEW FITTED UNITS SHELTERED SCHEMES

- Kitchen specification as clause 311 above. Additional design input required to design for older residents and potential alternative needs. This must be assessed in a meeting between the design team and the scheme manager. An example of this would be potentially lowered wall units to allow easier access, but generic alterations from the standard specification would be confirmed prior to design by kitchen supplier.

### 313 BOILER PIPE BOXING

- Supply a pre-formed boxing to hide boiler pipework.
- Standard: To BS EN 314-2 Class 1 or 2 to suit application, BS EN 635
- Supplier: Travis Perkins.
- Product: Sanded, paint grade general plywood.
  - Thickness: 12mm as standard.
- Quantity: 1no. per property. Any additional boxing requirements must be approved by the project manager prior to inclusion.
- Dimensions: Minimal dimensions to accommodate pipe work and **Magnaclean** beneath boiler.
  - Generally, 450-500mm (W) x 460mm (H - 3 tiles) x 200-250mm (D).
  - Boxing manufactured to suit boiler location and must be able to be removed easily for maintenance.
  - Allow for L shape or U shape configuration to suit boiler location.
- Finish: Include to decorate the visible faces and edges of the boxing.
  - Colour: to suit wall finish.
- Additional:
  - Include for all fixings, brackets and adhesive as required for construction.
  - Include for all scribing and cutting of boards and drilling of holes for service penetrations.
  - All cut edges must be sealed.
  - Allow for timber support structure if required for larger boxings.

### 341 WORKTOPS GENERALLY

- Standard: BS EN 312 Part 5 Type P3.
- Manufacturer:
  - Magnet Contract Kitchen Solutions.
  - Benchmarx Kitchens & Joinery.
- Product reference: Note: There is no variation on set suite choices.

#### Magnet Contract Kitchen Solutions:

- Suite 1: White Marble (with Luna Midnight units).
- Suite 2: Walnut (with Luna White units).
- Suite 3: Walnut (with Ascoli Pebble units).
- Suite 4: Black Granite (with Nova White units).
- Suite 5: Black Granite (with Luna Grey units).

#### Benchmarx Kitchens & Joinery:

- Suite 1: Black Slate (with Matt White units).
- Suite 2: Blocked Oak (with Cashmere Grey units).
- Suite 3: Black Slate (with Urban Grey units).
- Suite 4: Mineral Stone (with Grey Oak units).
- Suite 5: Mineral Stone (with Midnight Blue units).

- Material and Dimensions: Post formed 40mm depth x 600mm.
  - Various lengths to be available as per design, to be cut on site.
- Joints Adjacent Sink Units: Joint strip to run perpendicular to sink and not parallel. Joint will only run parallel to the sink if worktop lengths indicative too much wastage at design stage.
- Exposed edges:
  - Colour co-ordinated.
  - Cooker space and worktop joints to have white, black, brown, cream, or silver edging

- / joint strips to suit worktop choice.
- Support: base units.
- Other requirements:
  - All edges to be sealed, including sink and white goods cut outs.
  - Colours to be made available for 10 years from installation or worktops to be replaced at manufacturers cost.
  - To have 10-year guarantee and 25-year life assessment from HAPM.
- Option of upstand and cooker splashback or tiling to be given to resident.

#### 342 UPSTANDS AND SPLASHBACKS

- The resident will be given the option of an upstand and cooker splashback or tiling with their kitchen choice.
- Manufacturer:
  - Magnet Contract Kitchen Solutions.
  - Benchmarx Kitchens & Joinery.
- Upstand: To match kitchen suite and worktop selection.
- Cooker splashback: two options available to match kitchen selection.
  - Clear glass.
  - Stainless steel.
- See section M40 for wall remedial work requirements for upstand, splashback, and tiling.
- Tiling: See section M40 for tiling.

#### 351 SINKS, TAPS, TRAPS AND WASTES GENERALLY

- Sinks:
  - Standard: To BS 1244 or BSI Kite Mark.
  - Manufacturer:

Magnet Contract Kitchen Solutions.

- Product reference: Carron Phoenix ISDT.
- Configuration: Inset single bowl and drainer (lh/rh).
- Size: 940mm x 485mm.
- Material: 0.9-gauge stainless steel.
- To have 10-year guarantee.

Benchmarx Kitchen & Joinery.

- Product reference: Lexin Inset sink.
- Configuration: Inset single bowl and drainer (lh/rh).
- Size: 940mm x 508mm.
- Material: 0.9-gauge stainless steel.
- To have 10-year guarantee.

- Tap/ chain stay / overflow holes: Twin tap holes, chromium plated waste plug and chain.
- Taps: Mixer tap to BS5412.
  - Houses and bungalows to receive lever taps as standard.
  - Manufacturer:

Magnet Contract Kitchen Solutions.

- Product reference: Miura Wing Lever Deck Mixer Tap (60177101).
- Operation: Tap to have flow restrictor.
- Material: Chrome finish.
- To have 5-year guarantee.

Benchmarx Kitchen & Joinery.

- Product reference: Belfort Lever Deck Mixer Tap (740910).
- Operation: Tap to have flow restrictor.
- Material: Chrome finish.

- To have 5-year guarantee.

- Wastes: Combined overflow and waste. Colour to match existing rainwater services.
  - Standard: To BS EN 274-1, -2 and -3.
  - Size: To fit sink.
- Allow for installing new wastepipe and rigid copper hot and cold-water connections in accordance with Approved Document H, complete with waste traps and all necessary fittings for a complete installation. Flexible PVC pipe must not be used beneath the sink unit, all pipework must be rigid copper.
- All dead legs in pipework must be removed when carrying out installations.
- Include for connection to existing clay ware drainage or soil stack as applicable.
- Allow for plumbing in washing machine with 700mm high waste and 38mm trap and dishwasher with service outlets.
- All hot and cold outlets to have ball-o-fix valves. All ball-o-fixes must be accessible and not behind white goods.
- Allow for all necessary builder's work and cutting units for white goods connections. Make good structure and finishings disturbed.

### 352 STOP TAP Beneath Sink

- To be installed with all new kitchen installations where existing stop tap is located within the kitchen.
  - Note: If stop tap is located outside of the kitchen area then the existing brass stop tap is to be retained. Allow to renew the stop tap with a like for like replacement if the existing is defective in any way.
- Manufacturer: Surestop.
- Product reference: Remote stopcock.
- Size: Push fit connections to fit 15mm and 22mm pipework.
- Installation: As surestop recommendation.
  - Stopcock to directly connect into the mains water supply underneath the sink unit.
  - Remote switch to be located in cupboard beneath sink unit. Note that switch can be located above the worktop if the situation requires it.
- Additional:
  - Allow for the removal of the existing stop tap and all remedial work to the pipework as required.
  - All dead legs in pipework must be removed when carrying out installations.
  - Allow for all necessary building work in connection with the installation of the remote stopcock.

Variation for Repairs and Maintenance when stop tap is not located within the kitchen

Allow to renew the existing defective stop tap with a new like for like replacement when it is located outside of the kitchen.

- If a surestop stopcock is installed within the kitchen and is defective, then this should be replaced with a new like for like surestop replacement.
- If a brass stop tap is installed within the kitchen and is defective, then this should be replaced with a new surestop stopcock. Note: Supervisors should access the age of the kitchen and determine from Asset if a kitchen replacement is planned in the near future. If a new kitchen is planned, then a brass stop tap should be installed in the interim.

### 353 COOKER GAS SUPPLY

- Alter existing gas supply to new cooker position and allow for fitting a 15mm gas tap, backplate and bayonet fitting. Any new gas pipe must run in the corner of rooms and not down centres. If no gas cooker is present within property, then the bayonet fitting is to be removed and a male iron blank fitted.
- See section T90: 364 for further gas supply details and compliance note relating to Gas Safe bulletin.

#### PROPERTIES WITH A GAS SUPPLY, BUT NO GAS PIPEWORK TO THE COOKER (Electric Cooker Space Only)

- When the property has a gas supply, but has no gas pipe work to the cooker space then the property should be offered to the Asset Team to advise if pipe work to the cooker space is feasible, to give the choice of both electric or gas appliances.
- This will be considered on an individual or scheme basis, but only when the property is receiving a new kitchen installation. If the property is not receiving a kitchen installation, then the gas pipe work will not be provided, leaving the existing electric cooker supply only.
- If the gas cooker supply pipework is provided but is not required by the resident then the bayonet fitting should be removed and the supply capped off.
- Sequence:
  - 1) New kitchen being installed, but no gas supply pipe work present within cooker space.
  - 2) Report to Asset Team for feasibility and decision to proceed (earliest possible time to ensure no delay is caused).
  - 3) Decision to install gas pipe work or not from Asset Team.
  - 4) Install supply pipe work and associated fixtures and fittings as per details above.
  - 5) If the resident has ordered a gas cooker, then connect to the new supply, if they are retaining their electric cooker, then cap off.

### 354 GAS METER POSITION

- Any gas meter within the kitchen must have its location assessed and approved by the client prior to the final kitchen design being approved. Under no circumstances must the design of the kitchen restrict access to the meter for reading or maintenance. Any meters that are located in an unsuitable position should be relocated to a suitable position as agreed between the project manager and the repairs and maintenance supervisor.

### 357 ELECTRICAL UPGRADE Kitchen Ring Main

- Age and condition of the existing electrical circuit 'must' be assessed when a new kitchen is highlighted for replacement. A new kitchen ring main 'must' be installed (as per electrical systems V90) if the electrical circuit does not conform to current Thirteen Group standards. Note that if the electrical circuit is not at end of life but does not conform to current Thirteen Group standards then only upgrades may be required but would still need to meet the anticipated lifespan of the kitchen install. The extent of the requirements will be determined by a Thirteen Group representative at stock condition survey stage.

### 358 SCALE REDUCER

- Include the installation of a scale reducer in all kitchen installations / alterations in all hard water areas deemed necessary by water test.
- See T90: 309 for product details.

#### EXECUTION

### 610 MOISTURE CONTENT OF WOOD AND WOOD BASED BOARDS

- Control and monitoring:
  - Method statement: Submit.

620 INSTALLATION GENERALLY

- Fixings and adhesives: As section Z20.
- Services: As sections S90 and V90.

630 INSTALLING UNITS AND WORKTOPS

- General: Well fitting, stable and secure.

640 INSTALLING APPLIANCES

- Connections: Provide to electric, gas, and hot and cold-water services.

650 INSTALLING SINKS, TAPS AND WASTES

- Water supply: To BS 6700 and BS EN 806-2.
- Taps:
  - Fixing: Secure, watertight seal with the appliance.
  - Positioning: Hot tap to left of cold tap as viewed by the user of the appliance.
- Wastes:
  - Bedding: Waterproof jointing compound.
  - Fixing: With resilient washer between appliance and back nut.

670 INSTALLING TRIMS AND MOULDINGS

- Lengths: Un-jointed between angles or ends of runs.
- Angle joints: Mitred.

COMPLETION

910 GENERAL

- Doors and drawers: Accurately aligned, not binding. Adjusted to ensure smooth operation.
- Ironmongery: Checked, adjusted, and lubricated to ensure correct functioning.



## N13 Sanitary appliances and fittings

To be read with Preliminaries/ General conditions.

### PRODUCTS

#### 295 DEMOLITIONS AND ALTERATIONS

- Drain down hot and cold-water supply to allow disconnection of existing sanitary ware.
- Carefully remove existing bathroom suite, waste pipes and associated boxings, framework for bath panel etc, wall fixings including making good as required and dispose of existing materials off site.
- All dead legs in pipework must be removed when carrying out installations.
- Carefully remove existing timber skirtings from the walls of the bathroom and prepare to receive new, making good to structure and finishings disturbed.

- 301 WCS
- Quantity: 1.
  - Location: Standard and DPA bathrooms
  - Type: Close coupled WC suite.
    - Manufacturer: Twyfords.
    - Product reference: Option.
    - Material: Vitreous China, white.
    - To have 25-year guarantee.
  - WC:
    - Name: WC Pan HO.
    - Reference: OT1148WH.
  - Cistern:
    - Dual flush, push button.
    - Reference: OT2396WH.
  - Seat and cover:
    - Material: White acrylic to match bath and bath panel.
    - Hinge: Stainless steel.
    - Reference: OT7815WH.
    - To have 10-year guarantee.
    - Once a new seat and cover is fitted with the suite, it will be the responsibility of the resident to replace it should it be damaged during their tenancy.
  - Flushing arrangement:
    - Operating control: Push button, dual flush with integral overflow, washdown action with open flushing rim.
    - Flush volume: 4 - 6 litres.
  - New pan connector, multi kwik, reference MK114 or MK2190.
  - Chrome finish to all hardware.
  - Additional:
    - Install in accordance with BS6465 - 1, 2 and 3 Design of Sanitary Installations.
    - Include for all fixtures and fittings to allow connection and installation of WC.
    - All dead legs in pipework must be removed when carrying out installations.

#### ALTERNATIVE WHEN WC NEEDS TO BE OFFSET FROM WALL AND CLOSE COUPLED

To be utilised when the WC needs to be offset from the wall and the close coupled WC cannot be installed.  
where existing service points cannot be altered or existing waste pipes and boxing passing behind.

- Type: Classic
  - Manufacturer: Twyfords.
  - Product reference: Classic low level.
  - Material: Vitreous China, white.
  - 25-year guarantee.
- WC:
  - Name: WC Pan.
  - Reference: CC1138WH.
- Cistern:
  - Single flush, lever.
  - CC2641WH.
- Seat and cover:
  - Material: White acrylic to match bath and bath panel.
  - Hinge: Stainless steel.
  - Reference: OT7815WH.
  - To have 10-year guarantee.
  - Once a new seat and cover is fitted with the suite, it will be the responsibility of the

- resident to replace it should it be damaged during their tenancy.
- Flushing arrangement:
  - Operating control: Lever handle, single flush with integral overflow, washdown action with open flushing rim.
  - Flush volume: 6 litres.
- New pan connector, P trap (WF1240WH) or S or turned up P trap connector (WF1241WH). Connector to suit installation requirements.
- Chrome finish to all hardware.
- Additional:
  - Install in accordance with BS6465 - 1, 2 and 3 Design of Sanitary Installations.
  - Include for all fixtures and fittings to allow connection and installation of WC.
  - All dead legs in pipework must be removed when carrying out installations.

### 336 WASH HAND BASINS PEDESTAL

- Quantity: 1.
- Manufacturer: Twyfords.
- Size: 550mm width x 450mm depth.
- Material: Vitreous China, white.
- Product reference: Options
  - Basin: OT4212WH.
  - Pedestal: OT4910WH.
- Tap/ Chain stay / Overflow holes:
  - Two tap holes;
  - Chain stay hole; and
  - Overflow hole with chrome plated plug.
- Water supply fittings (taps):
  - Manufacturer: Deva.
  - Product reference: Lever basin taps DLT SPEC101 (TP Code: 462232).
  - Operation: Manual.
  - Taps to have flow restrictors.
  - 10-year guarantee on ceramic discs and cartridges, 15 years guarantee on brassware.
- Wastes: Chain and plug and chrome plated grate with metal nuts of back of waste.
  - Standards: To BS EN 1566-1
  - Manufacturer: As basin manufacturer.
  - Waste: Classique basin waste CQ5823CP, chrome plated.
  - Waste Pipe:
    - Size: 32mm waste pipe.
    - Material: White PVC-C.
    - Fittings: 32mm push fit.
    - Colour: If soil stack is renewed, then the waste pipe must match the colour. If soil stack is existing, then waste pipe to match new rainwater goods.
- Traps: 'P', 'S' or bottle trap as appropriate.
  - Standards: To BS EN 274-1, -2 and -3.
  - Manufacturer: As Wash basin.
  - Material: White PVC-C.
  - Depth of seal (minimum): 75 mm.
- To have 25-year guarantee
- Additional:
  - Install in accordance with BS6465 - 1, 2 and 3 Design of Sanitary Installations.
  - Include for all fixtures and fittings to allow connection and installation of WHB.

All dead legs in pipework must be removed when carrying out installations.

340 CORNER WASH HAND BASINS Wall Mounted

- Quantity: 1.
- Manufacturer: Roca.
- Size: 303mm width x 303mm depth.
- Material: Vitreous China, white.
- Product reference: Madrid
  - Basin: A4751110
  - Pedestal: Not required. Basin to be wall mounted.
- Tap/ Chain stay/ Overflow holes:
  - Two tap holes;
  - Overflow hole
  - Chain-stay and chrome plated plug.
- Water supply fittings (taps):
  - Manufacturer: Iflo
  - Product reference: Classic lever basin taps 604575.
  - Operation: Manual.
  - Taps to have flow restrictors.
  - 10-year guarantee on ceramic discs and cartridges, 15 years guarantee on brassware.
- Wastes: Chain and plug and chrome plated grate with metal nuts of back of waste.
  - Standards: To BS EN 1566-1
  - Manufacturer: As basin manufacturer.
  - Waste: Roca basin waste, chrome plated.
  - Waste Pipe:
    - Size: 32mm waste pipe.
    - Material: White PVC-C.
    - Fittings: 32mm push fit.
    - Colour: If soil stack is renewed, then the waste pipe must match the colour. If soil stack is existing, then waste pipe to match new rainwater goods.
- Traps: 'P', 'S' or bottle trap as appropriate.
  - Standards: To BS EN 274-1, -2 and -3.
  - Manufacturer: As Wash basin.
  - Material: White PVC-C.
  - Depth of seal (minimum): 75 mm.
- To have 25-year guarantee
- Additional:
  - Install in accordance with BS6465 - 1, 2 and 3 Design of Sanitary Installations.
  - Include for all fixtures and fittings to allow connection and installation of WHB.
  - All dead legs in pipework must be removed when carrying out installations.

356 BATHS RECTANGULAR

- Quantity: 1.
- Standard: BS1344.
- Manufacturer: Twyford.
- Product reference: Celtic BS1572WH.
- Size: Standard - 1700mm x 700mm x 540mm.
  - Generally, 1700mm (as above) - Profile standard width compatible with bath seats / lifts and boards.
  - Allow to install a smaller bath when space restrictions require it. To be determined on site.
- Volume to overflow (maximum): Manufacturer's standard.
- Material: Enamelled pressed steel, white.
- Finish: Slip resistant.
- To have 25-year guarantee.
- Tap/ Chain stay/ Overflow holes: Two tap holes and Chain stay hole.
- Water supply fittings (taps):
  - Manufacturer: Iflo
  - Product reference: Classic lever basin taps 604575.

- Operation: Manual.
- 10-year guarantee on ceramic discs and cartridges, 15 years guarantee on brassware.
- Water supply fittings (bath shower mixer tap): See clause 357 for full details.
  - Manufacturer: Deva by Methven UK.
  - Product reference: KIRI Thermostatic Pillar Mounted Bath Shower Mixer.
  - Operation: Manual.
  - Do not install thermostatic mixing valve when thermostatic bath shower mixer tap is fitted.
- Wastes: Chain and chrome plated plug.
  - Standards: To BS EN 1566-1.
  - Manufacturer: As Baths.
  - Waste: Classique bath combined 38mm waste & overflow CQ5824CP, chrome plated.
- Traps: Anti-vacuum shallow trap.
  - Standards: To BS EN 274-1, 2 & 3.
  - Manufacturer: As Baths.
  - Material: White PVC-C.
  - Fittings: 38mm push fit.
  - Colour: If soil stack is renewed, then the waste pipe must match the colour. If soil stack is existing, then waste pipe to match new rainwater goods.
- Bath panel:
  - Manufacturer: Armitage Shanks.
  - Product reference: Universal S0905.
  - Size: to suit 1700mm bath. Use smaller panel if bath size is reduced.
  - Colour and material: White acrylic.
  - Additional: Both side and end panels to be utilised where required.
- Accessories: Twin grip rails.
- Additional:
  - To have 10-year guarantee.
  - Install in accordance with BS6465 - 1, 2 and 3 Design of Sanitary Installations.
  - Include for all fixtures and fittings to allow connection and installation of bath.
  - All dead legs in pipework must be removed when carrying out installations.

### 357 THERMOSTATIC BATH SHOWER MIXER TAP TMV2

- Manufacturer: Deva by Methven UK
  - Product reference: KIRI Thermostatic Pillar Mounted Bath Shower Mixer.
  - Code: SHTLV106/1B.
- Standard / Accreditation:
  - Water Supply (Water Fittings) Regulations 1999. WRAS Approved.
  - Buildcert TMV2 Scheme approved.
  - Compression ends suitable for use with copper tube to BS EN1057.
  - Type A compression ends manufactured to EN1254/2.
- Location: Bath.
- Operation: Manual. Separate flow and temperature controls.
- Valve: Thermostatic.
- Inlet connections –  $\frac{3}{4}$  BSP
- Working pressure: 1.0 - 5.0 bar.
- Flow rate: 9 LPM (flow regulator to be included).
- Temperature pre-set: 38 degrees default safety setting, but to allow adjustment when necessary.
- Quantity: 1no.
- Installation: As manufacturer's instructions.
- Warranty: Minimum 5 years.
- Additional:
  - To include handset, wall brackets, riser rail, 2 metre hose and all other associated fixtures and fittings.
  - Do not install thermostatic mixing valve when thermostatic bath shower mixer tap is fitted.

### 358 THERMOSTATIC MIXING VALVE TMV3

- Manufacturer: Peglar Yorkshire.
  - Product reference: Prestex PEG402 Series: Inline thermostatic mixing valve.
- Standard:
  - Water Supply (Water Fittings) Regulations 1999. WRAS Approved.
  - Compression ends suitable for use with copper tube to BS EN1057.
  - Type A compression ends manufactured to EN1254/2.
  - Buildcert TMV3 Scheme Third party approved.
- Location: Bath.
- Temperature pre-set: 43 degrees from factory. To include 2°C variance.
  - Note: ensure cap is fixed securely to eliminate unauthorised tampering.
- Quantity: 1no.
- Installation: As manufacturer's instructions. To be installed in an accessible location to allow easy access for servicing and maintenance.
- Guarantee: Minimum 2 years.
- Additional:
  - Only fitted with lever taps. TMV is not required with thermostatic bath shower mixer tap.

### 362 WASTE PIPE CONNECTIONS

- Allow for installing new wastepipe connections in accordance with Approved Document H complete with waste traps and all necessary fittings for a complete installation. Include for connection to existing clay ware drainage or soil stack as applicable.
- Allow for all necessary builder's work. making good to structure and finishings disturbed.
- Colour: If soil stack is renewed, then the waste pipe must match the colour. If soil stack is existing, then waste pipe to match new rainwater goods.

### 363 FEEDS

- Allow for altering hot and cold feeds and installing ball-o-fix valves to all taps and WC. Quantity: 2m.
- All dead legs in pipework must be removed when carrying out installations.

