



## PLUMBING & HEATING

### TRADE SPECIFICATION

#### GENERAL

- a) **BDW Trading Limited**  
Barratt Homes and David Wilson Homes are trading names of BDW Trading Limited “the Company”.

- b) **Clearing**  
The Contractor is responsible for clearing up and safe removal of waste materials arising from execution of the Works, as part of this Trade Specification.

The Contractors attention is particularly drawn to the sections below which, state where waste materials must be removed as work progresses, ensuring that all waste materials have been removed following the completion of the works and taken to waste segregation area for sorting by subcontractor.

Failure to comply with this requirement resulting in the Company’s labour performing this task will result in contra charges.

- c) **Contract Conditions**  
The Contractors attention is drawn to the Company’s Conditions of Contract and General Terms.

- d) **Defective Workmanship**  
All defects, resulting from poor workmanship by the Contractor or, by the Contractor not carrying out the Works in accordance with this Trade Specification and the Governing Documents listed below, are to be remedied by the Contractor at no extra cost to the Company.

Failure by the Contractor to carry out this contractual obligation, resulting in an alternative Contractor being instructed to carry out such remedial work, will incur the Contractor with the cost thereof.

- e) **Distribution**  
Contractors should be aware that the Company operates a national supply chain agreement with:



For all heating, plumbing and sanitary ware products including; all above ground drainage, plastic plumbing, shower doors, shower trays, shower valves, all brassware, solar hot water (panels and cylinders), radiators and all Kingspan solar products:

**PTS Ltd**

Unit 4 Deacon Industrial Estate  
Forstal Road  
Aylesford  
Kent  
ME20 7SP

**Plumb Center (Wolseley UK)**

Harrison Way  
Leamington SPA  
Warwickshire  
CV31 3HH

**Graham Plumbers Merchants**

Bromford Central  
Bromford Rd  
Birmingham  
West Midlands  
B8 2SE

It is mandatory that all plumbing and heating materials are only procured through these merchants.

f) **Governing Documents**

The documents below must be used for reference in compliance with the Company's standard working drawings and construction best practice guide. The Contractor is to ensure that all current versions are followed.

All works must conform to NHBC 'Buildmark' and Local Authority requirements and good accepted working practice (BS5449, BS5670 and BS5440) at time of tender.

All works to be carried out in accordance with current building regulations, to the satisfaction of the Local Water Authority, Gas and Electricity Boards.

All gas fired boiler flue installations need to be in accordance with manufacturer's installation instructions, gas safe bulletin 0008 and the Company's method statement BF1000 – installation & guidance relating to extended flue systems.

All pumps, motors, boilers and cylinders installed must be A-rated in accordance with the Energy Using Product (EuP) directive and EU legislation.

All works to be carried out in accordance with water supply (water fittings) regulations 1999 section 73 (1) outlines the requirement of any property to prevent any system which causes or is likely to cause contamination from being connected to a water supply.



g) **Group Suppliers**

The Contractor should be aware that the Company operates National Commodity Agreement with a number of nominated suppliers, as listed below. It is the Contractors responsibility to ensure that these agreements are adhered to. Failure to do so may lead to the Company making a claim from the Contractor for any loss of rebate.

For all above and below ground drainage, all hot and cold water plumping pipework and all fittings:

**Polypipe Ltd**

Broomhouse lane  
Edlington  
Doncaster  
DN12 1ES

For all radiator valves and thermostatic mixing valves distributed through PTS & Plumb Center:

**Pegler Ltd**

St. Catherine's Avenue  
Doncaster,  
South Yorkshire,  
DN4 8DF

For all radiators, distributed through PTS & Plumb Center:

**Ideal Stelrad**

Stelrad House  
Marriott Road  
Mexborough  
S64 8BN

For all boilers, distributed through PTS, Plumb Center:

**Ideal Heating**

PO Box 103  
National Avenue  
Kingston upon Hull  
East Yorkshire  
HU5 4JN

For sink tops fitted to Barratt and David Wilson Homes units, distributed through PTS & Plumb Center or direct from the Kitchen unit manufacturer.