### 437 SHOWER ACCESSORIES

- Provide and fix over the bath a rust proof shower rail and heavy-duty weighted curtain.
- Quantity: 1.

### 457 PIPE BOXING

- Supply and install pipe boxing in additional areas as required. Timber or PVCu to be specified by client.
- Include for a timber frame with plywood sheet when constructing larger boxings with a PVCu covering.
- Include to paint pipe boxing if timber.

## EXECUTION

### 610 INSTALLATION GENERALLY

- Assembly and fixing: Surfaces designed to falls to drain as intended.
- Fasteners: Nonferrous or stainless steel.
- Supply and discharge pipework: Fix before appliances. All dead legs in pipework must be removed when carrying out installations.
- Fixing: Fix appliances securely to structure. Do not support on pipework.
- Jointing and bedding compounds: Recommended by manufacturers of appliances, accessories and pipes being jointed or bedded.
- Appliances: Do not use. Do not stand on appliances.
- On completion: Components and accessories working correctly with no leaks.
- Labels and stickers: Removed.

621 NOGGINGS AND BEARERS

- Noggins, bearers, etc. to support sanitary appliances and fittings: Position accurately. Fix securely.

630 TILED BACKGROUNDS OTHER THAN SPLASHBACKS

- Timing: Complete before fixing appliances.
- Fixing appliances: Do not overstress tiles.

710 INSTALLING TAPS

- Fixing: Secure against twisting.
- Seal with appliance: Watertight.
- Positioning: Hot tap to left of cold tap as viewed by user of appliance.

720 INSTALLING WASTES AND OVERFLOWS

- Bedding: Waterproof jointing compound.
- Fixing: With resilient washer between appliance and backnut.

P

Building fabric sundries



## P10 Sundry insulation/ proofing work

### SUNDRY INSULATION/ PROOFING WORK

To be read with Preliminaries/ General conditions.

#### TYPES OF INSULATION

##### 161 LOOSE LAID LOFT INSULATION

- Manufacturer: Knauf Insulation Limited (similar or approved).
  - Product reference: Earthwool Loft Roll 44 (similar or approved).
- Standards: Manufactured in accordance with BS EN 13162:2012.
- Material: Flexible low density glass mineral wool.
- Roll dimensions:
  - 1140mm wide and partially perforated to produce either 2 rolls 570mm wide or 3 rolls 380mm wide.
  - Installation depth: As current building regulation requirements.
- Application:
  - Laid level, covering all parts of the ceiling.
  - Laid in two layers, with first layer between joists and the second layer over, and at right angles to the joists.
  - Note: ensure electrical wiring within the loft space is not covered.
  - Eaves ventilation to be unobstructed.
  - Service holes: sealed and debris removed before laying insulation.
- Additional requirements:
  - Produced to suit timber joists at both 400mm and 600mm centres.
  - If insulation is not installed directly after delivery, then the product should be stored either indoors, or under cover and off the ground.
  - Liaise with resident for the removal of any sensitive or valuable items from the loft space prior to insulation being added or replaced.
  - If existing insulation is being retained, with new being added, then the contractor must ensure that the existing insulation is laid correctly.

#### ADDITIONAL NOTES FOR ROOF REPLACEMENT

- Adhere to all notes as above.
- New loft insulation 'must' be laid after the completion of the roof replacement and after the removal of all debris. Under no circumstances should any insulation be laid via the external roof access prior to the new roof covering being applied.
- Existing insulation, if being retained must be protected with cover sheets prior to the existing roof being removed to protect from falling debris. The contractor must ensure that existing insulation is laid correctly while accessing the roof space.

##### 171 INSULATION TO LOFT ACCESS HATCHES

- Provided with loft hatch. See section L20.

## 201 CAVITY INSULATION

- Manufacturer: Knauf Insulation or Rockwool.
  - Product reference: Supafil or Rockwool Energysaver.
- Standard: British Board of Agreement Approved.
- Material: Glass mineral wool.
- Thickness: To suit existing cavity.
- Insulation requirements:
  - Water repellent: prevents water from migrating across cavity.
  - Vapour permeable: breathable, to reduce risks of condensation.
  - Non-combustible.
- Installation requirements:
  - Insulation delivery holes: Submit proposals of locations.
    - 18mm or 25mm holes, drilled at 1.5m centres in a staggered 'W' pattern. See manufacturers recommendations for further details.
    - Holes to be located within mortar joints. Ensure the holes are colour matched as closely as possible after injection.
    - Where possible, on complete refurbishment of untenanted property, installation to be carried out through the inner leaf (only when all internal walls are to be re-plastered as part of the work).
  - Ensure a complete fill without settlement.
  - Service holes: Sealed, and debris removed before commencing insulation.
- Additional requirements:
  - Ensure an inspection survey is carried out by the approved contractor prior to installation to determine the suitability of the building. The property must meet the following criteria:
    - Walls must be in a good state of repair and free from evidence of frost damage.
    - There should be no signs of dampness on the inner face of the existing cavity wall other than those caused solely by condensation.
    - Any defects recorded which may affect the insulation system must be rectified by the client to the satisfaction of the certificate holder / approved installer before work commences.
    - Where applicable, all open cavities at the top of walls should be sealed prior to filling. It is also essential that air bricks and vents are checked in advance to prevent them from being blocked during installation.
    - When filling the cavity of one dwelling in a pair of semi-detached or terraced properties, a vertical 'brush' stop must be installed between the respective properties prior to installation.
    - In existing buildings with open flued chimney arrangements any heating appliances that require installing should be checked before and after installation to ensure they comply with BS 5440: Part 2: Ventilation of new or replacement gas appliances.
    - Borehole surveys to be carried out and reports issued to client.
    - Cavity cleaning as identified by the findings of the borehole survey.
    - Carefully remove staggered brickwork to allow debris removal.
    - Re-instate bricks to match existing.
- Storage: Polythene packs are designed for short term protection only. No site storage permitted, installed to install insulation on day of visit.
- Guarantee: 25-year guarantee in existing properties (when installed by approved installers).

## P12 Fire stopping systems

To be read with Preliminaries/ General conditions.

### GENERAL

#### 140 FIRE STOPPING SYSTEM TO INDIVIDUAL SERVICES PENETRATIONS

- Where it is a requirement that services penetrate through the building fabric then all penetrations must be sealed by a competent person / company to maintain compartmentation. If requested by the client a certificate of fire stopping must be supplied.
- All works to meet BS476.
- Fire resistance: To suit building requirements.
- Penetration seal: As specified by specialist contractor.

### PRODUCTS

#### 306 PRODUCT CERTIFICATION

- Certification: For products specified generically, submit evidence of compliance with the specification to meet BS476.

### EXECUTION

#### 620 WORKMANSHIP GENERALLY

- Gaps: Seal gaps between building elements and services, to provide fire resistance and resist the passage of smoke.
- Adjacent surfaces: Prevent overrun of sealant or mortar on to finished surfaces.

### COMPLETION

#### 910 CLEANING

- Masking tapes: Remove.
- Cleaning: Clean off splashes and droppings. Wipe down finishes.

#### 920 INSPECTION

- Notice for inspection (minimum): 5 working days.

## P20 Unframed isolated trims/ skirtings/ sundry items

To be read with Preliminaries/General conditions

### 111 SOFTWOOD SKIRTING BOARDS

- Manufacturer: Travis Perkins Timber Mill
- Product: Softwood skirting board.
- Profile:
  - Piecing in: To match existing skirting within property.
  - New to one room: To match existing skirting within property.
  - New skirting to full property: 15mm x 100mm pencil round skirting.
  - Taurus and Ogee available on request for specialist projects. Site operative must obtain prior approval from manager before use.
- Finish on delivery: Unfinished. Primed available on request.
- All corners to be mitred, no square cuts unless abutting a door frame or wall.
- All timber to be responsibly sourced.
- Fixing:
  - Adhesive and lost-head nails on stud walls.
  - Adhesive and masonry nails on brick walls.
  - Adhesive, screws, and plugs (if required) on brick walls where nails cannot penetrate the wall. Countersink screw heads.

### 112 SOFTWOOD ARCHITRAVE

- Manufacturer: Travis Perkins Timber Mill
- Product: Softwood architrave.
- Profile:
  - Piecing in: To match existing architrave within property.
  - New to one room: To match existing architrave within property.
  - New architrave to full property: 19mm x 50mm pencil round architrave.
  - Taurus and Ogee available on request for specialist projects. Site operative must obtain prior approval from manager before use.
- Finish on delivery: Unfinished. Primed available on request.
- All corners to be mitred.
- All timber to be responsibly sourced.
- Fixing:
  - Adhesive and lost-head nails on stud walls.
  - Adhesive and masonry nails on brick walls.
  - Adhesive, screws, and plugs (if required) on brick walls where nails cannot penetrate the wall. Countersink screw heads.

### 113 SOFTWOOD WINDOW CILL

- Manufacturer: Travis Perkins Timber Mill
- Product: Softwood window cill.
- Profile:
  - New to one room: To match existing window cills within property.
  - New to full property: 25mm bullnose. Depth to suit window reveal.
- Finish on delivery: Unfinished. Primed available on request.
- All timber to be responsibly sourced.
- Width, projection, overhang:
  - Allow to match existing if replacing in existing property.
  - Allow for 50mm overhang and 25mm projection either side of reveal if new cills.
- Fixing:
  - Adhesive and lost-head nails on stud walls.
  - Adhesive, screws, and plugs (if required) on brick walls where nails cannot penetrate

the wall. Countersink screw heads.

510 INSTALLATION GENERALLY

- Joinery workmanship: As section Z10.
- Metal workmanship: As section Z11.
- Methods of fixing and fasteners: As section Z20 where not specified.
- Straight runs: To be in one piece, or in long lengths with as few joints as possible.
- Running joints: Location and method of forming to be agreed where not detailed.
- Joints at angles: Mitre, unless shown otherwise.
- Position and level: To be agreed where not detailed.

## P21 Door/ window ironmongery

To be read with Preliminaries/ General conditions.

### PRE-TENDER

#### 10 QUANTITIES AND LOCATIONS

- Quantities and locations of ironmongery are scheduled by the supplier.
- Fixing: As sections L10 and L20.

### GENERAL

#### 100 ALL DWELLINGS - DOORS

- All entrance doors of individual dwellings to be fitted with Winkhaus (or Securistyle Defender) multi point 3 deadbolt door locking mechanism.
- Locking devices fitted to entrance doors should permit emergency egress without the use of a key when the dwelling is occupied to conform to BS 8220:2004 Security of buildings against crime, Secured by Design (SBD), joint Police and Fire Service agreement on "Means of Escape" and NHBC guidance.
- All door sets must be tested to meet the requirements of BS EN 1627:2011 to PAS 24:2016. "Enhanced security performance requirements for door assemblies". Door set to be clearly marked showing proof of compliance.
- All door sets must be fit for purpose and comply with BS 6375 Parts 1-2:2009. "General performance requirements for door assemblies". (Formally PAS 23).
- All components should be capable of sustaining a minimum of 50,000 cycles of operation without demonstrating any significant deterioration and deformation that would inhibit their function.
- All steel parts including, casings, drive rails, keeps and faceplate to be manufactured from austenitic stainless steel to BS EN 10088-2 Grade 1.4301. Assembled door lock must meet BS EN 1670:2007 Grade 5, 480 hours corrosion resistance to meet both aesthetic and functionality requirements when tested in accordance with BS EN ISO 9227:2012.
- Door lock to enable external access only to be gained by latch withdrawal by use of a key to prevent follow in crime, in accordance with BS 8220 and SBD guidance.
- Door set to include system specific keeps with cam adjustment for 'fine' final installation weather sealing.
- Door lock to be certified under BM TRADA Q Mark Scheme.

#### 101 DWELLINGS - WITH AN ALTERNATIVE MEANS OF ESCAPE VIA A DOOR

- Door lock to provide 'fully secure' deadlock mode for when the dwelling is left unoccupied. To meet the functional requirements of BS 10621 and conform to SBD requirements.

#### 102 DWELLINGS - OPENING DIRECT TO OUTSIDE WITHOUT AN ALTERNATIVE MEANS OF ESCAPE VIA A DOOR

- These are typically ground floor flats or maisonettes.
- Door lock to provide latch operable with a key externally and keyless emergency egress internally. Full deadlocking should be engaged and be operable by a key externally and keyless emergency egress internally. To conform to the functional requirements of BS 8621.

#### 103 DWELLINGS - OPENING ONTO A COMMUNAL ACCESS WITHOUT AN ALTERNATIVE MEANS OF ESCAPE VIA A DOOR

- These are typically flats accessed off communal stairs requiring fire rated door sets.
- Door lock to provide latch operable with a key externally and keyless emergency egress internally via a thumb turn cylinder. Full deadlocking should be engaged and be operable

by a key externally and keyless emergency egress internally via a thumb turn cylinder. To conform to the functional requirements of BS 8621.

- Door lock to provide 'convenient' mode. 'Convenient' mode on split spindle multi-point locks with the latch withdrawn and the snib engaged the door can be shut from the outside and the locking points engaged by lifting the lever to ensure the door does not swing open. In this mode no key is required to re-enter the dwelling. SBD and NHBC requirement.
- Door sets installed with a thumb turn release mechanism must specifically form part of the PAS 24 certified product range, as the pass criteria in the standards for such door sets is more stringent. Hence door sets tested with a key / key operation cannot claim compliance when a thumb turn release is installed. SBD requirement.

#### 104 DWELLINGS - DOOR OPERATING INSTRUCTIONS

- The contractor will be required to provide the customer with a set of clear operating instructions, these must explain the key locking process in simple terms together with a diagram illustrating the locking process. It must be made clear to the resident prior to handover that the door set is not totally secure unless the locking system is fully engaged, SBD requirement.

#### 105 DWELLINGS - DOOR COMPLIANCE

- All components should be supplied by a manufacturer complying with BS EN ISO 9001:2015 accredited quality system and be covered by the manufacturers audited warranty scheme.
- A warranty certificate to be issued by the hardware manufacturer on completion of the project or phase.
- Product limitations must be strictly observed within the terms of their conditions of supply. It is the responsibility of the fabricator / purchaser to ensure that the performance of the door complies with relevant standards and specification requirements for the particular door and the correct product is chosen for the weight and design of each door system. Advice on the supply and selection of the correct product should be obtained from the manufacturer.
- Where indicated and instructed by the client door hardware wherever applicable must be supplied from a manufacturer holding a product licence under the auspices of the home office "Secured by Design" initiative with the aim of fulfilling the obligations placed on the housing provider to ensure a reasonable level of security to the occupants as outlined in Section 17 of the Crime and Disorder Act 1998.
- Written confirmation of compliance with all of the above should be given to the contract management team in advance of commencement on site.

#### 106 DWELLINGS - DOOR: DISABILITY DISCRIMINATION

- Components such as handles and locking mechanisms to be capable of offering adaptations in accordance with the Equality Act 2010 and the housing providers Equality Duty 2010.

#### 110 DWELLINGS - WINDOW: NOMINATED EMERGENCY EGRESS OPENINGS

- One opening in every habitable room on first floor, except kitchens, should provide an unobstructed area of at least 0.33m<sup>2</sup> with minimum size of 450mm in any one direction. Effectively this should provide a minimum clear opening of 450mm x 734mm. All in accordance with building regulations approved document B at a maximum sill height of 1.1m.
- Where indicated and instructed windows to be fitted with defender egress easy clean hinges. All hinge components such as bottom track, link bars and rivets to be manufactured from Austenitic 304 stainless steel and fitted in accordance with manufacturer's instructions, limitations, and recommendations. All associated hardware should be approved to BS 7412:2007 and meet BS EN 1670:2007 Class 4 corrosion resistance.
- All windows to include two pairs of Vector Excluder non-contact ancillary security device.
- Where 90° opening is required to facilitate exit from the building with an easy clean option the hinge should provide the following. Easy clean facility to allow the window to slide

along the hinge track so as to be cleaned from the inside of the building to BS 8213. After cleaning the hinge should allow the window to self-relocate and return to its original position and mode of operation simply by closing the casement.

- Must be fitted to a casement of a size sufficient to provide a minimum clear opening of 500mm wide by 850mm high at a maximum height of 1.1m from floor to cill. All to comply with BS 9991: 2015 - fire safety in the design, management, and use of residential buildings. All hinges should be BBA approved and to include a thermoplastic end point and die cast end cap with self-lubricating surface finish featuring a roof to minimise the build-up of debris.
- Emergency windows after a considered and noted risk assessment can be fitted with a clearly visible and intuitive to release restrictor.
- Restrictor to be defender cavity fit restrictor, tested to comply with BS 6375 Part 2:2009 to withstand a force of 350N for one minute when opened at the restricted position and fitted to provide a maximum opening of 100mm in the restricted position. Restrictor to be manufactured from Austenitic 304 stainless steel tested to meet the requirements of BS 7412:2007 and to meet BS EN 1670:2007 Class 4 corrosion resistance.
- All friction hinges to be covered by BBA certification scheme and NHBC product acceptance under NHBC standards.
- Written confirmation of compliance with all of the above should be given to the contract management team in advance of commencement on site.

#### 111 DWELLINGS - WINDOW COMPLIANCE

- All components should be supplied by a manufacturer complying with BS EN ISO 9001:2015 accredited quality system and be covered by the manufacturers audited warranty scheme.
- A warranty certificate to be issued by the hardware manufacturer on completion of the project or phase.
- All friction hinges to be covered by BBA certification scheme and NHBC product acceptance under NHBC standards.
- Product limitations must be strictly observed within the terms of their conditions of supply. It is the responsibility of the fabricator / purchaser to ensure that the performance of the window complies with relevant standards and specification requirements for the window and the correct product is chosen for the weight and design of each window system. Advice on the supply and selection of the correct product should be obtained from the manufacturer.
- Where indicated and instructed by the client window hardware wherever applicable must be supplied from a manufacturer holding a product licence under the auspices of the home office "Secured by Design" initiative with the aim of fulfilling the obligations placed on the housing provider to ensure a reasonable level of security to the occupants as outlined in Section 17 of the Crime and Disorder Act 1998.
- Written confirmation of compliance with all of the above should be given to the contract management team in advance of commencement on site.

#### 115 DWELLINGS - WINDOW / DOOR IRONMONGERY REPLACEMENT

- Hardware with provision for adjustment shall be accessible for adjustment after the windows and doors have been installed. Hardware used to open / close the window / door shall be replaceable without removing the outer frame from the structure.

#### 139 CHANGE OF IRONMONGERY

- No substitution or alternative ironmongery must be used on all windows and doors without prior approval from the client.
  - Samples 'must' be submitted to the client for approval with a valid explanation and benefits for the proposal.



#### 140 SAMPLES

- General: Before placing orders with suppliers submit labelled samples of the following: All Ironmongery.
  - Conformity: Retain samples on site for the duration of the contract. Ensure conformity of ironmongery as delivered with labelled samples.

#### 142 HARDWARE ADJUSTMENT

- General: Hardware with provision for adjustment shall be accessible for adjustment after the window has been installed. Hardware used to open / close the window shall be replaceable without removing the outer frame from structure.

#### DOOR HANGING DEVICES

#### 321 DOOR HINGES

- 3 per leaf, to meet the requirements of BS 6375 - 2:2009, 50,000 cycles of operation and BS EN 1670:2007 Grade 5 corrosion resistance.

#### WINDOW HANGING DEVICES

#### 375 FRICTION HINGES

- General: Windows restricted for child / resident safety.
- Where indicated and instructed windows to be fitted with Defender Restricted Hinges.
- Non restricted windows where indicated and instructed after a considered and noted risk assessment windows to be fitted with Defender Friction Hinges.
- All hardware should permit safe cleaning of windows from within the property without putting the occupier in a dangerous position to BS 8213-2004 Design for Safety in Use and During Cleaning of Windows.
- All hinge components such as bottom track, link bars and rivets to be manufactured from Austenitic 304 stainless steel and fitted in accordance with manufacturer's instructions, limitations, and recommendations. All components should be capable of sustaining a minimum of 30,000 cycles of operation without demonstrating any significant deterioration and deformation that would inhibit their functions.
- All windows should be approved to BS 7412:2007 and to meet BS EN 1670:2007 Class 4 corrosion resistance.
- All hinges should incorporate nylon washers between all pivot points to minimise metal to metal fatigue. Friction adjustment should not rely on metal contact and should be achieved by metal cam working via a thermoplastic twin lipped slider block to provide precise long lasting friction adjustment. All hinges to have a thermoplastic asymmetric end cap to ensure smooth location and weather tight sealing.
- On restricted hinges, window system manufacturers and fabricators should request from the supplier the relevant information as to the precise hinge compatible with their system to facilitate a maximum 100mm opening in the restricted position.
- The release mechanism shall be an integral part of the hinge and shall self-relocate in one action on closure of the vent. All components, rivets and pins should withstand a force of 350N for one minute to comply with BS 6375 Part 2:2009 Operations and Strength Characteristics of Windows and Doors, and BS 8213 Part 1:2004 Design for Safety in Use and During Cleaning of Windows.
- Side hung windows restricted by a single restrictor hinge, positioned at the bottom of each opening must comply with BS 6375 Part 2:2009.

#### DOOR SECURING DEVICES

#### 516 CYLINDERS

- To meet the requirements of BS EN 1303:2005 "Building hardware. Cylinder for locks. Requirements and test methods".
- Durability Grade 5- 50,000 cycles, key related security to Grade 6- anti-pick, attack resistance to Grade2- anti-drill 5- 10 minutes.

- Additionally, the cylinder should meet the requirements of both BS 3621:2007 "Thief resistant lock assembly - key egress" and PAS 24:2016 (anti manipulation). Cylinders for locks that meet this test will be stamped with a kitemark. Only cylinders carrying a kitemark certification number will be allowed for PAS 24: 2016 and SBD applications.
- Locking shall be by dual key operation (or thumb turn internal and key external) as standard.
- Door sets installed with a thumb turn release must specifically form part of the certified product range, as the pass criteria in the standards (PAS 24) for such door sets is more stringent. Hence a door set tested with a key/key operation cannot claim compliance when a thumb turn release is installed, SBD requirements.

#### WINDOW SECURING DEVICES

##### 591 WINDOW LOCKING MECHANISM

- All windows to be fitted with the Blade high security locking mechanism.
- To include system specific keeps. With integral bi-directional gearbox endurance cycle tested to 30,000 cycles of operation. Locking system manufactured from extruded aluminium with rotating Blade design, fully retracting flush within the euro groove.
- Locking mechanism must have option to offset handle height on side-hung sashes to meet the consideration of the Equality Act 2010 and the housing providers Equality Duty 2010.
- All windows should be approved to BS 7412:2007 and meet BS EN 1670:2007 Class 4 corrosion resistance. Evidence of compliance with PAS 24:2016 Specification for Enhanced Security Performance of Casement Tilt/turn Windows for Domestic Application will be a condition of tender.

##### 595 WINDOW ANCILLARY SECURITY DEVICE

- Standard: To BS EN 14351-1, BS EN 1670:2007 Class 4, PAS24:2016.
- Manufacturer: Securistyle Limited.
  - Product reference: ASD1/2.
- Type: Vector excluder.
  - Quantity: 2 pairs.
- Size: Securistyle product limitations must be strictly observed, and the correct product chosen for weight / design of each window system. For advice on selection contact Securistyle.
- Material/ finish: to BS EN 10088/2 Grade 1.4301 for enhanced corrosion resistance.
- Positioned adjacent to and not more than 50mm away from the top of each hinge.

#### DOOR FURNITURE

##### 611 HANDLES

- To be (Lever/Lever) 92/92 PZ configuration, with spring cassette system and snib retention of latch.
- Manufactured from aluminium, powder coated in (white colour F9016, anodised silver F1 and Gold F3) to match with other door furniture. Corrosion resistant to BS EN 1670:2007 Grade 4, 240 hours. Tested to 50,000 cycles of operation in accordance with BS 6375.
- Handle to incorporate externally visible cylinder guard for security protection under PAS 24:2016, or cylinder guard tested to meet the requirements of PAS 24:2016.
- Lever design to conform to the requirements of BS 8300.

##### 732 LETTER PLATES

- To be compliant to BS EN 13724:2002 "Apertures of private letterboxes and letterplates. Requirements of test methods" and PAS 24: 2016.
- Where indicated letterplates to be approved to BS 475-20/22:1987 Grade FD30 providing in excess of half an hour integrity.
- Finishes in silver, gold, black and white.
- The inner-hinged flap of the letter plate shall have a restrictor hood so designed to limit the opening of the inner-hinged flap and to prevent intruders gaining access via the letterplate

aperture and to prevent manipulation and "fishing" to meet the guidance of BS 8220-1:2000, SBD and PAS24: 2016.

#### 755 SECURITY CHAINS

- To be fitted to all main entrance doors. Fixings to be strictly in accordance with the manufacturer's instructions. Chains to be fixed at 1440mm from the bottom of the door.

#### 891 DOOR VIEWERS

- Shall have a wide angle of vision (min70°), have a maximum diameter of 19mm and finish to match letter plate and handle or as specified by the client. The viewer shall be fitted with an internal swivel cover to prevent light emission and viewing from outside.
- The door viewer shall be positioned at a height to suit the occupant's requirements.
- Special consideration should be given to occupants with visual impairments.

### WINDOW FURNITURE

#### 911 OPERATING HANDLES: STANDARD

- Windows to be fitted with offset espagnolette operating handles.
- Colour: White.
- Handles to incorporate a push release mechanism with a barrel lock. All to BS 6462-1985 strength test C3.
- Handle to be manufactured to BS EN ISO 9001 from die cast zinc alloy under with a polyester powder coating finish incorporating thermoplastic push fit covers. All components should be capable of sustaining a minimum of 30,000 cycles of operation without demonstrating any significant deterioration or deformation that would inhibit its function.
- Handles to have option to non-latching facility to meet the considerations of the Equality Act 2010 and the housing providers Equality Duty 2010. Where non latching handles are fitted the window should also have attached the appropriate information warning label.

#### 912 OPERATING HANDLES: EMERGENCY EGRESS

- Nominated emergency egress windows to be fitted with green buttoned push to release non dead locking handle.
- Written confirmation of compliance with all of the above should be given to the contract management team in advance of commencement on site and will be a condition of the tender.

## P31 Holes, chases, covers, and supports for services

To be read with Preliminaries/General conditions.

### EXECUTION

#### 620 HOLES, RECESSES AND CHASES IN IN SITU CONCRETE

- Cast in: Holes larger than 10 mm diameter, recesses, and chases.
- Cutting and drilling:
  - Permitted for holes not larger than 10 mm diameter.
  - Not permitted for holes larger than 10 mm diameter except as indicated on drawings.

#### 640 HOLES IN STRUCTURAL STEELWORK

- Cutting and drilling: Not permitted except as indicated on drawings.

#### 650 HOLES, RECESSES AND CHASES IN MASONRY

- Locations: To maintain integrity of strength, stability, and sound resistance of construction.
- Sizes: Minimum needed to accommodate services.
  - Holes (maximum): 300 mm<sup>2</sup>.
- Walls of hollow or cellular blocks: Do not chase.
- Walls of other materials:
  - Vertical chases: No deeper than one third of single leaf thickness, excluding finishes.
  - Horizontal or raking chases: No longer than 1 m. No deeper than one sixth of the single leaf thickness, excluding finishes.
- Chases and recesses: Do not set back-to-back. Offset by a clear distance at least equal to the wall thickness.
- Cutting: Do not cut until mortar is fully set. Cut carefully and neatly. Avoid spalling, cracking, and other damage to surrounding structure.

#### 670 NOTCHES AND HOLES IN STRUCTURAL TIMBER

- General: Avoid if possible.
- Sizes: Minimum needed to accommodate services.
- Position: Do not locate near knots or other defects.
- Notches and holes in the same joist: Minimum 100 mm apart horizontally.
- Notches in joists:
  - Position: Locate at top. Form by sawing down to a drilled hole.
  - Depth (maximum): 0.15 x joist depth.
  - Distance from supports: Between 0.1 and 0.2 x span.
- Holes in joists:
  - Position: Locate on neutral axis.
  - Diameter (maximum): 0.25 x joist depth.
  - Centres (minimum): 3 x diameter of largest hole.
  - Distance from supports: Between 0.25 and 0.4 of span.
- Notches in roof rafters, struts and truss members: Not permitted.
- Holes in struts and columns: Locate on neutral axis.
  - Diameter (maximum): 0.25 x minimum width of member.
  - Centres (minimum): 3 x diameter of largest hole.
  - Distance from ends: Between 0.25 and 0.4 of span.

690     INSTALLING PIPE SLEEVES

- Sleeves: Fit to pipes passing through building fabric.
- Material: Match pipeline.
- Size: One or two sizes larger than pipe to allow clearance.
- Finish: Install sleeves flush with building finish. In areas where floors are washed down, install protruding 100 mm above floor finish.
- Masking plates: Fit at visible penetrations, including through false ceilings of occupied rooms.

Q

Paving/Planting/Fencing/Site furniture

## Q40 Fencing

To be read with Preliminaries/ General conditions.

### FENCING SYSTEMS

#### 100 GENERAL

- Remove all existing fencing, including panels, posts, gates, and concrete mass beneath ground and remove from site.
- Agree design and configuration with client prior to ordering materials.
- Site, adjacent properties, and surrounding area to be taken into account when selecting the fencing type. Deviation from the specification may be required, but no deviation will be allowed without prior approval from the client.

#### 215 WOODEN FENCING

- Standard: To BS 1722: 2006.
- Manufacturer: BSW (similar or approved)
- Supplier: Travis Perkins.
- Material: Treated sawn softwood.
  - Treatment: High pressure treated with Tanalith 'E' (similar or approved) for improved durability. Class 2.
- Fence materials:
  - Fence post types: Standard 100mm x 100mm (125mm x 125mm and 150mm x 150mm to be available if required).
  - Horizontal rail: 75mm x 38mm arris profile.
  - Vertical palings: 100mm x 22mm paling.
- Methods of setting posts: Posts are to be set into ground with concrete.
  - Concrete: Ready-to-use Blue Circle post crete (similar or approved).
  - Excavate to a minimum depth of 600mm and 150mm (min) from the external face of the fence post (i.e. 400mm hole for 100mm sq post).
  - Post to be set approximately 75mm from base of concrete fill.
  - Top of concrete to be approximately 50mm - 100mm below the finished ground level with a chamfered top to aid water run-off.
- Fixing of timber:
  - Rails: 65mm galvanised annular ringed roundhead nail with a minimum of 2no fixings to each post.
  - Palings: 50mm galvanised annular ringed roundhead nail with a minimum of 2no fixings to each rail.
- Fence configuration:
  - All front and rear fences to be open board as standard.
  - Perimeter fencing adjoining public highways / paths to be closed board. The project manager will advise on a scheme-by-scheme basis.
- Fence size:
  - Front: 900mm as standard, but up to 1200mm to suit site requirements.
  - Rear: 1800mm as standard, but up to 2000mm to suit site requirements.
  - Dividing:
    - Front: 900mm as standard, but up to 1200mm to suit site requirements.
    - Rear: 1500mm as standard, but up to 1800mm to suit site requirements.
- Fence fixing dimensions:
  - Post centres:
    - Maximum 1800mm C/C on 900mm high fencing.
    - Maximum 2000mm C/C on 1500mm and 1800mm high fencing.
  - Ground level to underside of paling: Minimum 50mm.
    - Where timber is erected above masonry, there should be a minimum clearance of 5 - 10mm to prevent waterlogging.

- Ground level to underside of bottom rail: 150mm.
- Top of fence to top of top rail: 150mm.
- Note: Mid rail to be fixed centrally on 1800mm high fence.
- Between palings: 15mm - 20mm gap.
- Additional:
  - If post caps are not fitted, then the top of the post must be chamfered with a splay of approximately 10° (towards the internal face).
  - All cut ends 'must' be re-sealed with a proprietary treatment.
  - Optional 10-gauge galvanised strapping wire for vulnerable areas. To be advised by the client.
  - All timber products to be responsibly sourced (FSC similar or approved).
  - 10-year anti-rot guarantee.
- Gate:
  - Lugged and braced.
  - Fence posts to be set out to suit a minimum clear opening of 900mm. See 551 for gate details.

## 222 METAL FENCING

- Standard:
  - Mild steel fencing to BS 1722-9
- Typical fence panel size: 2000 x 900mm. Sizes may vary to suit aesthetics of each property.
- Materials and workmanship: As section Z11.
  - Fence posts: 70 x 70mm SHS.
  - Horizontal rails (top and bottom): 40 x 10mm flat bar.
  - Railing infills: 16mm solid round bar.
- Finish: Hot dip galvanised to BS EN ISO 1461.
  - Polyester powder coated, as section Z31, black. To BS 6497.
- Jointing: Welded.
- Method of setting posts:
  - Type A railings to plinths are to be core drilled and grouted in.
  - Type B railings, posts are to be set into ground with concrete.
  - To be determined on an individual site basis.
- Fixing of panels: To be secured to posts utilising pre-drilled cleats and snap off bolts.
- Additional information:
  - Gaps between rails to be a maximum of 99mm.
  - No onsite welding.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-9.

## GATES, POSTS AND STILES

### 551 WOOD Gate to Timber Paling

- Standard: To BS 5709.
- Workmanship: As section Z10.

#### Access to Rear Garden and Drive Gates

- Covers: Both 1500mm and 1800mm
- Gate: Ledge and brace timber open board. Closed board also where perimeter fence is adjacent to public highway.
  - Palings: 22mm x 100mm.
  - Ledge and brace: 38mm x 100mm - ensure chamfered top edge on horizontal members at approximately 10°.
  - Gap: 15mm - 20mm between palings.
- Fixing: Palings fixed with 65mm galvanised annular ringed round head nails with a minimum of 2 fixings to each ledge and brace.
- Ironmongery:



- Range: Suffolk and Brenton (similar or approved).
- Finish: Galvanised.
  - 3no. crook and band hinges: 450mm.
  - Barrel bolt: 150mm.
  - Bull ring gate catch: 150mm.
  - Heavy-duty drop bolt to be provided on drive gates.

#### Access to Front Garden and Drive Gates

- Covers: 900mm gate.
- Gate: Ledge and brace timber open board. Closed board also where perimeter fence is adjacent to public highway.
  - Palings: 22mm x 100mm.
  - Ledge and brace: 38mm x 100mm - ensure chamfered top edge on horizontal members at approximately 10°.
  - Gap: 15mm - 20mm between palings.
- Fixing: Palings fixed with 65mm galvanised annular ringed round head nails with a minimum of 2 fixings to each ledge and brace.
- Ironmongery:
  - Range: Suffolk and Brenton (similar or approved).
  - Finish: Galvanised.
    - Pair of tee hinges: 300mm.
    - Bull ring gate catch: 150mm.
    - Drop bolt to be provided on drive gates.

#### 562 METAL Gates

- Standard:
  - Domestic mild steel gates: To BS 4092.
- Location: Front access and drive gates.
- Materials and workmanship: As section Z11.
  - Gate posts: 70 x 70mm SHS.
  - Gate frames: 40 x 10mm flat bar.
  - Gate infills: 16mm solid round bar.
- Finish: Hot dip galvanized to BS EN ISO 1461.
  - Polyester powder coated as section Z31, black. To BS 6497.
- Jointing: Welded.
- Fittings: Gate hinges are to utilise adjustable threaded rod and be designed and installed to be anti-lift. Gate keeps to be welded to posts. Double gates to incorporate a drop bolt to each gate.
- Method of fixing:
  - Option 1: Gate to be attached to 70 x 70mm SHS sections on full metal fencing.
  - Option2: Gate frame to be built into new brick wall.
- Additional information:
  - Gaps between rails to be a maximum of 99mm.
  - No onsite welding.
  - Drop bolts to be provided on drive gates.

#### EXECUTION

#### 710 INSTALLATION GENERALLY

- Set out and erect:
  - Alignment: Straight lines or smoothly flowing curves.
  - Tops of posts: Following profile of the ground.
  - Setting posts: Rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.
  - Fixings: All components securely fixed.

#### 716 COMPETENCE

- Operatives: Contractors must employ competent operatives.
- Qualifications: Submit certification of training.

#### 720 SETTING POSTS IN CONCRETE

- Standard: To BS 8500-2.
- Mix: Designated concrete not less than GEN1 or Standard prescribed concrete not less than ST2.
- Alternative mix for small quantities: 50 kg Portland cement to 150 kg fine aggregate to 250 kg 20 mm nominal maximum size coarse aggregate, medium workability.
- Admixtures: Do not use.
- Holes: Excavate neatly and with vertical sides.
- Filling: Position post/ strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.
- Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

#### 740 SETTING POSTS IN EARTH

- Holes: Excavated neatly, with vertical sides and as small as practicable to allow refilling.
- Filling: Position posts/ struts and replace excavated material, well rammed as filling proceeds.

#### 770 SITE CUTTING OF WOOD

- General: Kept to a minimum.
- Below or near ground level: Cutting prohibited.
- Treatment of surfaces exposed by minor cutting and drilling: Two flood coats of solution recommended for the purpose by main treatment solution manufacturer.

#### 790 SITE PAINTING

- Timing: Prepare surfaces and apply finishes as soon as possible after fixing.

### COMPLETION

#### 910 CLEANING

- General: Leave the works in a clean, tidy condition.
- Surfaces: Clean immediately before handover.

#### 920 FIXINGS

- All components: Tighten.
  - Timing: Before handover.

#### 930 GATES

- Hinges, latches, and closers: Adjust to provide smooth operation. Lubricate where necessary.
  - Timing: Before handover.

R  
Disposal systems

## R10 Rainwater drainage systems

To be read with Preliminaries/ General conditions.

### GENERAL

#### 111 EXISTING DRAINAGE SYSTEMS

- Carefully remove existing rainwater guttering and brackets from two elevations and dispose. Quantity: 10 metres on terraced properties and 15 metres on end terrace /semi-detached properties.
- Carefully remove existing rainwater downpipes and brackets from two elevations and dispose. Quantity: 12 metres. Ensure old fixings and plugs are removed from structure.

#### 112 SCAFFOLDING

- Ensure all scaffold costs are incorporated to accommodate safe working at height.

### SYSTEM PERFORMANCE

#### 210 DESIGN

- Design: Complete the design of the rainwater drainage system.
- Standard: To BS EN 12056-3, clauses 3-7 and National Annexes.
- Proposals: Submit drawings, technical information, calculations, and manufacturers' literature.

#### 221 COLLECTION AND DISTRIBUTION OF RAINWATER

- General: Complete, and without leakage or noise nuisance.

### PRODUCTS

#### 351 PVC-U GUTTERS

- Standard: To the relevant parts of BS EN 607 and BS EN 1462, Kitemark certified.
- Manufacturer: Wavin (similar or approved).
  - Product reference: RoundLine Osma or SquareLine Osma.
  - Note: Square flow gutters are preferred option, however the existing street and adjoining properties must be taken into consideration prior to decision.
- RoundLine Osma:
  - Profile: Half round.
  - Material: PVCu.
  - Diameter: 112mm.
  - Nominal size: 115mm width x 52mm height x 2000mm or 4000mm length.
  - Colour: Available in white or black to suit site requirements.
  - Gutter union: OsRRL PVCu jointing bracket 112mm.
  - Brackets: OsRRL PVCu pipe bracket 68mm.
  - Outlet: OsRRL PVCu hopper head 68mm.
  - Outlet: OsRRL PVCu stop end outlet 112mm.
  - Outlet: OsRRL PVCu running outlet 112mm.
  - Stopend: OsRRL PVCu stop end EXT 112mm (internal option available also).
  - Gutter angle: OsRRL PVCu 90°gutter angle 112mm (other angles available on request).
  - Gutter support: OsRRL PVCu support bracket 112mm and OsRRL PVCu flexiclip 112mm.
  - Note: Other accessories available on request to suit additional situations.

- SquareLine Osma:
  - Profile: Square.
  - Material: PVCu.
  - Diameter: 100mm.
  - Nominal size: 110mm width x 52mm height x 2000mm or 4000mm length.
  - Colour: Available in white or black to suit site requirements.
  - Gutter union: OsRSq PVCu jointing bracket 100mm.
  - Brackets: OsRSq PVCu pipe bracket 61mm (standoff options available if required).
  - Outlet: OsRSq PVCu hopper head 61mm.
  - Outlet: OsRSq PVCu stop end outlet 100mm.
  - Outlet: OsRSq PVCu running outlet 100mm.
  - Stopend: OsRSq PVCu stop end EXT 100mm (internal option available also).
  - Gutter angle: OsRRL PVCu 90° gutter angle 100mm (other angles available on request).
  - Gutter support: OsRSq PVCu support bracket 100mm and OsRSq PVCu flexiclip 100mm.
  - Note: Other accessories available on request to suit additional situations.
- Fixing and adhesives; As manufacturers recommendations.
- Additional accessories: Downpipe outlet leaf guard to all downpipes.
- Round to square gutter connectors available on request.
- Quantity: 10 metres on mid terraced properties and 15 metres on end terraced / semi-detached (with hipped roof).

### 352 PVC-U DOWNPIPES

- Standard: To the relevant parts of BS EN 607 and BS EN 1462, Kitemark certified.
- Manufacturer: Wavin (similar or approved).
  - Product reference: RoundLine Osma or SquareLine Osma.
  - Note: Square flow gutters are preferred option, however the existing street and adjoining properties must be taken into consideration prior to decision.
- RoundLine Osma:
  - Profile: Round.
  - Material: PVCu.
  - Diameter: 68mm.
  - Nominal size: 68mm x 2000mm, 2750mm, 4000mm or 5500mm length.
  - Colour: Available in white or black to suit site requirements.
  - Pipe: OsRRL PVCu pipe 68mm. Various lengths available to suit requirements.
  - Bends: OsRRL PVCu offset bend 68mm. Spigot and socket options available.
  - Bends: OsRRL PVCu 90° offset bend 68mm.
  - Socket: OsRRL PVCu pipe shoe 68mm.
  - Socket: OsRRL PVCu pipe connector 68mm.
  - Access pipe: OsRRL PVCu access pipe 68mm.
  - Branch: OsRSq PVCu branch 68mm.
- SquareLine Osma:
  - Profile: Square.
  - Material: PVCu.
  - Diameter: 61mm.
  - Nominal size: 61mm x 2000mm, 2750mm, 4000mm or 5500mm length.
  - Colour: Available in white or black to suit site requirements.
  - Pipe: OsRSq PVCu pipe 61mm. Various lengths available to suit requirements.
  - Bends: OsRSq PVCu offset bend 61mm. Spigot and socket options available.
  - Bends: OsRSq PVCu 90° offset bend 61mm.

- Socket: OsRSq PVCu pipe shoe 61mm.
- Socket: OsRSq PVCu pipe connector 61mm.
- Access pipe: OsRSq PVCu access pipe 61mm.
- Branch: OsRSq PVCu branch 61mm.
- Fixing and adhesives; As manufacturers recommendations.
- Additional:
  - Allow for terminating downpipes into gulley's or with proprietary shoes.
  - Install downpipe tight to wall.
- Quantity: 12 metres.

## EXECUTION

### 600 PREPARATION

- Work to be completed before commencing work specified in this section:
  - Below ground drainage. Alternatively, make temporary arrangements for dispersal of rainwater without damage or disfigurement of the building fabric and surroundings.
  - Painting of surfaces which will be concealed or inaccessible.

### 605 INSTALLATION GENERALLY

- Electrolytic corrosion: Avoid contact between dissimilar metals where corrosion may occur.
- Plastics and galvanized steel pipes: Do not bend.
- Allowance for thermal and building movement: Provide and maintain clearance as fixing and jointing proceeds.
- Protection:
  - Fit purpose made temporary caps to prevent ingress of debris.
  - Fit access covers, cleaning eyes and blanking plates as the work proceeds.

### 610 FIXING AND JOINTING GUTTERS

- Joints: Watertight .
- Brackets: Securely fixed.
  - Fixings: Screwed into fascia board.
  - Fixing centres: As manufacturers recommendations.
  - Additional brackets: Where necessary to maintain support and stability, provide at joints in gutters and near angles and outlets.
- Roofing underlay: Dressed into gutter.

### 615 SETTING OUT EAVES GUTTERS - TO FALLS

- Setting out: To true line and even gradient to prevent ponding or backfall. Position high points of gutters as close as practical to the roof and low points not more than 50 mm below the roof.
- Outlets: Align with connections to below ground drainage.

### 616 SETTING OUT EAVES GUTTERS - LEVEL

- Setting out: Level and as close as practical to the roof.
- Outlets: Aligned with connections to below ground drainage.

### 635 FIXING PIPEWORK

- Pipework: Fix securely, plumb and/ or true to line.
- Branches and low gradient sections: Fix with uniform and adequate falls to drain efficiently.
- Externally socketed pipes and fittings: Fix with sockets facing upstream.
- Additional supports: Provide as necessary to support junctions and changes in direction.
- Vertical pipes:
  - Provide a loadbearing support at least at every storey level.
  - Tighten fixings as work proceeds so that every storey is self-supporting.
  - Wedge joints in unsealed metal pipes to prevent rattling.
- Wall and floor penetrations: Isolate pipework from structure.

- Pipe sleeves: As section P31.
- Masking plates: Fix at penetrations if visible in the finished work.
- Expansion joint pipe sockets: Fix rigidly to buildings. Elsewhere, provide brackets and fixings that allow pipes to slide.

**651 JOINTING PIPEWORK AND GUTTERS**

- General: Joint with materials and fittings that will make effective and durable connections.
- Jointing differing pipework and gutter systems: Use adaptors intended for the purpose.
- Cut ends of pipes and gutters: Clean and square. Remove burrs and swarf. Chamfer pipe ends before inserting into ring seal sockets.
- Jointing or mating surfaces: Clean and, where necessary, lubricate immediately before assembly.
- Junctions: Form with fittings intended for the purpose.
- Jointing material: Strike off flush. Do not allow it to project into bore of pipes and fittings.
- Surplus flux, solvent jointing materials and cement: Remove.
- Under no circumstances should screws be fixed through the bracket and downpipe to secure into position. Suitable joint adhesives and clamp bracket to be utilised.

**COMPLETION**

**910 GUTTER TEST**

- Preparation: Temporarily block all outlets.
- Testing: Fill gutters to overflow level and after 5 minutes closely inspect for leakage.

**915 COMPLETION SHEETS**

- Complete roofline inspection sheets. Sign off and issue a copy to the client.

## R11 Above ground foul drainage systems

To be read with Preliminaries/ General conditions.

### GENERAL

#### 120 ABOVE GROUND FOUL DRAINAGE SYSTEM

- Sanitary and floor drainage outlets: Sanitary fittings as section N13.
- Waste pipework: PVC-U
- Discharge stack and branch pipework: PVC-U
- Separate ventilating pipework: PVC-U
- Accessories: Rodding eye (internal stacks only).
- Disposal: To below ground drainage system.

### SYSTEM PERFORMANCE

#### 210 DESIGN

- Design: Complete the design of the above ground foul drainage system.
- Standards: To BS EN 12056-1 and BS EN 12056-2, and in accordance with BS EN 12056-2 National Annexes NA-NG.
  - System type to BS EN 12056-2: System III.
- Proposals: Submit drawings, technical information, calculations, and manufacturers' literature.

#### 220 COLLECTION AND DISTRIBUTION OF FOUL WATER

- General: Quick, quiet, and complete, self-cleansing in normal use, without blockage, crossflow, backfall, leakage, odours, noise nuisance or risk to health.
- Pressure fluctuations in pipework (maximum):  $\pm 38$  mm water gauge.
- Water seal retained in traps (minimum): 25 mm.

### PRODUCTS

#### 370 PVC-U PIPEWORK Soil Vent Pipe: Above Ground Drainage

- Standard: To BS 4514.
- Manufacturer: Wavin (similar or approved).
  - Product reference: Osma (similar or approved).
- Colour: White or black. Colour to match waste pipes if already modernised to white or black.
  - Consideration to be given for potential future bathroom / kitchen modernisation if grey wastes still insitu.
  - Consideration to be given to match colour of rainwater goods if renewed.
- Materials: All materials to be PVC-U 110mm diameter.
  - All external joints to be push fit system and all internal joints to be glued system.
  - Pipe.
  - Straight connector: Single or double to suit site requirements.
  - Brackets to suit site requirements.
  - Branch: 92.5° single branch.
  - Bends: Angle and number to suit site requirements.
    - Where external soil pipe cannot pass through the existing fascia then bends 'must' be glued so ensure rigidity.
  - Boss: 32mm and 38mm clip on.
    - Internally: No clip-on boss to be fitted. Manufactured boss pipe 'must' be fitted.
  - Brid cage: Must be fitted at roof ventilation point.
  - Weather collar: Must be fitted if soil pipe passes through lead slate at roof level.
  - Connector: Clay to plastic.



- Connector: Cast iron to plastic.
- Bent or straight multi quick to be used internally at WC.
- Fixings: As per manufacturer's instructions.
- Air admittance valve: Where internal stub stack is used then the contractor must fit a universal air admittance valve as per manufacturer's instructions.

## EXECUTION

### 601 INSTALLATION GENERALLY

- Standard: To BS EN 12056-5.
- Components: From the same manufacturer for each type of pipework.
- Electrolytic corrosion: Avoid contact between dissimilar metals where corrosion may occur.
- Plastics and galvanized steel pipes: Do not bend.
- Allowance for thermal and building movement: Provide and maintain clearance as fixing and jointing proceeds.
- Concealed or inaccessible surfaces: Decorate before starting work specified in this section.
- Protection:
  - Purpose made temporary caps: Fit to prevent ingress of debris.
  - Access covers, cleaning eyes and blanking plates: Fit as the work proceeds.

### 605 PIPE ROUTES

- General: The shortest practical, with as few bends as possible.
  - Bends in wet portion of soil stacks: Not permitted.
  - Routes not shown on drawings: Submit proposals before commencing work.

### 610 FIXING PIPEWORK

- Pipework: Fix securely plumb and/ or true to line. Fix discharge stack pipes at or close below socket collar or coupling.
- Branches and low gradient sections: Fix with uniform and adequate falls to drain efficiently.
- Externally socketed pipes and fittings: Fix with sockets facing upstream.
- Additional supports: Provide as necessary to support junctions and changes in direction.
- Vertical pipes: Provide a load bearing support not less than every storey level. Tighten fixings as work proceeds so that every storey is self-supporting.
- Wall and floor penetrations: Isolate pipework from structure, e.g. with pipe sleeves.
  - Masking plates: Fix at penetrations if visible in the finished work.
- Expansion joint sockets: Fix rigidly to the building.
- Fixings: Allow the pipe to slide.

### 630 JOINTING PIPEWORK - GENERALLY

- General: Joint with materials, fittings and techniques that will make effective and durable connections.
- Jointing differing pipework systems: With adaptors intended for the purpose.
- Cut ends of pipes: Clean and square. Remove burrs and swarf. Chamfer pipe ends before inserting into ring seal sockets.
- Jointing or mating surfaces: Clean and, where necessary, lubricate immediately before assembly.
- Junctions: Form with fittings intended for the purpose.
- Jointing material: Do not allow it to project into bore of pipes and fittings.
- Surplus flux, solvent jointing materials and cement: Remove from joints.

### 700 INSTALLING AIR ADMITTANCE VALVES

- Position: Vertical, above flood level of highest appliance served and clear of insulation materials (other than the manufacturer's insulating cover).
- Connection to discharge stack: Allow removal for rodding, e.g. ring seal.
- Roof spaces and other unheated locations: Fit manufacturer's insulating cover.

## COMPLETION

### 905 PIPEWORK AIRTIGHTNESS TEST

- Preparation:
  - Open ends of pipework: Temporarily seal using plugs.
  - Test apparatus: Connect a 'U' tube water gauge and air pump to pipework via a plug or through trap of an appliance.
- Testing: Pump air into pipework until gauge registers 38 mm.
- Required performance: Pressure of 38 mm is to be maintained without loss for at least three minutes.

### 915 PREHANDOVER CHECKS

- Temporary caps: Remove.
- Permanent blanking caps, access covers, rodding eyes, floor gratings and the like: Secure complete with fixings.

T

Mechanical heating/Cooling/Refrigeration systems

## T90 Heating systems - domestic

To be read with Preliminaries/ General conditions.

### GENERAL

Note: The following specification clauses refer to both full heating systems and boiler replacement only unless stated 'Full Heating System' or 'Boiler Replacement Only' within the clause.

#### 100 DEMOLITIONS AND ALTERATIONS

- Adey Cleanser must be added to the existing system 'at least' the day before and the resident must run the heating system as recommendations. If this is not possible then the heating engineer 'must' add the cleaner on the morning of the install and run the heating system for a minimum of 30 minutes prior to replacement of heating elements. See Clause 308 for full details.
- Drain down existing central heating system.
- Carefully remove existing gas boiler and seal flue in chimney breast (if applicable). Dispose of all redundant materials.
- Strip out and make safe redundant electrical supply cables, including those to programmers etc. Make good, disturbed plasterwork.
- Remove all radiators, brackets, pipework, tanks, cylinders, and credit for scrap. Make good, damaged plasterwork.
- Gas pipes:
  - Utilise existing gas carcass pipework and pipe brackets if it is in a suitable condition and meets the new boiler requirements, or
  - Remove all gas carcass pipework and pipe brackets, stripping back to gas meter, if necessary, on inspection (Full heating replacement only, not for boiler replacement).
  - Make good all disturbed work.
- Ensure that no unnecessary damage is incurred to either the building fabric or to other services.
- All redundant materials shall be removed from site on a daily basis or alternatively placed in a lockable skip prior to disposal.
- The contractor should allow for suitable temporary heating provision if required, during the heating installation works.
- Where required when replacing traditional system boiler with combi boiler. Remove existing cylinder from cupboard, cold water storage tank and heating system tank from loft space. Include for all redundant pipework, fixtures and fittings and make good all holes ready for re-decoration.
- Include for the removal of any stadium vents within the property as per clause T90:665.
- All dead legs in pipework must be removed when carrying out installations.

#### 101 SYSTEM FLUSH

- Refer to clause 308 for full details.

#### 102 DRAWINGS

- Produce diagrammatic drawings and schedules for each property type prior to installation for client approval.

#### 103 ASSOCIATED BUILDERS WORK

- Include for all builders work in association to the heating installation. Ensure all builders work complies with restrictions on the cutting of holes, chases, notches, and attachment to the building fabric.
- Include to make good and infill penetrations in the walls and ceilings, associated with the

install, within 1 metre of the boiler.

- All electrical works in connection with the installation must be in accordance with BS 7671 (Current Edition of The IEE Wiring Regulations).

#### 104 STORAGE

- Store all equipment, pipework, components, and accessories in original packaging in dry conditions. Protect plastic pipe from exposure to sunlight.

#### 105 OPERATIVE REGISTRATION

- The whole of the gas installation, testing and commissioning shall be carried out by a GAS SAFE registered, and ACS qualified installer qualified to CENWAT, HTR1 and CKR1 or equivalent ACOPS.  
Proof of gas safe registration and ACOPS/ACC approval shall be submitted to the client at least one week prior to commencement of the works. To satisfy this requirement the client must have sight of the original certificate. Copies will not be accepted.
- A copy of the companies' gas safe registration and all ACOPS cards for each approved installer must be kept on site at all times. Information must be issued to Thirteen Group prior to work commencing.
- All operatives must carry the Gas Safe registration cards at all times on site.

#### 106 UNHEATED SPACE

- Include for pipe insulation if boiler is installed in an unheated space. The boiler compartment is classed as an unheated space and so pipework should be lagged appropriately.

#### 108 CO DETECTION AT BOILER LOCATION

- Ensure a Carbon monoxide alarm is installed in same room as all gas appliances excluding gas cookers and hobs.
- Boiler replacement contractor to record the age of the detector in all properties and must convey the information to Thirteen Group for inclusion in replacement cycle.
- Replacement criteria:
  - No detector present:
    - Planned boiler replacement: ensure immediate installation within works.
    - No detector, but no planned works: Engineer must install battery powered detector same day.
  - Detector present but coming to end of life expectancy: Report to Thirteen Group for replacement within 2 years (assess condition).
  - Detector present with sufficient lifespan: Leave insitu for renewal in planned replacement cycle.
- For detectors that are not being replaced with boiler the contractor will inspect the detector to ensure it is in full working order. Any faults must be reported back to Thirteen Group immediate detector replacement.
- Detector type (see electrical systems V90):
  - Electrical circuit available: Hard wired detector.
  - No electrical circuit: Battery detector.
- Boiler location change: new detector installed with the boiler with old detector being removed.
- Where replacing other detectors (heats, smokes or multi's) as part of the works as required you should refer to clauses V90: 597 to 600.

#### 109 26.9 CHECKS

- 26.9 checks must be carried out where a new appliance has been installed, or where gas pipework has been altered within a property. This is to ensure that combustion performance on all appliances within a property has not been negatively affected.

- 115 RE-INSTATING GAS DURING PARTIALLY COMPLETE ROOF REPLACEMENT
- Refer to H:60 PLAIN ROOF TILING: 101 'RE-INSTATING GAS DURING APARTIALLY COMPLETE ROOF REPLACEMENT' for details.

120 FOCAL FIRE REMOVAL

- Gas fires will not be renewed, they will be capped off and removed. New electric fire suites will not be installed, the chimney breast will have remedial works carried out as detailed in clause T90: 668. Making good works and decoration should be agreed between thirteen and the resident prior to any work being carried out.
- Where a back boiler is fitted, they will be capped off and removed and a new wall mounted boiler will be installed.
- Electric fire suites will not be renewed beyond their renewal date, they will be removed.
- The existing fire surround will remain in place when the electric fire is removed to mitigate remedial works to the area. This includes the hearth, surround and back panel. If the resident is unhappy with fire surround being left in place without a fire, then the complete fire surround should be removed. Making good works and decoration will be carried out.
- Retention of or removal of the fire surround should be agreed between thirteen and the resident prior to any works being carried out. All remedial works should be agreed, inclusive of making good walls, decoration, and flooring.
- Note: All electrical fires will be left insitu during void property works unless it is not working, faulty, damaged, or it is end of life and noted for removal by the Asset Planning team. The voids manager should liaise with Asset Planning to determine requirements. Making good works should be carried on removal.
- The existing fused spur will be left insitu until the property is rewired. A new focal fire fused spur should not be installed as part of a new rewire to the property.

120 OPEN FLUED APPLIANCES

- Under no circumstances will Thirteen allow the installation of tenants own open flued appliances (gas fires and multi-fuel burning stoves). Any resident requests, alterations or queries relating to gas should sent to the gas department for instruction.

SYSTEM PERFORMANCE

205 WATER PRESSURE

- Principal contractor to ensure that the water pressure to the property is sufficient to satisfy the boiler manufacturers requirements when changing from a traditional system to a combination boiler.

211 DESIGN

- Design: Complete the design and detailing of the heating system.
- Proposals: Submit drawings (showing equipment positions and pipeline routes), technical information, calculations, and manufacturer's literature.

221 BASIC DESIGN TEMPERATURES

- Room temperatures: Design the system to provide the following temperatures for the specified air change rates and an external air temperature of -4°C:
  - Living rooms: Temperature: 21°C, for 1.5 air changes per hour.
  - Dining rooms: Temperature: 21°C, for 1.5 air changes per hour.
  - Bedsitting rooms: Temperature: 21°C, for 1.5 air changes per hour.
  - Bedrooms: Temperature: 18°C, for 1 air changes per hour.
  - Halls and landings: Temperature: 18°C, for 1.5 air changes per hour.
  - Kitchens: Temperature: 18°C, for 2 air changes per hour.

- Bathrooms: Temperature: 22°C, for 2 air changes per hour.
- Toilets: Temperature: 18°C, for 2 air changes per hour.
- Submittals: Submit heat loss calculations for each room using an approved system, i.e. HEVACOMP suite or similar.

## PRODUCTS

### 306 BOILER

- Location: To be agreed with client.
  - If boiler is installed within kitchen the appliance must be fitted in line with the wall units (bottom edge).
  - Positioned to be accessible for maintenance.
- Standards: To have a Sedbuk A energy efficiency to BS 6798:2014.
- Type: Wall mounted condensing combination boiler.
- Manufacturer: Worcester Bosch / Vaillant.
- Type: Worcester 4000 30kW or Vaillant EcoFit Sustain 830 30kW.
- Output: 30kW.
- Casing finish: White vitreous enamel.
- Integral controls: Wall mounted F/F electronic ignition with integral wall mounted jig with frost thermostat.
- Boiler to provide a minimum of 11.6 litres of hot water at 35-degree rise.
- Compression fittings shall be used on water services at the boiler to allow ease of disconnection.
- Product lifecycle: Minimum of 15 years.
- Warranty: Minimum 7 years parts and labour guarantee. To include:
  - 10-year warranty on heat exchanger element.
  - All boilers must have the heating system tested for water quality. The sample kit will be supplied free of charge by Adey Ltd, however if the first sample returns negative then the contractor must purchase a second sample kit at no cost to the client.
- Include standard filling loop with all installations:
  - Supplier: Travis Perkins (plumbright).
  - Reference: 689142
  - WRAS Approved.
  - Due to increased water pressures caused by non-return valves on water meters, install mini expansion vessel on cold inlet supply to protect the boiler from component damage.
- Condensate to be fitted as per the statutory regulations. Options available (but must be agreed with the client prior to work commencing):
  - Option 1: Condensate pipe to be connected to existing waste pipes internally or routed to drain externally. To minimise the risk of freezing, wherever possible: the condensate drain should be installed internally.
  - Option 2: Boiler situated in centre of property with no drainage route available – condensate pump to be used (type to be agreed with client). Pipes to be clipped and lagged where condensate pipe enters loft space.
  - Option 3: Soakaway to be utilised if no external drain or wastepipe available.
- Termination of condensate pipes for all news installations: No condensate pipes to terminate into gutters. Internal connections must be the first consideration and show when this is not possible. If the condensate has to be fitted externally and a fall pipe is the connection point, then it must be confirmed that the existing drain is a dual drain (foul and water).
- All condensate pipes 'must' be clipped to meet regulations.
- Carbon monoxide detector must be fitted in the same room as the boiler. Refer to section V90 for type.
- All boilers to have an ERP label as standard.
- Additional:
  - Boiler replacement only: Allow for associated pipework and alteration to pipework to install the new boilers named above only. In no circumstance can any other boiler

- be installed.
- Allow for inclusion of a stand-off frame where required.
- All legs to and from the boiler must be in copper pipe for a minimum of 3 metres.
- Essential spares available from Worcester Bosch and Vaillant for a minimum of 10 years.
- Literature and boiler operation training must be given to the resident on commissioning as per the regulations.
- All certification to be provided to the client on handover.

#### Heat Only Boiler

If it is identified that the above, preferred combination boiler cannot be installed within a property and the existing boiler is a heat only (i.e. cylinder and head tanks), then the following boiler should be installed:

- Location: To be agreed with client.
- Type: Wall mounted heat only boiler.
- Manufacturer: Worcester Bosch.
- Type: Greenstar RI (part no. 077336000068).
- Output: 24kW.
- Additional information and ancillary works are as the above combi boiler clause.

#### Combination Boiler to Achieve SAP Rating (New Developments)

For use by development team to achieve required SAP rating for Thirteens standard house types. The following boilers should be installed:

- Location: To be agreed with client.
- Type: Wall mounted combination boiler.
- Manufacturer: Worcester Bosch.
- Property: 2 bedrooms:
  - Type: Greenstar 25Si Compact ErP: Output: 25kW.
- Property: 3 and 4 bedrooms:
  - Type: Greenstar 30Si Compact ErP: Output: 30kW.
- Additional information and ancillary works are as the above combi boiler clause.

#### 307 BOILER BOXING

- Supply a pre-formed boxing to hide boiler pipework and filter.
- Standard: To BS EN 314-2 Class 1 or 2 to suit application, BS EN 635
- Supplier: Travis Perkins.
- Product: Sanded, paint grade general plywood.
  - Thickness: 12mm as standard.
- Quantity: 1no. per property. Any additional boxing requirements must be approved by the project manager prior to inclusion.
- Dimensions: Minimal dimensions to accommodate pipe work and filter beneath boiler.
  - Generally, 450-500mm (W) x 460mm (H - 3 tiles) x 200-250mm (D).
  - Boxing manufactured to suit boiler location and must be able to be removed easily for maintenance.
  - Allow for L shape or U shape configuration to suit boiler location.
- Finish: Include to decorate the visible faces and edges of the boxing.
  - Colour: to suit wall finish.
- Additional:
  - Include for all fixings, brackets and adhesive as required for construction.
  - Include for all scribing and cutting of boards and drilling of holes for service penetrations.
  - All cut edges must be sealed.
  - Allow for timber support structure if required for larger boxings.



### 308 SYSTEM FILTERS

- Each manufacturers own brand filter must be installed alongside their boiler.
- Manufacturer:
  - Worcester Bosch.
  - Product reference: Worcester Greenstar System Filter (part number: 7 733 600 266).
  - Size: 22mm.
  - Vaillant.
  - Product reference: Vaillant Boiler Protection Kit (part number: 0020278309).
  - Size: 22mm.
- Guarantee: 10 years.
  - It will be the installer's responsibility to ensure that the warranty registration form is completed online and a copy for each property is forwarded to the client on completion of the scheme.
- Installation:
  - As manufacturer's instructions.
  - Ensure installation in an accessible location for maintenance.
  - Installation to be below the boiler. Under no circumstance should the filter be installed above the boiler. Any issues with installation location to be discussed with and approved by the project team prior to installation.
  - Final position to be agreed with client prior to installation.
  - All filters must be installed in the vertical position unless prior agreement with the client.

#### Positioning:

- Option 1 (preferred): Below boiler.
- Option 2: Above boiler. Note that this must be agreed with the Thirteen project team prior to installation.
- Option 3: Side of boiler. Note that this must be agreed with the Thirteen project team prior to installation.

#### Clearance:

- Minimum 75mm below to allow the drain plug to be removed and allow a container to be positioned underneath.
- Minimum 135mm above to allow the removal of the filter for servicing and chemical application.

#### Chemical Application to Heating Systems with Filter Already Installed in Property

- Cleaner MC3+ to be added to heating system the night before the boiler replacement where access permits (the resident is advised to run the heating system as much as possible overnight to circulate the cleaner). If this is not possible then the heating engineer 'must' add the cleaner on the morning of the install and run the heating system for a minimum of 30 minutes prior to replacement of heating elements.
- All heating systems must be tested for water quality. The sample kit will be supplied free of charge by Adey Ltd, however if the first sample returns negative then the contractor must purchase a second sample kit at no cost to the client. Contractor 'MUST' ensure that a copy of the water test certificate is provided to the client as a matter of urgency. MC1+ Protector must be applied to the heating system prior to the water test being carried out.
- MC1+ Protector must be re-applied into the heating system if it is drained down by the repairs and maintenance team for repair / maintenance of the system only.

#### Chemical Application to Heating Systems with no Filter Installed in Property

- Cleaner MC3+ Rapide to be added to heating system the night before the boiler

replacement where access permits (the resident is advised to run the heating system as much as possible overnight to circulate the cleaner). If this is not possible then the heating engineer 'must' add the cleaner on the morning of the install and run the heating system for a minimum of 30 minutes prior to replacement of heating elements.

All heating systems must be tested for water quality. The sample kit will be supplied free of charge by Adey Ltd, however if the first sample returns negative then the contractor must purchase a second sample kit at no cost to the client. Contractor 'MUST' ensure that a copy of the water test certificate is provided to the client as a matter of urgency. MC1+ Protector must be applied to the heating system prior to the water test being carried out.

- MC1+ Protector must be re-applied into the heating system if it is drained down by the repairs and maintenance team for repair / maintenance of the system only.
- The Vaillant filter does not require the use of a sample kit supplied by Adey Ltd. Included in the installation kit for the Vaillant Boiler Protection Kit is a litmus test that must be used for water testing. Please follow the manufacturer's instructions for this procedure.

#### POWER FLUSH

- Manufacturer: Adey Professional Heating Systems.
- Product reference: MagnaCleanse.
- Application: As per manufacturer's instructions.
- Requirements: A power flush of the heating system will only be carried out if the water test returns with a negative result after installation.
  - Up front power flushing will not be permitted unless the heating engineer reports an abnormal amount of contaminate at drain down or radiators blocked up. The heating engineer 'must' seek approval from the project team prior to proceeding with a power flush. Evidence must be provided to the project team to prove contamination.
- If a negative water test result is returned then the heating contractor must carry out remedial action as per the manufacturers recommendations (mains flush, system flush).
- Note: A MagnaCleanse should only be carried out when the Micro 2 filter has been installed on the return pipework. Any instance where the Micro 2 filter has been installed on the flow pipework then the MagnaCleanse 'must not' be carried out and the engineer should seek advice from the project team / manufacturer.

#### 309 SCALE REDUCER

- To be installed on:
  - Boiler replacement only and full heating system.
  - Kitchen replacements / refurbishments where scale reducers are required.
- Location: To be installed on the incoming mains pipe directly after the isolation switch / tap.
  - No units to be installed in the Middlesbrough, Stockton, and Billingham area.
  - Water hardness should be tested to confirm if a softener is required. This should be on refurbishment projects and new developments.
- Manufacturer: Adey Professional Heating Systems.
  - Product reference: ElectroScale.
  - Size: To suit size of incoming mains pipe.
- Standard: BS EN 1254-2. WRAS Approved.
- Installation:
  - As manufacturer's instructions.
  - Ensure installation in an accessible location for maintenance.
  - Note: No maintenance requirements, designed to last for 10 years. If product fails during this period contact Adey Professional Heating Systems for assistance.
- Warranty: 10 years design life.
- Existing Combimate: Strip out existing Combimate, associated pipework and fittings to allow the installation of the new scale reducer.
- Include for all new pipe work, fittings, and alteration of existing pipe work to accommodate installation.

### 311 BOILER CONDENSATE LAGGING

- Include to fit external insulation to pipework. Insulation used for external condensate pipes, sink or washing machine waste pipes should be of class 'O' grade with an outer coating that is weatherproof, bird / animal proof, and have a UV resistant finish. A minimum of 19mm thick insulation is recommended for 32mm external pipes.

### 326 ELECTRIC CIRCUIT FOR BOILER

Full Heating System and Boiler Replacement Only

- Utilise existing DP switch for connection of boiler.
- Include the supply and fit of a new neon fused switched spur and associated wiring for the focal fire where none present.
- Where a new consumer unit is required, include for two additional spare MCBs for potential future works.

### 327 EARTH BONDING

- Earth bonding:
  - Cross bonding at boiler not required.
  - All water and gas pipes to be bonded.
  - All work to meet BS 7671.

### 359 GAS METER RELOCATION / ADDITION Access Requirements

- When a meter is relocated or added then paving should be included to access the meter. Contractor to supply a run of 600mm x 900mm paving slabs, laid end to end (path 600mm wide) to suit the layout of the property and location of the meter.

### 361 BOILER FLUE

- Manufacturer: Worcester Bosch and Vaillant.
- Exiting horizontally above the boiler directly through the external wall using the manufacturers standard kit below:
  - Worcester Bosch telescopic flue terminal B pack to be included as standard.
  - Vaillant flue horizontal terminal pack for both top and rear entry.
- Allow for cutting of a new aperture with a circular core drill where necessary. Cutting brickwork and piecing back is totally unacceptable. Existing hole must be made good internally and externally, including cavity insulation.
- Any gaps between the flue and the aperture edges shall be filled with filler approved by the flue manufacturer and wall cover plates fitted both internally and externally.
- Expanding foam not permitted on site for the sealing of flues. Must be cement based mortar.
- Guarantee: 7 years parts and labour guarantee.
- Additional equipment if required:
  - High level flue outlet kit (if passing through roof).
  - Universal weather collar.
  - FF flue extension (1m pack x 2).
  - FF flue elbow 45-degree kit - 60/100.
  - FF flue roof kit.
  - Vertical flue connector.
  - Clips: Include for 5 clips on vertical flues.
- Additional:
  - Contractor to allow for safe working at height to allow for the flue installation.
  - Any flues which are boxed in must have an inspection hatch located at every flue joint.
  - Prior approval is required from the client for the use of a Plume Management Kit or Balcony Kit.

### 362 DRAIN COCK TO BOILER

- Boiler with built in drain off cock: Additional not required.
- Boiler without built in drain off cock:
  - Supply and fit drain cock to BS 2879 below the boiler to facilitate the draining of the

system.

- Drain off not to be situated directly above the new boiler.

### 363 GAS SUPPLY FROM METER

- Existing gas line to be tested to ensure correct pressures obtained at boiler prior to any work commencing.
- Install new gas supply from the gas meter if existing gas line is undersized or restricted.
- Pipe sizes to be calculated so that the appliances gas ratings meeting manufacturer's instructions.

### 364 GAS COOKER SUPPLY

- To be renewed in the event of a new gas line required only.
- If required: Install gas cooker supply pipe to cooker position, centrally located in cooker space 450mm from the floor level.
  - Include safety chain / bracket.
- If there is no gas cooker in position, then remove the bayonet fitting and install a male iron plug.
- Gas line must not run down the centre of the walls and must be fitted in corner of room.
- Approval from project manager must be obtained prior to any deviations.

#### Gas Safe Register Technical Bulletin 025: Issue Date: 14th November 2014

Contractor responsibilities when disconnecting and/or reconnecting gas cooking appliances utilising bayonet fittings, or other self-sealing connectors.

The temporary disconnection / reconnection (at the same location) of a self-sealing appliance connector where a gas cooker is not being installed for the first time or repositioned permanently is not deemed 'gas work' and therefore may be carried out by a non-registered person(s), for example, when a homeowner temporarily removes the cooker when cleaning. The alteration of any gas installation pipework to allow the cooker to be permanently repositioned is considered gas work. However, whenever any person when at work disconnects or re-connects a self-sealing connector must be competent to a level that will ensure that the action of doing so does not cause gas to escape.

If the gas cooker / hob is moved for the purpose of the kitchen replacement, levelling of flooring or electrical component relocation (kitchen re-wire), this would be deemed gas work and would require a gas safe registered engineer to complete this work, reference TB022 Gas Safe Technical Bulletin.

### 366 HOT AND COLD-WATER SUPPLIES AND WATER SOFTNER

- Adapt / connect existing hot and cold-water supply and include for making good all disturbed areas.
- All dead legs in pipework must be removed when carrying out installations.
- Install a ElectroScale inline scale reducer as per clause 309.

### 367 PRESSURE RELIEF SAFETY DISCHARGE PIPE

- Install a pressure relief safety discharge pipe, passing through the wall to the outside at the boiler position and terminated as per manufacturer's instructions.
- There shall be no valves or restrictions on the discharge pipe.
- The discharge pipe shall have a slight fall to outside and shall terminate with a mushroom poppet valve so that the discharge water is directed towards the wall. On no occasion should the discharge pipe be directly above an opening window or an entrance door.

### 368 HEATING SYSTEM CONFIGURATION Full Heating System

- Heating system to be single zoned in all existing domestic properties to meet current building regulations.

### 369 REFILLING OF HEATING SYSTEM

- Refill the heating system and include for an in-line heating system cleaner. See clause 308:

- Magnaclean.
- 396 COPPER PIPELINES FOR GENERAL USE
- Standard: To BS EN 1057, Kitemark certified.
  - Pipe size: 15mm and 22mm.
  - Jointing:
    - Integral lead-free solder ring capillary fittings: To BS EN 1254-1, Kitemark certified.
  - Connections to appliances and equipment: Select from:
    - Compression fittings: To BS EN 1254-2, Kitemark certified.
    - Fittings with threaded ends: To BS EN 1254-4.
  - Supports: Saddle clips or standoff clips to suit application.
- 411 THERMOPLASTICS PIPELINES Full Heating System (when specified)
- Manufacturer: Wavin UK.
    - Product Reference: Hep2O
  - Standards: To BS EN 7291 Parts 1 and 2.
  - Compatible with: Copper pipes to BS EN 1057, BS EN 12449, and BS EN 12451.
  - Pipes and fittings: Polybutylene (PB).
  - Type: Barrier pipe, push fit.
  - Pipe size: 15mm and 22mm.
  - Lengths available: Rigid - 3 metre lengths. Coils - 25m, 50m and 100m.
  - Supports: Screwed pipe clips. Ensure design takes into account pipe flexibility.
  - Additional: Hep2O must not be used to terminate into kitchen sink taps, 1 metre of rigid copper pipe must be used for stability.
- 426 VALVES GENERALLY
- Types: Approved for the purpose by local water supply undertaker and of appropriate pressure and temperature ratings.
- 441 THERMOSTATIC RADIATOR VALVES
- Full Heating System
- Standard: To BS EN 215 and BS 2167-10 and capable of providing isolation.
  - Manufacturer: Pegler Yorkshire.
  - Product reference: Terrier III.
  - TRV's to be fitted to all radiators excluding radiators adjacent to room stats.
  - TRV's to be 15mm bi-directional with built in sensors and (dead) shut off.
  - To include colour coded strip, for easy identification of high, low and economical settings.
  - Guarantee: 5 years.
- Boiler Replacement Only
- Standard: To BS EN 215 and BS 2167-10 and capable of providing isolation.
  - Manufacturer: Pegler Yorkshire.
  - Product reference: Terrier III.
  - TRV's to be installed:
    - Were non are fitted.
    - Were they are damaged or not functioning.
    - Existing to remain insitu if none of the above applies.
  - TRV's, where required, to be fitted to all radiators excluding radiators adjacent to room stats.
  - TRV's to be 15mm bi-directional with built in sensors and (dead) shut off.
  - To include colour coded strip, for easy identification of high, low, and economical settings.
  - Guarantee: 5 years.

#### 442 LOCKSHIELD VALVE

##### Full Heating System

- Standard: To BS 2767, Type 10.
- Manufacturer: Pegler Yorkshire.
- Product reference: Terrier III.
  - 367 CP Lockshield and 367 CP Drain Off Lockshield.
- Drain off lockshield valves to be fitted to radiators in the hallway and on the landing.
- Guarantee: 5 years.

##### Boiler Replacement Only

- Standard: To BS 2767, Type 10.
- Manufacturer: Pegler Yorkshire.
- Product reference: Terrier III.
  - 367 CP Lockshield and 367 CP Drain Off Lockshield.
- Drain off lockshield valves to be fitted to radiators in the hallway and on the landing.
- Lockshiled valves to be installed:
  - Were non are fitted.
  - Were they are damaged or not functioning.
  - Existing to remain insitu if none of the above applies.
- Guarantee: 5 years.

#### 466 RADIATORS Full Heating System

- Standard: To BS EN 442-1, -2 and -3 and be compact, low surface temperature.
- Type: Myson Premier Roundtop: For use in general needs properties.
- Type: Myson LST: For use in complex buildings, sheltered accommodation, extra care, and all buildings with vulnerable residents. The contractor should seek advice if clarification is required. Any deviation from the specified product should be approved by thirteen prior to procurement.
  - Material: Steel.
  - Finish: Epoxy polyester finishing coat in white.
- Manufacturer: Myson by Rettig UK.
- All pipework to be 15mm copper tube or thermoplastic pipe.
- Drain valves to be fitted to each radiator to BS 2879 (15mm).
- Guarantee: 10 years.
- Sizes: Radiator sizes to be calculated by the contractor to suit the specific property and the schedule must be approved by client prior to any materials being ordered or installed.
- Additional information:
  - The positions and heights above the floor for all radiators shall be indicated or agreed with the client. A minimum clearance of 75mm shall be provided between the floor and the underside of any pipe serving a radiator. The minimum clearance between the floor and the underside of the radiator shall be 100mm so that air can circulate freely. Wall clearance shall be in accordance with the manufacturers standard bracket details.
  - Each radiator shall be fitted so as to provide adequate clearance for maintenance, replacement and the release of air.
  - The radiators have been selected and positioned in order to effectively counteract the effects of draughts, cold radiation or cold zones within a room.
  - Aesthetics and customer preferences may define the position of radiators on site; however, tenants must be made aware of the most effective arrangements in conjunction with the client. Where customer preferences prevail, this shall be documented using a standard housing disclaimer form signed by the tenant and witnessed by the client.
  - Additional consideration to be given in sheltered accommodation, extra care and any properties deemed to have vulnerable residents. The contractor must seek advice and approval from thirteens project manager prior during the design stage of the heating system.

#### 486 THERMOSTATS AND TIMERS

- Thermostat standards: To BS EN 215
- Timer standards: To, BS EN 60730-1, -2-7, -2-10, -2-14 and BS EN 61058-1, -2-5. BEAB approved.
- Manufacturer: Honeywell.
- Product: Boiler Plus compliant.
  - Honeywell T3R wireless programmable room thermostat.
  - Warranty: 5 years.
- Location: To be agreed on site with client on both full heating system and boiler replacement only.
- Thermostat / programmer must be fixed onto the wall and not left as a standalone mobile unit.
- Alternative thermostat for dual zone controls
  - Utilise the Honeywell T3 Newbuild pack. Hardwired. Code: PS22NBT3WC.
  - This is only for dual zone installations.

#### 495 METER BOX DOORS

- Location: External meter locations on domestic properties.
- Application: New installations and repairs.
- Manufacturer: Ritherdon.
- Standard replacement door and frame product reference:
  - R7 Slimline.
  - R17.
  - Alternative products available to accommodate alternative site situations.
- Material: Powder coated steel.
  - Colour: White as standard. Alternative colours must be approved by the project supervisor prior to manufacture.
- Size: To suit existing application. Utilise manufacturers literature to determine the correct unit for the application.
- Installation: As per manufacturer's instructions.
- Additional: Linked to V90: 495 in electrical systems.

### EXECUTION

#### 611 INSTALLATION GENERALLY

- Standard: To BS EN 14336.
- Performance: Free from leaks and the audible effects of expansion, vibration, and water hammer.
- Fixing of equipment, components, and accessories: Fix securely, parallel, or perpendicular to the structure of the building.
- Corrosion resistance: In locations where moisture is present or may occur, use corrosion resistant fittings/ fixings, and avoid contact between dissimilar metals by use of suitable washers, gaskets, etc.
- All equipment, pipework, components, valves, etc. forming the installation to be fully accessible for maintenance, repair, or replacement, unless specified or shown otherwise.
- Installation to be fitted with vents at high points and draining taps at low points to facilitate purging and draining.
- Installation: To be carried out by a qualified gas safe engineer.
- All dead legs in pipework must be removed when carrying out installations.

#### 613 DEZINCIFICATION

- All brass fittings used below ground to be DZR alloy CZ 132 and so marked, or gunmetal.
- All brass fittings, which are in contact with water to be DZR alloy CZ 132 and so marked, or gunmetal.

#### 615 CONDENSATE INTO SINK WASTE

- Connection of condensate into sink waste must be solvent weld and not push fit. All wastes are solvent weld wastes unless agreed by the client.

#### 631 PIPELINE INSTALLATION

- Standard:
  - Copper for heating pipework:
    - Tube to BS 2871: Part 1.
    - Jointing and connections to equipment and fittings to BS 864: Part 2.
  - Plastics coated copper pipelines for gas:
    - Tube to BS 2871: Part 1, with seamless polythene coating to BS 3412.
    - Jointing and connections to equipment and fittings to BS 864: Part 2.
- Appearance:
  - Where not shown accurately on drawings, obtain approval of routes before commencing work.
  - Install pipes straight, and parallel or perpendicular to walls, floors, ceilings, and other building elements.
- Pipelines finish: Smooth, consistent bore, clean, free from defects, e.g. external scratching, toolmarks, distortion, wrinkling, and cracks.
- Concealment: Generally, conceal pipelines within floor, ceiling and/ or roof voids.
- Access: Locate runs to facilitate installation of equipment, accessories and insulation and allow access for maintenance.
- Arrangement of hot and cold pipelines: Run hot pipelines above cold where routed together horizontally. Do not run cold water pipelines near to heating pipelines or through heated spaces.
- Central heating pipes:
  - All pipework should run under timber floors, where possible. If the property is of solid floor construction, vertical pipe runs would be required, which would be covered with pipe capping (on vertical drop only).
  - It has been agreed wherever possible that no pipe drops should be located in living rooms. If no other option, pipes should be located in the corner of the relevant rooms to make it more practical for residents to decorate on completion of works.
- Electrical equipment: Install pipelines clear of electrical equipment. Do not run pipelines through electrical enclosures or above switch gear distribution boards or the like.
- Insulation allowance: Provide space around pipelines to fit insulation without compression.

#### 641 PIPELINE FIXING

- Fixing: Secure and neatly with the minimum number of joints, bends, and offsets.
- Joints, bends, and offsets: Minimize.
- Pipeline support: Prevent strain, e.g. from the operation of taps or valves.
  - Pipe O.D (mm): 15 and 22, Horizontal (mm): 1200, Vertical (mm): 1800.
  - Pipe O.D (mm): 28 and 35, Horizontal (mm): 1800, Vertical (mm): 2400.
  - Pipe O.D (mm): 42 and 54, Horizontal (mm): 2400, Vertical (mm): 3000.
  - Provide additional supports as necessary with 150mm of connections, junctions, and changes of direction.
- Pipeline spacing: Minimum clearance to face of wall fixed pipes or pipe insulation:
  - From floor: 150mm.
  - From ceiling: 50mm.
  - From wall: 15mm.
  - Between pipes: 25mm.
  - From electrical conduit, cables etc: 150mm.
- Drains and vents: Fix pipelines to falls. Fit draining taps at low points and vents at high points.
- Thermal expansion and contraction: Allow for thermal movement of pipelines. Isolate from structure. Prevent noise or abrasion of pipelines caused by movement. Sleeve pipelines



- passing through walls, floors, or other building elements.
- Dirt, insects, or rodents: Prevent ingress.

#### 650 JOINTS IN COPPER PIPELINES

- Preparation: Cut pipes square. Remove burrs.
- Joints: Neat, clean, and fully sealed. Install pipe ends into joint fittings to full depth.
- Bends: Do not use formed bends on exposed pipework, except for small offsets. Form changes of direction with radius fittings.
- Adaptors for connecting dissimilar materials: Purpose designed.
- Substrate and plastics pipes and fittings: Do not damage, e.g. by heat when forming soldered joints.
- Flux residue: Clean off.

#### 660 JOINTS IN THERMOPLASTICS PIPELINES

- Fittings and accessories for joints: Purpose designed.
- Preparation: Cut pipes square. Remove burrs.
- Joints: Neat, clean, and fully sealed. Install pipe ends into joint fittings to full depth.
- Compression fittings: Do not overtighten.

#### 663 INSULATION TO PIPELINES

- In accordance with the Water Supply (Water Fittings) Regulations 1999. Specifically schedule 2, section 3, paragraphs G4.4 to G4.13 inclusive and R4.4 to R4.12 inclusive of the water regulations guide.
  - Material: Preformed flexible closed cell or mineral fibre split tube with thermal conductivity not exceeding 0.045W/mk.
  - Hot water pipelines: Equal to the outside diameter of the pipe up to a maximum of 40mm.
  - Cold water pipelines: Internal: 25mm, Roof space: 32mm, External: 38mm.
  - Fire performance: Class 1 spread of flame when tested to BS 476: Part 7.
  - Fit insulation to cold water pipelines in un-insulated spaces.
  - Notwithstanding the requirements of BS 6700, clause 2.3, fit insulation to hot water pipelines in all locations other than short lengths in prominent positions adjacent to appliances.
  - Fix securely and neatly in accordance with manufacturers recommendations, ensuring continuity over fittings and at supports, leaving no gaps and with the split on the 'blind' side of the pipeline.
  - Do not fit insulation until completion of testing.
- All pipelines to be insulated within unheated spaces.
- When a new appliance is installed then the insulation to the pipework must comply with Approved Document L1B: Existing Dwellings, Table 20.
  - Especially in relation to pipework under the boiler.

#### 664 MASKING PLATES

- Location: Where new and existing pipework pass through walls.

#### 665 STADIUM VENT REMOVAL

- Remove any stadium vents that are still installed when carrying out any improvement works within the property (all departments).
  - Remove all sections of the stadium vent, including all fixtures and fittings.
  - Make good the external brickwork to match the existing. If an alternative finish is present, consult the project manager for instruction.
  - Cavity to be insulated to tie in with the existing insulation, ensuring a consistent thermal barrier.
  - Make good internal plasterwork and decoration. Project manager to clarify the extent of the decoration during the resident visit / consultation.

666 GAS PIPEWORK IN BOXING

- The contractor shall make due provision for replacing all existing gas services within floors with a service installed within the ceiling space and ventilated boxing. The boxing shall be ventilated by using H'A'FELE ventilation trims at 1 metre intervals.

667 HEATING PIPEWORK IN BOXING

- Pipe boxing to be installed to all visible vertical pipework runs as standard.
- Horizontal boxing: Not included as standard.
  - No horizontal pipework at skirting level will be boxed in. Boxing should only be included if there is a specific requirement / circumstance, but 'must' be agreed and approved with the project manager in advance.
  - All high-level horizontal pipework should be concealed within the building fabric where possible. Any visible pipework requirements should be discussed with the project manager at the earliest possible opportunity for approval, with pipe boxing included as agreed.
- Manufacturer: Talon (similar or approved).
  - Product Reference: Pipe Cover.
  - Material: Extruded, white PVCu.
  - Standards: To ISO9001:2015, ISO14001:2015.
  - Compatibility: Must be compatible with both copper and thermoplastic pipework.
  - Accessories: Include for all fixtures and fittings as required.
  - Lengths and size selected to suit site requirements.

668 WORK TO CHIMNEY STACKS

- Any works, which may interfere with the safe operation of any gas appliances, then any affected appliance must be dis-connected prior to any works starting. Following completion of work, all affected appliances must be re-commissioned by a fully qualified gas engineer. All work must conform to Safety in the Installation and Use of Gas Systems and Appliances 1998.
- Where the chimney stack is shared with a private resident, Thirteen Group has a responsibility to check the chamber for any loose debris that may have fallen down the chimney stack. Any problems relating to gas appliances would have to be actioned in the normal format within the gas regulations and an explanation of the action taken, given to the resident. Also, a party wall act license agreement is required to be signed by the resident before commencement of works on site.
- Should it be necessary to condemn any appliance it is essential that the client is made aware of the situation.
- Work to chimney stacks when removing gas fire – Internally.
  - All chimney flues / openings to be bricked / blocked up.
  - Remove all gas fires, associated fittings, and pipework.
  - Make good wall as agreed between thirteen and resident.
  - Remove CO detector in living room if there is no longer a gas appliance present.
- Ventilation of chimney breast:
  - Provide and install an air brick to base of chimney breast immediately above skirting board level.
    - Position the air brick to the centre of the chimney breast at the front.
    - If the resident indicates an obstruction would be present or a new resident own suite / surround may be installed, position the air brick to the centre of the chimney breast at the side. This must be approved by thirteens site manager prior to proceeding.
  - For aesthetic purposes cover the air brick using a decorative white plastic grill with louvre vents and insect mesh.
  - Provide and install clay 'Pepper pot' Chimney Flue Roof Terminals or C-Cap Chimney Cowls to ventilate the stack whilst ensuring watertightness.
- Asbestos requirements: Contact the Asbestos Team to arrange for an asbestos survey to be carried out to the opening behind the fire when a gas fire or back boiler is being

removed as this would not have been checked whilst the services were live. No work to start until the appropriate survey is in place.

## COMPLETION

### 911 TESTING

- Standard: All equipment shall be tested for correct operation and commissioned to BS 5449 and to the boiler manufacturers recommendations.
- Contractor to ensure that the engineer is training by the manufacturer on the correct installation.
- Test results and commissioning certificates shall be submitted on the appropriate forms prior to practical completion, including:
  - Commissioning certificate and logbook.
  - Results of in-line cleansing to confirm that the correct concentration of inhibitor is in the system.
  - Installation gas certificate.
  - NICEIC approved certificate.

### 912 SYSTEM BALANCING

- System to be balanced in order to achieve the correct differential temperatures.

### 921 SETTING TO WORK AND COMMISSIONING

- Equipment: Check and adjust operation of equipment, controls, and safety devices.
- Outlets: Check operation of outlets for satisfactory rate of flow and temperature.
- Cleansing and corrosion proofing:
  - The whole of the new heating installation shall be thoroughly flushed out with Adey Magnaclean flushing kit in accordance with the manufacturer's instructions (see clause 308).
  - Upon refilling the system, Adey Magnaclean inhibitor shall be added in accordance with the manufacturers recommendations (see clause 308).
  - Dosage rates of cleaner and corrosion proofer shall be as recommended by the manufacturer.
  - Adey protector to be included with all newly installed heating systems.
- Carry out water test as per clause 306 (boiler).
- If any contaminated water samples are discovered the contractor shall re-flush, fit inhibitor, and re-test at no cost to Thirteen Group.

### 922 SYSTEM OPERATING PARAMETERS

- The system shall operate within the manufacturers parameters.

### 923 EMISSIONS AND COMBUSTION

- Following commission of the boiler, the combustion shall be checked to ensure that the carbon monoxide level shall be no more than 0.1% on a dry, air free basis, as defined by BS EN 297, when the boiler is operating at its normal maximum working temperature.

### 930 TESTING GAS PIPELINES

- Testing and purging: To BS 6891.

### 940 DOCUMENTATION

- Manufacturers' operating and maintenance instructions: Submit for equipment and controls.
- System operating and maintenance instructions: Submit for the system as a whole giving optimum settings for controls.
- Record drawings: Submit drawings showing the location of circuits and operating controls.

950 LABELS

- Valve labels: Provide labels on isolating and regulating valves on primary circuits, stating their function.

955 AS BUILT DRAWINGS

- Contractor to provide as built drawings to the client for all property types on completion on scheme.

U

Ventilation/Air conditioning systems

## U90 General ventilation - domestic

To be read with Preliminaries/ General conditions.

### GENERAL

- 100 DEMOLITIONS AND ALTERATIONS Kitchen and Bathroom
- Remove existing fan, including external grille and rigid ducting. Make good wall around the ventilation hole as required to receive new unit.
  - Utilise existing hole unless informed otherwise by the project team.
- 105 INFORMATION PROVISION
- EnviroVent Limited to provide the resident, receiving a new ventilation product with a leaflet detailing the following information:
    - What the EnviroVent product is.
    - Why we need to install it.
    - How the ventilation product works.
    - How the ventilation product operates and how much it costs.
  - EnviroVent Limited and Thirteen Group project team must ensure the resident fully understands all of the information provided.

### PRODUCTS

- 414 VENTILATION FAN UNITS Kitchen
- Manufacturer: EnviroVent Limited.
  - Product: Filterless Infinity Extractor Fan - 230V
    - Rating: IPX4.
    - Reference: EFHT2S. With EFWAK wall installation kit.
    - Continuous running 2-speed filterless extract fan with Intellitrac technology and integral humidity tracking system to enable the fan to automatically increase and decrease speed in direct correlation with indoor relative humidity and occupancy levels.
    - Fan to have a double helix expansion chamber and cyclone technology to assist the unrestricted flow of moisture laden contaminated air from the room to the atmosphere with quiet running and a pull cord to boost for odour control.
    - Fan to have a 'hall effect' magnet to isolate the fan when the front cover is removed for cleaning.
  - Standard: To BS EN 3456.
  - Fitted in accordance with the regulations and to BS: 60335.
  - Fan should consume no more than 26 watts on boost speed (60 l/s) and 2 watts on trickle (15 l/s).
  - Fan to be wall mounted as standard. Ceiling mounting to be available if required.
  - Common ducts shall not be used, and each dwelling shall be ventilated individually to outside air with unobtrusive draught free grilles incorporating weather protection and fly screen.
  - No return shutters shall be incorporated at fan positions.
  - Guarantee: 7 years repeatable.
  - Quantity: 1no.
  - Additional information:
    - Fans to duct through external wall as standard. Contractor to seek approval from client prior to terminating fan through ceiling.
    - 100mm rigid ducting through wall to be included.
    - 155mm x 155mm square, 100mm round connection external grille to be included.

415 VENTILATION FAN UNITS Bathroom

- Manufacturer: EnviroVent Limited.
- Product: Filterless Infinity Extractor Fan - SELV.
  - Rating: IPX4.
  - Reference: EFHT2S. With EFWAK wall installation kit.
  - Supplied with a streamline SELV (safety extra low voltage) fused spur unit.
  - Continuous running 2-speed filterless extract fan with Intellitrac technology and integral humidity tracking system to enable the fan to automatically increase and decrease speed in direct correlation with indoor relative humidity and occupancy levels.
  - Fan to have a double helix expansion chamber and cyclone technology to assist the unrestricted flow of moisture laden contaminated air from the room to the atmosphere with quiet running and a pull cord to boost for odour control.
  - Fan to have a 'hall effect' magnet to isolate the fan when the front cover is removed for cleaning.
- Standard: To BS EN 3456,
- Fitted in accordance with the regulations and to BS: 60335.
- Fan should consume no more than 8 watts on boost speed (35 l/s) and 1 watt on trickle (15l/s).
- Fan to be wall mounted as standard. Ceiling mounting to be available if required.
- Common ducts shall not be used, and each dwelling shall be ventilated individually to outside air with unobtrusive draught free grilles incorporating weather protection and fly screen.
- Guarantee: 7 years repeatable.
- Quantity: 1no.
- Additional information:
  - Fans to duct through external wall as standard. Contractor to seek approval from client prior to terminating fan through ceiling.
  - 100mm rigid ducting through wall to be included.
  - 155mm x 155mm square, 100mm round connection external grille to be included.

416 VENTILATION FAN UNITS Space Restricted Installs Only

- Note: •This fan must only to be used when there are space restrictions within the bathroom and kitchen and the knob will not take the larger Infinity fan. At no stage should they be utilised on a standard installation with no space restrictions, Infinity fans 'must' be installed.
- Product: ECO dMEV LC
  - Rating: IPX4.
- References:
  - Kitchen: ECO dMEV HT LC (230V format).
  - Bathroom: ECO dMEV HT LC 17V (17V format).
  - With EFWAK wall installation kit.
  - The fan will run continuously on trickle and boost to maximum air volume via a humidity tracking system to enable the fan to automatically increase and decrease speed in direct correlation with indoor relative humidity and occupancy levels and a pull cord to boost for odour control.
- Standard: To BS EN 3456.
- Fitted in accordance with the regulations and to BS: 60335.
- Fan to be wall mounted as standard. Ceiling mounting to be available if required.
- Common ducts shall not be used, and each dwelling shall be ventilated individually to outside air with unobtrusive draught free grilles incorporating weather protection and fly screen.
- No return shutters shall be incorporated at fan positions.
- Guarantee: 5 years parts only.
- Quantity: 1no.
- Additional information:
  - Fans to duct through external wall as standard. Contractor to seek approval from client

- prior to terminating fan through ceiling.
- 100mm rigid ducting through wall to be included.
- 155mm x 155mm square, 100mm round connection external grille to be included.

418 WHOLE HOUSE VENTILATION FAN UNITS Positive Pressure Ventilation Unit

- Manufacturer: Environvent Limited.
- Product: PIV Loft Mounted Unit.
  - For standard installations in houses, apartments, and flats with suitable loft spaces.
  - Dimensions:
    - Loft: 404mm x 404mm x 370mm
    - Ceiling diffuser: 285mm x 285mm x 55mm depth.
  - Weight: 8.0kg.
- Standard: To BS 3456, and BBA approved.
- Ultra-low watt brushless DC motor. Suitable for use in ambient operating temperatures of -25°C to +40°C. Low noise output.
- 240v loft mounted unit.
- Air movement set to medium setting as standard of 30 litres / sec. EnviroVent to advise on required setting on assessment of property.
- Features:
  - Summer shut down: All temperatures at or above 25°C the unit will shut down to avoid hot air being delivered into the property.
  - To include an integral 520-watt intelligent low temperature comfort heater as standard. When enabled the heater will ensure that the air supplied to the dwelling does not fall below 10°C. Heater control to be optional for the resident via a switch control unit positioned within their airing cupboard (or to be confirmed on site if no airing cupboard is available). Switch to be easily identifiable for the resident and be identified with 'ANTI-CONDENSATION UNIT HEATER ENABLE' written on the switch cover.
  - Time elapsed meter to be supplied as standard for precise running information.
- Guarantee: 7-year renewable warranties.
- Quantity: 1no.
- Installation:
  - The unit must be secured firmly to the joists using cross battens for lifetime installation. Refer to full installation guide from Environvent.
  - Ensure that the provision of an electrical supply is included to power the unit.
- Additional Information:
  - Additional fans may be required within properties with additional extensions or offshots. Advice to be taken from Envirovent in such cases.
  - Envirovent site supervisor / installer to confirm if additional roof ventilation, in the form of roof vent tiles is required to ensure the unit operates correctly. If the loft space is suitably naturally ventilated, then no additional roof vents will be installed. If additional ventilation is required, then the following work will be carried out:
    - Four roof tile vents to be installed. Carefully remove four existing roof tiles, two each side and install four PVCu tile vents to match existing profile with integral 4mm insect grill. Pay particular attention to the cutting and forming of the vent through the existing under cloak. Vents to have 20-year guarantee.
- Product: PIV Wall Mounted Units.
  - For installation in apartments and flats with no loft space only. Note: Installation of these units must be agreed with the client prior to product being ordered.
  - Dimensions:
    - Loft: 380mm x 500mm x 185mm
    - Ceiling diffuser: 285mm x 285mm x 55mm depth.
  - Weight: 5.7kg.
- Standard: To BS 3456, and BBA approved.
- Ultra-low watt brushless DC motor. Suitable for use in ambient operating temperatures of -



- 25°C to +40°C. Low noise output.
- 240v wall or ceiling mounted unit.
- Air movement set to medium setting as standard of 17 litres / sec. EnviroVent to advise on required setting on assessment of property.
- Features:
  - To include an integral 500-watt intelligent low temperature comfort heater as standard. When enabled the heater will ensure that the air supplied to the dwelling does not fall below 10°C. Heater control to be optional for the resident via a switch control unit positioned within their airing cupboard (or to be confirmed on site if no airing cupboard is available). Switch to be easily identifiable for the resident and be identified with 'ANTI-CONDENSATION UNIT HEATER ENABLE' written on the switch cover.
  - Time elapsed meter to be supplied as standard for precise running information. Guarantee: 7-year renewable warranties.
  - Quantity: 1no.
  - Installation:
    - The unit must be secured firmly fixed to a suitable wall / ceiling as per instructed by the client. Refer to full installation guide from Environvent.
    - Ensure that the provision of an electrical supply is included to power the unit.
- Additional Information:
  - Additional fans may be required within properties with additional extensions or offshots. Advice to be taken from Envirovent in such cases.

## EXECUTION

### 650 INSTALLING VENTILATION FANS

- Mounting: As manufacturer's instructions.

### 670 RIGID DUCTWORK GENERALLY

- Joints: Seal. Provide a robust airtight installation.
- Support: Do not distort ductwork or reduce cross-sectional area. Do not strain joints.
- Falls: Fall away from fans, dampers and other in-line accessories.
- Sleeves: Locate where ducts pass through building fabric. Bed solidly to the surrounding construction. Leave a gap of 10-20 mm between sleeve and duct and fill completely.

### 690 SITE APPLIED INSULATION

- Location: Fit insulation to ductwork in unheated spaces.
- Installation: Fix securely. Leave no gaps. Make continuous.

## COMPLETION

### 911 COMMISSIONING

- Ventilation system: Balance airflow using methods recommended by the system manufacturer.
- Operation: Examine ductwork for leakage. Test the operation of fans, equipment, controls and sensors. Verify correct operation. Submit report.

### 920 OPERATION AND MAINTENANCE

- Operating and maintenance instructions: Submit copies of manufacturers' operating and maintenance instructions for equipment and controls.
- Tools: Supply tools for operation, maintenance and cleaning purposes, including keys for valves and vents.

V

Electrical supply/power/lighting systems

## V90 Electrical systems - domestic

To be read with Preliminaries/General conditions.

### 90 BS7671 WIRING REQUIREMENTS

ALL INSTALLATIONS SHALL BE DESIGNED AND INSTALLED IN OCCORDANCE WITH THE CURRENT ADDITION OF BS7671 WIRING REGULATIONS INCLUDING ANY AMENDMENTS.

- All other British / European Standards applicable to equipment or work detailed herewith.
- Liaise with the electricity supply company as necessary to conform or determine: The maximum demand of the installation.
- The nature of the supply, its suitability for the installation and the type of earthing arrangement.
- The location of the incoming supply.
- Space requirements for the companies' switches, fuses, and meters.
- Service all notices upon the supply authority for testing and pay all fees in connection therewith including any charges made for re-testing.
- The installation of a 100 Amp DP lockable isolator within each property is to be included in any pricing and fitted where applicable in line with safe working practices. Isolators are to be fitted by electricity distributor. Make all necessary arrangements at the earliest opportunity to ensure connection when required.
- The following documentation is to be provided on completion:
  - Full or partial rewire or additional circuits: Domestic Electrical Installation Certificate.
  - Minor addition or alteration to a single circuit that does not exceed to the provision of a new circuit: Minor Electrical Installation Works Certificate.
- All installation works to be notified as Part P compliant via either building control or an approved installer scheme (i.e., via NICEIC registration etc), and arrangements must be made for the delivery of the Part P certificate to the client.
- Regulations must comply with: Current BS 7671 Wiring Regulations, Requirements for electrical installations including any amendments.
- All contractors must take into consideration cable routing, specifically relating to cables running through thermal insulation.
- Part P of the building regulations.
- Electricity at Work Regulations - safe working practices.

### 100 MAINS AND DISTRIBUTION SYSTEMS

- Meter tails shall be PVC / PVC insulated and sheathed single core cables routing unenclosed between the meter and consumer unit.
- All meter tails over 3 metres in length must be protected via a switched fused isolator.
- All meter tails buried within the fabric of the building regardless of length require mechanical protection sufficient to prevent penetration of the cable by nails and screws etc or the meter tails may be substituted for a sufficiently sized multicore earthed armoured cable terminated at both ends by glands.
- All existing wiring and accessories shall be stripped out and removed.
- All sub-circuit cabling shall be concealed throughout with roof spaces, floors, and wall chases with the exception of wash houses, which shall be enclosed within PVCu conduit or trunking. In certain circumstances trunking may be required in flats, but approval must be given by the client prior to it being installed.
- All equipment and accessories to be installed as per manufactures instructions.

- Lighting: Generally, lighting shall be of pendants and batten lamp holders, with LED luminaires within the kitchen. All lamp holders and luminaires shall be complete with the appropriate low energy lamps. The proposed kitchen luminaire shall be positioned approximately centre of the room, after allowing for the demolition of the larder (where applicable).
- Power: General power shall comprise of socket outlets, cooker control units and heating and immersion heater circuits. Socket outlet circuits shall be wired upon the ring main principal within the kitchen utilizing switch fused spurs for all appliances and cooker ignition as required. General sockets within all properties should be radial circuits for each level incorporating two number double socket outlets behind media area within living room and four number USB socket outlets in the property as per resident request. Within all properties, the cooker circuit shall be wired from the consumer unit via a cooker control unit incorporating a socket outlet to cooker outlet to include final connections to the cooker. The cooker outlet plate is to be positioned directly behind the cooker.
- Shower circuits will not be installed as standard on property rewires. Shower circuits will only be installed where electric shower installations are identified as required, for example where existing showers are present and are being retained or for adaptation requirements.
- Special systems: Mains operated smoke alarms, heat alarms and carbon monoxide alarms.
  - All Alarms to be installed by competent persons trained via the AICO expert installer scheme.
  - All alarms fitted must be within the AICO 3000 series.
- The installation of a 100-amp DP lockable isolator within each property is to be included in any pricing and fitted where applicable in line with safe working practices. Isolators are to be fitted by electricity distributor or approved contractor. Make all necessary arrangements at the earliest opportunity to ensure connection when required.

#### 105 KITCHEN REPLACEMENT Kitchen Ring Main

- Age and condition of the existing kitchen ring main and full electrical installation 'must' be assessed when a new kitchen is highlighted for replacement. The purpose of the assessment is to determine if the kitchen ring main circuit and full electrical installation meet the anticipated lifespan of the kitchen install. If it is determined that either the kitchen ring main or electrical installation wouldn't meet the anticipated lifespan of the kitchen install, then either a new kitchen ring main or full rewire 'must' be installed as required (as per electrical systems V90). The extent of the requirements will be determined by a Thirteen Group representative at stock condition survey stage. Note that if the electrical installation doesn't meet the requirements for a rewire, then the kitchen design/layout should ideally remain the same as current layout, where possible to reduce any electrical alterations within the kitchen. Any variation on site should be reported to thirteens project manager for instruction.

### SYSTEM PERFORMANCE

#### 210 GENERAL DESIGN

- Standards: To BS 7671 and the requirements of the electricity distributor.
- Design: Complete the design and detailing of the electrical installation.
- Proposals: Submit drawings, technical information, calculations, and manufacturers' literature.

## 211 ARRANGEMENT OF CIRCUITS

- Selectivity of circuits is necessary to ensure compliance with BS 7671. At properties to be rewired arrange circuits as follows:
- Houses:
  - 100 AMP, Main switch:
    - Surge protection.
    - Cooker (32 AMP RCBO /AFDD as required).
    - Ring main kitchen (32 AMP RCBO /AFDD as required).
    - Ring main kitchen (32 AMP RCBO /AFDD as required).
    - First floors Radial (20 AMP RCBO /AFDD as required).
    - Lighting ground floor smoke detectors and heat and co detectors (6 AMP RCBO).
    - Lighting first floor (6 AMP RCBO).
    - Immersion heater (16 AMP RCBO).
    - Lighting first floor (6 AMP RCBO).
    - Radial ground floor (20 AMP RCBO /AFDD as required).
    - Heating circuit (6 AMP RCBO).
- Flats / Bungalows:
  - 100 AMP, Main switch:
    - Surge protection.
    - Cooker (32 AMP RCBO /AFDD as required).
    - Ring main kitchen (32 AMP RCBO /AFDD as required).
    - Radial - remainder (20 AMP RCBO /AFDD as required).
    - Lighting, smoke, heat, and carbon monoxide detectors (6 AMP RCBO).
    - Lighting (6 AMP RCBO).
    - Heating circuit (6 AMP RCBO).
    - Immersion heater (16 AMP RCBO).

## 212 PVC CONDUIT AND FITTINGS

- Location / use: Within wash houses and to enclose meter tails if required.
- To BS 6099: Part 1, BS 6099 Part 2 Section 2.2, and BS 4607 Parts 1 and 5: Manufacturer and reference; Mk Ega, Marshall Tufflex or Mita.
- Strength: Heavy duty.
- Size: In accordance with BS 7671 (The IET Wiring Regulations). Minimum 20mm diameter.
- Shape / colour: White round.
- Jointing: Push fit and solvent welded.
- Fittings: Manufactured.
- Mounting / support: Spacer bar saddles. Appropriate metallic fixings to be installed to avoid premature collapse in a fire as detailed in BS7671.
- Use maximum practical straight length to minimise number of joints.
- Use proprietary bends and / or junction boxes at changes of direction. Do not use elbows, tees or site formed bends without approval.
- Fix securely with boxes fixed independently of conduit.
- Form secure joints, using expansion couplings where recommended by manufacturer, and connectors at equipment, terminal fittings etc.

## 213 PVC SURFACE TRUNKING

- Location / use: Ground floor flats / wash houses.
- To BS 4678 Part 4.
- Manufacturer: Mk Electric Ega mini, Marshall Tufflex or Mita mini trunking.
- Size: In accordance with the current edition of BS 7671 (IET Wiring Regulations), including amendments.

- Fittings: Manufactured.
- Colour: White.
- Use proprietary units to form junctions and changes of direction wherever possible.

#### 214 CABLING

- Cables to be BASEC certified and of the types list below. Where not specified, select types and sizes to suit operating conditions inclusive of thermal effects due to grouping and insulation, ensuring compliance with the current edition of BS 7671 (IET Wiring Regulations), including amendments. Obtain approval before proceeding with installation.
- The minimum normal cross-sectional area of the conductors for the various circuits shall be:
  - Light, alarms and heating circuits: 1.0mm<sup>2</sup>.
  - Ring main circuits: 2.5mm.
    - Where any part of the cable runs through more than 100mm of thermal insulation, the cable should be installed in accordance with BS7671 wiring Regulations to ensure external influences / thermal effects are taken into account.
  - Radial circuits: 2.5mm.
    - Where the radial circuit is protected by a 20A protective device and the cable runs through more than 100mm of thermal insulation, the cable should be installed in accordance with BS7671 wiring Regulations to ensure external influences / thermal effects are taken into account.
  - Shower circuit: 10mm<sup>2</sup>,
    - Where any part of the cable runs through more than 100mm of thermal insulation, the cable should be appropriate with regards to the design current/current carrying capacity.
  - Cooker circuit: 6mm.
    - Where any part of the cable runs through more than 100mm of thermal insulation, the cable should be appropriate with regards to the design current/current carrying capacity.
  - Meter tails (2 lm and over): 25mm<sup>2</sup>.
- Cable selection and sizing will be calculated using BS7671. Consideration must be taken with the selection of cable sizes when wiring through loft insulation, bungalows, and top floor flats.
- Protective conductors: Earthing selection and erection methods to be taken from BS76712
- Location / use of cable:
  - Generally: PVC double insulated cable.
  - Wash house / utility rooms: PVC double insulated cable complete with manufactured accessories.

#### 281 EARTHING AND BONDING DESIGN

- Earthing, main bonding: To be selected from the appropriate table in accordance with recommendations and guidelines of the current edition of BS7671 IEE Wiring Regulations, including amendments.

#### PRODUCTS

#### 310 PRODUCTS GENERALLY

- Standard: To BS 7671.
- CE Marking: Required.

- 411 CABLES
- Standard: To BS 7671.
  - Approval: British Approvals Service for Cables (BASEC) certified.
  - Cable sizes not stated: Submit proposals and calculations.
  - All cables to be installed in accordance with BS7671 to ensure adequate support and to prevent premature collapse in the event of a fire as detailed in BS7671
- 420 PROTECTIVE CONDUCTORS
- Type: To be identified and sheathed accordingly.
- 495 METER BOX DOORS
- Location: External meter locations on domestic properties.
  - Application: New installations and repairs.
  - Manufacturer: Ritherdon.
  - Standard replacement door and frame product reference:
    - R7 Slimline.
    - R17.
    - Alternative products available to accommodate alternative site situations.
  - Material: Powder coated steel.
    - Colour: White as standard. Alternative colours must be approved by the project supervisor prior to manufacture.
  - Size: To suit existing application. Utilise manufacturers literature to determine the correct unit for the application.
  - Installation: As per manufacturer's instructions.
  - Additional: Linked to T90: 495 in heating systems.
- 516 LUMINAIRES Bathroom and DPA Bathroom
- Manufacturer: Robus.
  - Product: Golf 10W LED. Ref: R100LED-01.
    - Appearance: Circular dome.
    - Size: 330mm diameter, depth 118mm.
  - Finish:
    - Polycarbonate body with white finish.
    - Opal polycarbonate diffuser.
  - Location: Bathrooms.
    - Mounting: Ceiling mounted (as per bathroom zoning).
  - Standards: To BS EN 60598-1 and BS EN 55015.
    - IP Rating: IP65 sealed unit.
  - Installation:
    - As manufacturer's instructions.
- 581 EARTH BONDING
- Install main bonding conductors in accordance with the requirements of BS 7671 (IET Wiring Regulations). Main bonding conductors are to be installed to the point of entry to the premises of the incoming services from the consumer unit, together with other fixed metalwork in accordance with IET Wiring Regulations. Inclusive of remerging pipework where required.
  - Where there is structural steelwork to the roof space to the roof space or first floor, an earth loop is to be provided from the main cable earth point to a single point within each floor room (and roof space). The cables are to be securely fixed to the steelwork with earth straps or bolts.
  - Statement added: All main bonding conductor connections 'must' be accessible for inspection, testing, and maintenance purposes.

- Statement added: Location of main bonding conductor connections 'must' be identified via an appropriate label on the consumer unit. Where it is identified that no main bonding is required to the incoming gas service including remerging pipework an appropriate label 'must' be installed adjacent to the gas meter.

#### 586 CONSUMER UNITS Consumer Unit

- Standard: All units to comply with BS 5486 Part 13 and BS EN 60439-3.
  - The current edition of BS 7671 (IET Wiring Regulations), regulation requiring consumer units and similar switchgear assemblies in domestic premises to have a non-combustible enclosure.
  - Within domestic (household) premises, consumer units and similar switchgear assemblies shall comply with BS EN 61439-3 and have their enclosure manufactured from non-combustible material.
- Certification: To comply with the current edition of the BS7671 IET Wiring regulations and current amendments.
- RCBO / AFDD:
  - In all cases circuit breakers to have 6KA short circuit capacity with Type B characteristics to BS EN 61009 / BS EN 62606 for use in general domestic installations. Rated at 6A, 16A, 32A and 40A respectively.
- Manufacturers to be:
  - Wylex.
- All consumer units (see circuit guide):
  - Wylex.
- No live working: Isolator must be fitted prior to any work commencing.
- Guarantee: 10 years.

Protection of meter tails when using a TT earthing method:

Double insulation of tails is to be provided by the use of a proprietary gland. If this preferred gland method is not available, then protection by RCD to comply with the current edition of BS7671 IET Wiring regulations. Meter tails should also be adequately supported/ fixed throughout their run.

Surge Protection Device

- Surge protection to be installed in accordance with BS7671 IET Wiring Regulations.

#### 587 CIRCUIT PROTECTION

- Standard:
  - RCBO to BS EN 61009-1, BS EN 61009-2-1, and BS EN 61543.
  - AFDD to BS EN 62606.
- Additional: Various amp ratings required.

#### 588 ELECTRICAL ACCESSORIES The following schedule applied:

- Manufacturer:
  - All products to be Crabtree.
- Positioning
  - All accessories to be installed in accordance with the approved document Part M Section 8 of the building regulations.
- USB Sockets
  - Four double USB sockets to be included within the property. Location will be as customer / client request but must be approved by the thirteen-project manager for future proofing. Standard double sockets will be omitted to accommodate the USB socket locations.



- Bedrooms:
  - 2 x 2 gang switched sockets (see USB socket statement above).
  - 1 x 1 gang 1 way switch.
  - 1 x 1 pendant.
- Bathroom:
  - 1 x Pull switch.
  - 1 x Robus 15W LED R150LED-01.
  - 1 x 1 DP pull switch (50A) for shower provision.
- W.C:
- 1 x 1 gang 1 way switch.
  - 1 x Batten L/holder.
- Hall / Stairs:
  - 1 x 1 gang 2-way switch.
  - 1 x 2 gang 2-way switch.
  - 2 x Pendants.
  - 2 x 2 gang switched sockets.
- Kitchen:
  - 4 x 2 gang switched sockets (see USB socket statement above).
  - 1 x 1 gang 1 way switch.
  - 4 x DP switched, and engraved connection units linked to 4 x 1 gang unswitched sockets.
  - 1 x Cooker control unit incorporating 13A socket outlet.
  - 1 x Cooker connection unit.
  - 1 x Robus LED Batten 48W Ceasar Ref. RCA484015-01.
  - 1 x DP switched and engraved cooker ignition unit linked to 1 x 1 gang unswitched sockets at low level, adjacent to cooker connection unit.
- Livingroom only:
  - 4 x 2 gang switched sockets total (Minimum), ensuring 2 x 2 gang switched sockets to be positioned within the TV space (also see USB socket statement above).
  - 1 x 1 gang 1 way switch (or 2 x 1 gang 2-way switches where applicable).
  - 1 x Pendant.
- Dining room:
  - 2 x 2 gang switched sockets (see USB socket statement above).
  - 1 x 1 gang 1 way switch (or 2 x 1 gang 2-way switches where applicable)
  - 1 x Pendant.
- Living / Dining room:
  - 5 x 2 gang switched socket total (where combined room), ensuring 2 x 2 gang switched sockets to be positioned within the TV space (also see USB socket statement above).
  - 1 x 2 gang 1 way switch (or 2 x 1 gang 2-way switches where applicable).
  - 2 x Pendants.
- Utility:
  - 1 x 1 gang 1 way switch.
  - 1 x Batten L/holder.
  - 2 x 2 gang switched sockets.
- Note: 20-amp DP switches to be engraved 'APPLIANCE WATER HEATER' as appropriate.
- Guarantee: 5 years.
- The exact positions shall be agreed on site with the clerk of works / scheme assistant and tenant.
- Single unswitched socket outlets are for connection of under worktop appliances, i.e. fridges, washers, tumble dryers, freezers and dishwashers and are to be controlled via a 13 Amp Fused connection unit mounted above the proposed worktop.
- Single unswitched socket outlets and cooker outlets, to be positioned directly behind the appliance. Sufficient length to be left upon cooker final connections to allow for moving for cleaning purposes.

- A sum is to be provided for additional socket outlets and DP switches that may be required to these specified in a small number of properties. Clerk of works / scheme assistant to approve.

589 EQUIPMENT Electric Showers

Standard: BS EN 60335.

- Manufacturer and product reference:
  - For general needs use:
    - Mira Showers: Jump 8.5kW.
    - Redring: Glow 8.5kW.
  - For adaptations / specialist requirement use:
    - Mira Showers: Advance Flex 8.7kW.
    - Redring: Selectronic Premier 8.5kW.
    - Note: Alternative showers available on request and as required. Seek approval from thirteen following occupational therapist assessment.
- Certification: BEAB Approved, BEAB Care, WRAS Approved, RNIB Approved.
- Features (for adaptations):
  - Thermostatically controlled and adjustable upper temperature limiter.
  - Backlit power button and tactile number indicators with a rotary temperature adjustment for ease of use with hands or elbow.
  - High contrast visuals at critical touchpoints for easier use by the visually impaired.
  - Includes a 2m anti-twist extra-long hose and 1m easy glide slide rail.
- Quantity: 1no.
- Additional:
  - Supplied with all necessary fixtures and fittings.
  - Include for connection to the existing water services and necessary work for a complete installation.
  - Allow for new shower circuit including pull switch, fitted to existing consumer unit. Include for all builder's work involved in the routing of cables and making good as required.
    - Note that shower circuits will only be installed where electric shower installations are identified as required, for example where existing showers are present and are being retained or for adaptation requirements.
  - Installation Requirements: Installed in strict accordance with manufacturer's instructions.
  - All exposed pipework to be chrome.
  - Shower head colour: White. Thirteen Group will not supply chrome shower heads.
  - Shower to be located to suit requirements of customer, manufacturer, and water spray. If not stated otherwise showers to be positioned at a height of 1200mm (4ft) or 1500mm (5ft).
  - No other shower unit should be installed unless approval is obtained from thirteen.

597 HEAT DETECTOR kitchen

- Manufacturer: Aico Ltd.

FOR USE WHEN CARRYING OUT A FULL REWIRE TO THE PROPERTY OR WHEN THE PROPERTY IS ALREADY HARD WIRED

- Type: Hard wired with 10-year rechargeable lithium standby cells.
  - Reference: Ei3014 (3000 Series).
- Detector: The Heat Alarm shall carry the BSI Kitemark to indicate type testing to BS 5446 Pt.2:2003 for a Class A1 device. It will meet the requirements of Grade D1, as defined in BS 5839 Pt.6. It shall be CE marked to indicate conformance to BS EN 60065:1994 Low Voltage, and BS EN 50081-1:1992 and BS EN 50082-1:1992 Electromagnetic Compatibility Directives.
- Quantity: 1. To be installed in kitchen to all properties.
- Proven 10-year life expectancy, to include comprehensive 5-year guarantee.
- Hush button facility.
- Interlink all heat and smoke detectors so that if one alarm sounds all interconnected alarms sound.
- The alarms will have a means of testing, control, and interconnection compatible with existing Aico alarms and equipment be able to accept an Ei3000MRF module.
- The alarm shall be provided with an easi-fit base. All new detectors will be compatible with the easi-fit base for future replacements.
  - Note: Installer to check that easi-fit bases are already fitted as these will not need to be replaced and will receive the new detector. Old bases to be replaced when upgraded.
- The alarm shall be supplied with an anti-tamper locking device to prevent unauthorised removal of the alarm with the use of a tool.
- The alarm shall be supplied with user instructions for the resident.
- Combined CO and Heat Detector Ei3028 (3000 series) too be installed where both Heat and CO alarms are required within local proximity.

FOR USE WHEN UPGRADING EXISTING ALARMS WITH NO DEDICATED CIRCUIT OR WHERE NO REWIRE IS BEING CARRIED OUT

- Type: RadioLINK with 10-year lithium battery.
  - Reference: Ei603RF (radioLINK built in).
- Detector: The Heat Alarm shall carry the BSI Kitemark to indicate type testing to BS 5446 Pt.2:2003. It will meet the requirements of Grade F1. It shall be CE marked to indicate conformance.
- Quantity: 1. To be installed in kitchen to all properties.
- Proven 10-year life expectancy, to include comprehensive 5-year guarantee.
- Hush button facility.
- Interlink all heat and smoke detectors so that if one alarm sounds all interconnected alarms sound.
- The alarm shall be supplied with an anti-tamper locking device to prevent unauthorised removal of the alarm with the use of a tool.
- The alarm shall be supplied with user instructions for the resident.

598 SMOKE DETECTOR (Circulation Areas)

- Manufacturer: Aico Ltd.

FOR USE WHEN CARRYING OUT A FULL REWIRE TO THE PROPERTY OR WHEN THE PROPERTY IS ALREADY HARD WIRED

- Type: Hard wired optical with 10-year rechargeable lithium standby cells.
  - Reference: Ei3016 (3000 Series).
- Detector: The Smoke Alarm shall carry the BSI Kitemark to indicate type testing to BSEN14604: 2005. It will meet the requirements of Grade D1, as defined in BS 5839 Pt.6. It shall carry the CE mark to indicate conformance to Low Voltage and Electromagnetic Compatibility Directives. Proven 10-year life expectancy, to include comprehensive 5-year guarantee.
- Hush button facility.
- Interlink all smoke and heat detectors so that if one alarm sounds all interconnected alarms sound.
- The alarm shall be supplied with an anti-tamper locking device to prevent unauthorised removal of the alarm with the use of a tool.
- Alarm to have an optical (photoelectric) sensor with large volume chamber and large high sensitivity photodiode.
- The alarms will have a means of testing, control, and interconnection compatible with existing Aico alarms and equipment be able to accept an Ei3000MRF (3000 Series) module.
- The alarm shall be provided with an easi-fit base. All new detectors will be compatible with the easi-fit base for future replacements.
  - Note: Installer to check that easi-fit bases are already fitted as these will not need to be replaced and will receive the new detector. Old bases to be replaced when upgraded.
- The sensor chamber shall have an insect resistant fine mesh screen with holes 1.00mm.
- The alarm shall be supplied with user instructions for the resident.
- Quantity:
  - To be installed within hallway to bungalows and ground floor flats.
  - To be installed within hallway and landing(s) to 2 or 3 storey dwellings.

FOR USE WHEN UPGRADING EXISTING ALARMS WITH NO DEDICATED CIRCUIT OR WHERE NO REWIRE IS BEING CARRIED OUT

- Type: RadioLINK optical with 10-year lithium battery.
  - Reference: Ei650RF (radioLINK built in).
- Detector: The Smoke Alarm shall carry the BSI Kitemark to indicate type testing to DIN EN14604: 2005. It will meet the requirements of Grade F. It shall carry the CE mark to indicate conformance.
- Proven 10-year life expectancy, to include comprehensive 5-year guarantee.
- Hush button facility.
- Interlink all smoke and heat detectors so that if one alarm sounds all interconnected alarms sound.
- The alarm shall be supplied with an anti-tamper locking device to prevent unauthorised removal of the alarm with the use of a tool.
- The alarm shall be supplied with user instructions for the resident.
- Quantity:
  - To be installed within hallway to bungalows and ground floor flats.
  - To be installed within hallway and landing(s) to 2 or 3 storey dwellings.

# SMOKE / MULTI DETECTOR (Main Habitable Room)

- Manufacturer: Aico Ltd.
- Type: Hard wired optical multi-sensor with 10-year rechargeable lithium standby cells.
  - Reference: Ei3024 (3000 Series).
- Detector: The Smoke Alarm shall carry the BSI Kitemark to indicate type testing to BSEN14604: 2005. It will meet the requirements of Grade D1, as defined in BS 5839 Pt.6. It shall carry the CE mark to indicate conformance to Low Voltage and Electromagnetic Compatibility Directives.  
Proven 10-year life expectancy, to include comprehensive 5-year guarantee.
- Hush button facility.
- Interlink all smoke and heat detectors so that if one alarm sounds all interconnected alarms sound.
- The alarm shall be supplied with an anti-tamper locking device to prevent unauthorised removal of the alarm with the use of a tool.
- The alarm shall have multiple sensing elements - Optical (photoelectric) sensor with high sensitivity photodiode and welded insect resistant fine mesh screen, coupled with a fixed temperature thermistor type heat sensor. This shall enhance fire-sensing performance, when compared to single sensor alarms, whilst reducing nuisance alarms.
- AudioLINK data extraction available on all multi sensors.
- The alarms will have a means of testing, control, and interconnection compatible with existing Aico alarms and equipment be able to accept an Ei3000MRF (3000 Series) module.
- The alarm shall be provided with an easi-fit base. All new detectors will be compatible with the easi-fit base for future replacements.
  - Note: Installer to check that easi-fit bases are already fitted as these will not need to be replaced and will receive the new detector. Old bases to be replaced when upgraded.
- The sensor chamber shall have an insect resistant fine mesh screen with holes 1.00mm.
- The alarm shall be supplied with user instructions for the resident.
- Location:
  - To be installed within main habitable room (living room unless stipulated otherwise by thirteen's project-manager).
- Alternative Location as required:
  - Open plan lounge and kitchen layouts in flat refurbishments.
  - Areas which form part of the escape route when bedroom is accessed via the living space.
  - Exact details to be confirmed by thirteen's compliance team.

# 599 CARBON MONOXIDE DETECTOR

- Manufacturer: Aico Ltd.

FOR USE WHEN CARRYING OUT A FULL REWIRE TO THE PROPERTY OR WHEN THE PROPERTY IS ALREADY HARD WIRED

- Type: Hard wired with 10-year rechargeable lithium standby cells.
  - Reference: Ei3018 (3000 Series).
- Detector: The CO Alarm shall carry the BSI Kitemark to indicate type testing to BS EN 50291-1:2010 and BS EN 50291-2:2010. It shall be CE marked to indicate conformance to Low Voltage and Electromagnetic Compatibility Directives.
- Proven 10-year life expectancy, to include comprehensive 5-year guarantee.
- Interlink all CO detectors so that if one alarm sounds all interconnected alarms sound.
- The alarms will have a means of testing, control, and interconnection compatible with existing Aico alarms and equipment be able to accept an Ei3000MRF module.
- The alarm shall be provided with an easi-fit base. All new detectors will be compatible with the easi-fit base for future replacements.
  - Note: Installer to check that easi-fit bases are already fitted as these will not need to be replaced and will receive the new detector. Old bases to be replaced when upgraded.
- The alarm shall be supplied with an anti-tamper locking device to prevent unauthorised removal of the alarm with the use of a tool.

The alarm shall be supplied with user instructions for the resident.
- Quantity:
  - To be installed to all properties subject to gas appliance positions.
  - A sum is to be provided for the installation of an additional CO alarm for those locations where gas appliances are fitted in multiple rooms as indicated below:
- Combined CO and Heat Detector Ei3028 (3000 series) to be installed where both Heat and CO alarms are required within local proximity.
- Some properties have existing alarms. Where these do not comply with current specification, these shall be changed to the new type alarms as specified above, inclusive of 10-year rechargeable lithium cells. The existing wiring shall be tested prior to re-use and re-wired where necessary.
- Where properties have no existing alarms (or have Ionisation alarms), they shall be installed / upgraded as per the specification above.
- If no dedicated circuit is available, then install a radio frequency alarm as following clause:

FOR USE WHEN UPGRADING EXISTING ALARMS WITH NO DEDICATED CIRCUIT OR WHERE NO REWIRE IS BEING CARRIED OUT

- Type: RadioLINK with 10-year lithium battery.
  - Reference: Ei208W fitted as standard when one detector is required.
  - Include for radioLINK module Ei200MRF (with Ei208W) when requirement to link to other smoke, CO, or heat detectors.
- Detector: The CO Alarm shall carry the BSI Kitemark to indicate type testing to BS EN 50291-1:2010 and BS EN 50291-2:2010. It shall be CE marked to indicate conformance.
- Module: Comply with RF conformance standard EN300220-1 in accordance with EN300220-2 and EMC performance standard EN301489-1 in accordance with EN301489-3.
- Proven 10-year life expectancy, to include comprehensive 5-year guarantee.
- Interlink all CO detectors so that if one alarm sounds all interconnected alarms sound.
- The alarm shall be supplied with a tamper resistant function to prevent unauthorised removal of the alarm with the use of a tool.
- The alarm shall be supplied with user instructions for the resident.
- Quantity:
  - To be installed to all properties subject to gas appliance positions.
  - A sum is to be provided for the installation of an additional CO alarm for those locations where gas appliances are fitted in multiple rooms as indicated below:
- Where properties have no existing alarms (or have Ionisation alarms), they shall be

installed / upgraded as per the specification above. If no dedicated circuit is available, then install a radio frequency alarm.

## EXECUTION

### 600 SMOKE ALARMS / HEAT ALARMS / CARBON MONOXIDE ALARMS

- Installation:
- Smoke alarms and heat alarms shall be installed in accordance with the requirements of BS 5839 Part 6 and the manufacturer's instructions. Smoke alarms shall be mounted on a flat ceiling in circulation spaces of dwellings i.e. hallways and landings, and a heat alarm sited in the kitchen. In all cases, the siting requirements should be in accordance with manufacturer's instructions, which must be in accordance with the following guidelines:
  - A minimum distance of 300mm between the alarm and any walls, light pendants or any other object that might impede the flow of the smoke or obstruct the heat travelling to the alarm sensor.
  - No point in the protected hallways and landing area may be more than 7.5m from a smoke alarm. In flats or bungalows, smoke alarms must be sited as near as possible to the living accommodation and not more than 3m from bedroom doors. In houses, the alarms on upper floors should be not more than 3m from bedroom doors. In all cases, a smoke alarm must not be sited in a position where it will be nullified by the flow of air from Envirovent (or similar) unit.
- Heat alarms must be sited within the maximum of 5.3m from any potential source of fire in the kitchen. They should preferably be sited in the centre of the ceiling or to one side of the luminaire close to the likely source of fire.
- The CO alarms shall be installed in accordance with the requirements of BS EN 50291 Code of Practice and the manufacturer's instructions. The associated BS EN 50292 is a guide to selection, installation, use and maintenance of CO alarms and includes that statement "it is not possible to give specific guidance on the exact location of a CO detector". However, it does say that, where the CO alarm is located in the same room as the apparatus, if the CO alarm is mounted on the ceiling (the preferred position) it should be at least 300mm from any wall. There should also be 300mm between the CO alarm and any other form of obstruction e.g. a light fitting. If the CO alarm is mounted on the wall, it should be at least 150mm from the ceiling, but above the height of any door or window. Whether ceiling or wall mounted, the CO alarm should be between 1m and 3m (measured horizontally) from the potential source of the CO. The CO alarm should not be installed:
  - In an enclosed space e.g. a cupboard.
  - Where it can be obstructed e.g. by furniture.
  - Directly above a sink.
  - Next to a door, window, extractor fan, envirovent unit, air vent or similar ventilation openings.
  - Where the temperature may drop below -5°C or exceed 40°C
- An assessment of each property needs to be carried out prior to any installation work to determine the number of and the position of CO detectors. If there is more than one appliance, you should risk assess the priority area when deciding where best to put the detectors but always in rooms containing a flueless or open flued heating appliance. Note: If a gas appliance, i.e. boiler, is situated in a bedroom cupboard, an alarm should be installed in the adjacent bedroom.
- Any rooms where the gas appliance has been removed should also have the CO detector removed to stop unnecessary call out for repair.
- Wiring (if applicable):
- The alarms should be wired in a minimum 1.0mm<sup>2</sup> PVC/PVC cable. The mains supply should be taken from a spare way at DB or a convenient regularly used lighting circuit. Avoid using a circuit that has inductive loads on it, i.e. fluorescent lighting, this can cause

- beeping of the alarms to occur and could mean costly callouts to resolve the problem
- Wiring should be installed in accordance with the installation details above. All cable entry holes must be sealed with mastic or other approved material. All smoke alarms should be preferably wired on one final circuit, i.e. to the ground floor or the first floor lighting circuits. An interconnecting 3 core and earth cable shall be run between all smoke and heat alarms. If unable to interconnect via a 3 core and earth cable, then authorisation to utilise a radio link from the client is required.

Where an additional CO detector has been installed, an interconnecting 3 core and earth cable shall be run between the CO alarms. However where not practicable, RF modules to be used.

- All installations shall conform to the IEE Wiring Regulations BS 7671.

#### 611 ELECTRICAL INSTALLATIONS GENERALLY

- Standard: To BS 7671. By fully qualified electricians.
- Fastenings, bushes, glands, terminals, connectors, clips, clamps, and all other minor accessories necessary to complete the installation to be types recommended for the purpose by relevant equipment, accessories manufacturer.
- In locations where moisture is present or may occur, use corrosion resisting fasteners and avoid contact between dissimilar metals.
- All metal back boxes to be connected to the earth terminal of the accessory and have rubber grommets installed in cable entries.
- Include for making good of all damage caused during the process of works, including repairs to flooring, walls, and ceilings.
- Clean dust sheets must be provided and used where practical.
- Builders work: comply with relevant building regulations and restrictions on cutting of holes, chases, notches, and methods of attachment to the building fabric.

#### 631 INSTALLING CONNECTION TO INCOMING SUPPLY

- Main switchboard/ distribution board: Connect to main incoming metering equipment.
- 100 Amp Double Pole isolator to be installed.

#### 634 ELECTRIC METER RELOCATION / ADDITION Access Requirements

- When a meter is relocated or added then paving should be included to access the meter. Contractor to supply a run of 600mm x 900mm paving slabs, laid end to end (path 600mm wide) to suit the layout of the property and location of the meter.

#### 801 CABLE ROUTES

- Cables generally: Conceal entirely. If cables cannot be concealed, then contractor is to seek advice from the client.
  - Concealed cable runs to wall switches and outlets: Align vertically with the accessory.
- Exposed cable runs: Submit proposals.
  - Orientation: Straight, vertical and/ or horizontal and parallel to walls.
- Distance from other services running parallel: 150 mm minimum.
  - Heating pipes: Position cables below.
- Locations in walls: horizontal runs, if unavoidable, to be located within 150mm of the ceiling or between 150 and 300mm of the floor.
- Cables under floors: They shall be passed through holes drilled in the neutral axis of the joists where possible, but in no case shall the hole be less than 50mm from the top or bottom of the joist. Notching of joists will not be permitted.



#### 808 INSTALLING CABLES

- General: Install cables neatly and securely. Protect against accidental damage, adverse environmental conditions, mechanical stress, and deleterious substances.
- Timing: Do not start internal cabling until building enclosure provides permanently dry conditions.
- Jointing: At equipment and terminal fittings only. Do not use junction boxes without approval.
- Cables passing through walls: Sleeve with conduit bushed at both ends and install fire stopping as required.
- Cables surrounded or covered by insulation: Do not run in spaces where they will be surrounded or covered by insulation. Where this is not practical, i.e. in loft spaces, size accordingly.
- Fixing of all cables to be in accordance with BS7671 to reduce the risk of premature collapse in event of a fire.

#### 809 PROTECTIVE CONDUCTORS

- Use cable conductors throughout, do not use conduit or trunking as protective conductors.

#### 811 INSTALLING CABLES IN PLASTER

- Protection: Cover with oval conduit channel nailed to substrate.

#### 813 INSTALLING CABLES IN ACCESSIBLE ROOF SPACES

- Cables running across ceiling joists: Fix to timber battens which are nailed to joists.

#### 826 INSTALLING PVC SHEATHED CABLE

- Temperature: Do not install cables if ambient temperature is below 5°C.
- Do not install in cavities of masonry walls.
- Fit insulating cable glands at entries to equipment.
- Terminate cable sheaths within suitable enclosures.

#### 845 FINAL CONNECTIONS

- Size: Determine.
- Cable: Heat resisting white flex.
- Length: Allow for equipment removal and maintenance.

#### 849 FIXING ELECTRICAL ACCESSORIES / EQUIPMENT

- Position accurately and square to vertical and horizontal axes and align adjacent accessories on the same vertical or horizontal axis as appropriate.
- Accessories / equipment are to be installed at the following heights above finished floor level and must comply with the requirements of the Building Regulations Approved Document M, section 8:
  - Light switches: 450mm minimum / 1200mm maximum (1200 preferred).
  - Socket outlets: 450mm minimum / 1200mm maximum (450 preferred). Ensure outlets are positioned a minimum of 300mm from the corner of the room.
  - Socket outlets: 225mm above / below worktop height to centre of back box (kitchen).
  - DP switch: 450mm minimum / 1200mm maximum (focal fire point - 450 preferred).
  - DP switch: 450mm minimum / 1200mm maximum (immersion heater - 1200 preferred).
  - DP switch: 225mm above worktop height (kitchen) to centre of back box.
  - Heating thermostat: 1450mm.
  - Heating time clock: 450mm minimum / 1200mm maximum.
  - Cooker unit: 225mm above worktop height to centre of back box.
- All switches above worktop.
- Any deviation to the above positions due to exceptional circumstances which would result in unnecessary damage to a property or decoration, must be prior agreed on site with the supervising officer / scheme assistant and the tenant.
-

#### 850 INSTALLING MULTIGANG SWITCHES: Kitchen Only

- For use where it is identified that there is insufficient space to install individual switched fuse spurs for appliances. These situations must be reported at the earliest possible opportunity and permission 'must' be obtained from thirteen's project manager to install a multi-gang switch.
- General: Connect switches so that there is a logical relationship with luminaire positions. Fit blanks to unused switch spaces.
- Segregation: Internally segregate each phase with phase barriers and warning plates.

#### 860 INSTALLING LUMINAIRES

- Location: Kitchen.
- Orientation: Parallel with ceiling.
- Supports: Adequate for weight of luminaire.

#### 890 LABELLING

- Identification and notices:
  - Standards: To BS 5499-5 and BS 5378-2.
  - Equipment: Label when a voltage exceeding 230 V is present.
- Distribution boards and consumer units: Card circuit chart within a reusable clear plastic cover. Fit to the inside of each unit. Include typed information identifying the outgoing circuit references, their device rating, cable type, size, circuit location and details. Label each outgoing way corresponding to the circuit chart.
- Sub-main cables: Label at both ends with proprietary cable marker sleeves.

#### 895 ENGRAVING

- Metal and plastic accessories: Engrave, indicating their purpose.
- Emergency lighting test key switches: Describe their function.
- Multi-gang light switches: Describe the luminaire arrangement.

### COMPLETION

#### 910 FINAL FIX

- Accessory faceplates, luminaires, and other equipment: Fit after completion of building painting.

#### 915 CLEANING

- Electrical equipment: Clean immediately before handover.
- Equipment not supplied but installed and electrically connected: Clean immediately before handover.

#### 920 INSPECTION AND TESTING GENERALLY

- Standard: To BS 7671.
- Notice before commencing tests (minimum): 24 hours.
- Labels and signs: Fix securely before system is tested.
- Inspection and completion certificates: Submit.
  - Number of copies: Provide NICEIC certificate.

#### 921 TESTING AND COMMISSIONING OF ALARMS

- After installation all alarms are to be tested for correct operation on both mains and stand-by power supplies. A record of the test must be made using the 'Fire detection system for dwellings certificate (BS 5839 Part 6), which is to be provided to the client.

#### 990 DOCUMENTATION

- Timing: Submit at practical completion.
- Contents:

- Full technical description of each system installed.
- Manufacturer's operating and maintenance instructions for fittings and apparatus.
- Manufacturer's guarantees and warranties.
- As-installed drawings showing circuits and their ratings and locations of fittings and apparatus.
- List of normal consumable items.

Z

Building fabric reference specification

## Z10 Purpose made joinery

To be read with Preliminaries/ General conditions.

### 110 FABRICATION

- Standard: To BS 1186-2.
- Sections: Accurate in profile and length, and free from twist and bowing. Formed out of solid unless shown otherwise.
  - Machined surfaces: Smooth and free from tearing, wooliness, chip bruising and other machining defects.
- Joints: Tight and close fitting.
- Assembled components: Rigid. Free from distortion.
- Screws: Provide pilot holes.
  - Screws of 8 gauge (4 mm diameter) or more and screws into hardwood: Provide clearance holes.
  - Countersink screws: Heads sunk at least 2 mm below surfaces visible in completed work.
  - Adhesives: Compatible with wood preservatives applied and end uses of timber.

### 120 CROSS SECTION DIMENSIONS OF TIMBER

- General: Dimensions on drawings are finished sizes.
- Maximum permitted deviations from finished sizes:
  - Softwood sections: To BS EN 1313-1:-
    - Clause 6 for sawn sections.
    - Clause NA.2 for further processed sections.
  - Hardwood sections: To BS EN 1313-2:-
    - Clause 6 for sawn sections.
    - Clause NA.3 for further processed sections.

### 130 PRESERVATIVE TREATED WOOD

- Cutting and machining: Completed as far as possible before treatment.
- Extensively processed timber: Retreat timber sawn lengthways, thickened, planed, ploughed, etc.
- Surfaces exposed by minor cutting and/ or drilling: Treat as recommended by main treatment solution manufacturer.

### 140 MOISTURE CONTENT

- Wood and wood-based products: Maintained within range specified for the component during manufacture and storage.

### 250 FINISHING

- Surfaces: Smooth, even, and suitable to receive finishes.
  - Arrises: Eased unless shown otherwise on drawings.
- End grain in external components: Sealed with primer or sealer as section M60 and allowed to dry before assembly.

## Z11 Purpose made metalwork

To be read with Preliminaries/ General conditions.

### PRODUCTS

#### 310 MATERIALS GENERALLY

- Grades of metals, section dimensions and properties: To appropriate British Standards. When not specified, select grades and sections appropriate for the purpose.
- Prefinished metal: May be used if methods of fabrication do not damage or alter appearance of finish, and finish is adequately protected.
- Fasteners: To appropriate British Standards and, unless specified otherwise, of same metal as component being fastened, with matching coating or finish.

### FABRICATION

#### 515 FABRICATION GENERALLY

- Contact between dissimilar metals in components: Avoid.
- Finished components: Rigid and free from distortion, cracks, burrs and sharp arrises.
  - Moving parts: Free moving without binding.
- Corner junctions of identical sections: Mitre.

### FINISHING

#### 745 PREPARATION FOR APPLICATION OF COATINGS

- General: Complete fabrication, and drill fixing holes before applying coatings.
- Paint, grease, flux, rust, burrs and sharp arrises: Remove.

## Z20 Fixings and adhesives

To be read with Preliminaries/ General conditions.

### PRODUCTS

- 300 FASTENERS SCREWS
  - Manufacturer: Travis Perkins.
  - Reference: 4Trade.
  - Type and size: To suit application.
  - Finish: Zinc plated or stainless steel to suit application.
  - Under no circumstances must site personnel be issued alternative branded screws without prior approval from their manager.
- 304 FASTENERS Nails
  - Manufacturer: Travis Perkins.
  - Reference: 4Trade.
  - Type and size: To suit application.
  - Finish: Galvanised steel.
  - Under no circumstances must site personnel be issued alternative branded nails without prior approval from their manager.
- 305 PLUGS FOR SCREWS
  - Manufacturer: Rawlplug.
  - Reference: Uno (similar or approved).
  - Supplier: Travis Perkins.
  - Type and size: General purpose to suit application.
  - Specialist plugs available on request.
  - Finish: Plastic
  - Under no circumstances must site personnel be issued alternative plugs without prior approval from their manager.
- 307 ADHESIVES TILE BEDDING
  - Manufacturer: Travis Perkins.
  - Reference: 4Trade waterproof adhesive
  - Pack size: 10L (alternative pack size available if required).
  - Colour: White.
  - For internal use on kitchen and bathroom walls for ceramic wall tiling.
  - Non-slip and mould resistant.
  - Under no circumstances must site personnel be issued alternative tile adhesive without prior approval from their manager.
- 308 GROUT TILING
  - Manufacturer: Travis Perkins.
  - Reference: 4Trade mould proof wall tile grout.
  - Pack size: 5kg (2kg available if required).
  - Colour: White.
  - To BS EN 13888
  - For internal use on kitchen and bathroom walls for ceramic wall tiling.
  - Water resistant and mould resistant.
  - Under no circumstances must site personnel be issued alternative tile adhesive without prior approval from their manager.
- 310 FASTENERS GENERALLY
  - Materials: To have:

- Bimetallic corrosion resistance appropriate to items being fixed.
- Atmospheric corrosion resistance appropriate to fixing location.
- Appearance: Submit samples on request.

#### 320 PACKINGS

- Materials: Noncompressible, corrosion proof.
- Area of packings: Sufficient to transfer loads.

#### 340 MASONRY FIXINGS

- Light duty: Plugs and screws.
- Heavy duty: Expansion anchors or chemical anchors.

#### 350 PLUGS

- Type: Proprietary types to suit substrate, loads to be supported and conditions expected in use.

#### 390 ADHESIVES GENERALLY

- Standards:
  - Hot-setting phenolic and aminoplastic: To BS 1203.
  - Thermosetting wood adhesives: To BS EN 12765.
  - Polyvinyl acetate thermoplastic adhesive: To BS 4071.

### EXECUTION

#### 610 FIXING GENERALLY

- Integrity of supported components: Select types, sizes, quantities and spacings of fixings, fasteners, and packings to retain supported components without distortion or loss of support.
- Components, substrates, fixings, and fasteners of dissimilar metals: Isolate with washers/ sleeves to avoid bimetallic corrosion.
- Appearance: Fixings to be in straight lines at regular centres.

#### 620 FIXING THROUGH FINISHES

- Penetration of fasteners and plugs into substrate: To achieve a secure fixing.

#### 630 FIXING PACKINGS

- Function: To take up tolerances and prevent distortion of materials and components.
- Limits: Do not use packings beyond thicknesses recommended by fixings and fasteners manufacturer.
- Locations: Not within zones to be filled with sealant.

#### 640 FIXING CRAMPS

- Cramp positions: Maximum 150 mm from each end of frame sections and at 600 mm maximum centres.
- Fasteners: Fix cramps to frames with screws of same material as cramps.
- Fixings in masonry work: Fully bed in mortar.

#### 670 PELLETTED COUNTERSUNK SCREW FIXING

- Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
- Pellets: Cut from matching timber, match grain and glue into full depth of hole.
- Finished level of pellets: Flush with surface.



680 PLUGGED COUNTERSUNK SCREW FIXING

- Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
- Plugs: Glue into full depth of hole.
- Finished level of plugs: Projecting above surface.

700 APPLYING ADHESIVES

- Surfaces: Clean. Adjust regularity and texture to suit bonding and gap filling characteristics of adhesive.
- Support and clamping during setting: Provide as necessary. Do not mark surfaces of or distort components being fixed.
- Finished adhesive joints: Fully bonded. Free of surplus adhesive.

## Z21 Mortars

To be read with Preliminaries/ General conditions.

### CEMENT GAUGED MORTARS

- 100 CEMENT
  - Manufacturer: Blue Circle.
  - Reference: Chosen to suit application.
  - Supplier: Travis Perkins.
  - Type and use: To suit application.
  - Size: 20kg or 25kg to suit type required.
  - To have waterproof bag for on-site longevity.
  - Under no circumstances must site personnel use alternative cement brands without prior approval from their manager.
  
- 102 SAND FOR MORTAR
  - Supplier: Travis Perkins.
  - To be sourced from a local supplier through Travis Perkins near to the scheme it is to be used on.
  - Size: Prepacked trade pack and bulk bag available to suit application.
  - Type: To suit application.
  - Under no circumstances must site personnel obtain products from an alternative source unless prior approval from their manager.
  
- 103 AGGREGATE FOR MORTAR
  - Manufacturer: Travis Perkins.
  - To be sourced from a local supplier through Travis Perkins near to the scheme it is to be used on.
  - Size: Prepacked trade pack and bulk bag available to suit application.
  - Type: To suit application.
  - Under no circumstances must site personnel obtain products from an alternative source unless prior approval from their manager.
  
- 104 ADMIXTURE FOR MORTAR
  - Manufacturer: Travis Perkins.
  - Product reference: 4Trade mortar plasticiser.
    - Mortar plasticiser power 2.5kg.
    - Mortar plasticiser liquid 5L.
  - Under no circumstances must site personnel use alternative plasticiser without prior approval from their manager.
  
- 120 SAND FOR SITE MADE CEMENT GAUGED MASONRY MORTARS
  - Standard: To BS EN 13139.
  - Grading: 0/2 (FP or MP).
    - Fines content where the proportion of sand in a mortar mix is specified as a range (e.g. 1:1: 5-6):
      - Lower proportion of sand: Use category 3 fines.
      - Higher proportion of sand: Use category 2 fines.
  - Sand for facework mortar: Maintain consistent colour and texture. Obtain from one source.
  
- 160 CEMENTS FOR MORTARS
  - Cement: To BS EN 197-1 and CE marked.
    - Types:
      - Portland cement, CEM I.
      - Portland limestone cement, CEM II/A-L or CEM II/A-LL.

Portland slag cement, CEM II/B-S.  
Portland fly ash cement, CEM II/B-V.

- Strength class: 32.5, 42.5 or 52.5.
- White cement: To BS EN 197-1 and CE marked.
  - Type: Portland cement, CEM I.
  - Strength class: 52.5.
- Sulphate resisting Portland cement:
  - Types: To BS EN 197-1 Sulphate resisting Portland cement, CEM I/SR and CE marked.  
To BS EN 197-1 fly ash cement, CEM II/B-V and CE marked.
  - Strength class: 32.5, 42.5 or 52.5.
- Masonry cement: To BS EN 413-1 and CE marked.
  - Class: MC 12.5.

#### 180 ADMIXTURES FOR SITE MADE CEMENT GAUGED MORTARS

- Air entraining (plasticizing) admixtures: To BS EN 934-3 and compatible with other mortar constituents.
- Other admixtures: Submit proposals.
- Prohibited admixtures: Calcium chloride, ethylene glycol and any admixture containing calcium chloride.

#### 210 MAKING CEMENT GAUGED MORTARS

- Batching: By volume. Use clean and accurate gauge boxes or buckets.
  - Mix proportions: Based on dry sand. Allow for bulking of damp sand.
- Mixing: Mix materials thoroughly to uniform consistency, free from lumps.
  - Mortars containing air entraining admixtures: Mix mechanically. Do not overmix.
- Working time (maximum): Two hours at normal temperatures.
- Contamination: Prevent intermixing with other materials.

## Z22 Sealants

To be read with Preliminaries/General conditions.

### PRODUCTS

#### 311 JOINTS INTERNAL USE

- Primer, backing strip, bond breaker: Types recommended by sealant manufacturer.
- Manufacturer: Travis Perkins.
  - Reference:
    - 4Trade General Purpose for general applications.
    - 4Trade Sanitary waterproof sealant for use in moist applications.
  - Type: Low modulus neutral cure, mould resistant.
  - Size: 310ml and 380ml available.
  - Colour: White or clear to suit application.

#### 312 JOINTS EXTERNAL USE

- Primer, backing strip, bond breaker: Types recommended by sealant manufacturer.
- Manufacturer: Dow Corning.
  - Reference: As per recommended by manufacturer for application.
  - Type: Low modulus neutral cure.
  - Size: 310ml and 380ml available.
  - Colour: To suit application.

#### 320 FILLER

- Manufacturer: British Gypsum.
  - Reference: Gyproc Easi-fill.
- Supplier: Travis Perkins.
- Type: To suit application. Powder and ready-mix products available.
  - Gyproc Easi-Fill, Gyproc Easi-Fill 45, Gyproc Easi-Fill 20, Gyproc Easi-Filler, Gyproc Easi-Filler Ready Mix.
  - Size: 1kg, 5kg, 10kg dependant on product selection.

#### 325 CAULK DECORATION

- Manufacturer: Travis Perkins
  - Reference: 4Trade.
- Type: Decorators caulk cartridge.
  - Size: 310ml and 380ml available.
- Under no circumstances must site personnel use alternative caulk without prior approval from their manager.

### EXECUTION

#### 610 SUITABILITY OF JOINTS

- Pre-sealing checks:
  - Joint dimensions: Within limits specified for the sealant.
  - Substrate quality: Surfaces regular, undamaged, and stable.
- Joints not fit to receive sealant: Submit proposals for rectification.

#### 620 PREPARING JOINTS

- Surfaces to which sealant must adhere:
  - Remove temporary coatings, tapes, loosely adhering material, dust, oil, grease, surface water and contaminants that may affect bond.
  - Clean using materials and methods recommended by sealant manufacturer.
- Vulnerable surfaces adjacent to joints: Mask to prevent staining or smearing with primer or

sealant.

- Backing strip and/ or bond breaker installation: Insert into joint to correct depth, without stretching or twisting, leaving no gaps.
- Protection: Keep joints clean and protect from damage until sealant is applied.

#### 630 APPLYING SEALANTS

- Substrate: Dry (unless recommended otherwise) and unaffected by frost, ice or snow.
- Environmental conditions: Do not dry or raise temperature of joints by heating.
- Sealant application: Fill joints completely and neatly, ensuring firm adhesion to substrates.
- Sealant profiles:
  - Butt and lap joints: Slightly concave.
  - Fillet joints: Flat or slightly convex.
- Protection: Protect finished joints from contamination or damage until sealant has cured.