**Carron Phoenix (Franke UK Ltd)**

West Park  
MIOC  
Styal Road  
Manchester  
M22 5WB

For Cylinders fitted to all Divisions distributed through PTS and Plumb Center:

**Range Cylinders**

Tadman Street  
Wakefield  
West Yorkshire  
WF1 5QU

For Shower Doors and Trays:

**Merlyn Industries UK Ltd**

Ashton House  
471 Silbury Boulevard  
Central Milton Keynes  
MK9 2AH



For Shower Valves

**Aqualisa Products Ltd**

The Flyers Way  
Westerham  
Kent  
TN16 1DE

For all Waste Water Heat Recovery  
devices attached to Thermostatic Showers:

**Recoup Energy Solutions Ltd**

PO Box 365  
Eye  
Suffolk  
IP22 9BH

For Bathroom Taps fitted to Barratt Homes  
units only:

**Bristan Group Limited**

Birch Coppice Business Park  
Dordon  
Tamworth  
Staffordshire  
B78 1SG

For Bathroom Taps fitted to David Wilson  
units Only:

**Ideal Standard**

The Bathroom Works  
National Avenue  
Hull  
NU5 4HS

For Sanitary Ware fitted to Barratt Homes  
units Only:

**Twyford**

Lawton Road  
Alsager  
Stoke-on-Trent  
ST7 2DF

For Sanitary Ware fitted to David Wilson  
Homes units Only:

**Ideal Standard**

The Bathroom Works  
National Avenue  
Hull  
NU5 4HS

For Cleaning and Commissioning  
Products:

**Adey Innovation Limited**

UK Head Office  
Gloucester Road  
Cheltenham  
GL51 8NR

No other manufacturer's products are to be specified unless otherwise stated in the enquiry letter.

h) **Health & Safety**

All operatives are to be inducted on site in accordance with Barratt Health and Safety Policy.

It is the responsibility of the contractor to provide their own PPE equipment which must be worn at all times while on site.

All operatives are to be in possession of a valid CSCS Card.

No 240v tools are allowed on site.

The Contractor **MUST** provide relevant Health and Safety, Plumbing Risk Assessments, Method Statement and relevant COSHH sheets.

All Contractors **MUST** be registered with 'Gas Safe Register', hold individual 'Gas Safe Register' ID cards and hold current ACOPS/ACS Gas Safety training, in the relevant elements. Proof of this **must** be supplied with the quotation and prior to any order/contract being placed, this will be demonstrated by:

- Copy of current Gas Safe Register individual operatives ID cards
- Copies of current Assessment Certificates in relevant elements i.e. CCN1, CEN1 etc.
- City & guilds 6084 or equal energy efficiency certificates (operatives).

i) **Materials**

It is the Contractor's responsibility for checking materials delivered directly to site for any damage, colour variation and correct quantities prior to unloading. Should significant quantities of damaged materials be identified, these must be reported to the supplier before accepting the consignment.

The Contractor is responsible for unloading, protecting and safe storing all of their own materials to avoid damage and surface contamination.

The Contractor must ensure that all materials are satisfactory for use and have not been subject to deterioration and confirm to the relevant BSS, if applicable or Agrément Certificates, NHBC and Local Authority requirements. Failure resulting from the Contractor using unsuitable or damaged materials will result in the Contractor being liable for any costs in rectifying the same.

j) **Manufacturers Products**

The Contractor must make themselves aware of Manufacturer's products and fixing instructions at the tendering stage as no claim for want of knowledge will be entertained. All technical issues must be resolved before work commences on site.

k) **Site Condition**

The Contractor is to examine the drawings, visit the site in order to ascertain position of site office, compound, electricity and water supplies.

Accessibility may vary depending on the location, soil type, weather conditions and such like. These factors must be taken into consideration at tender stage as no claims will be entertained for additional costs due to adverse site conditions.

l) **Sub-Contractor**

The Contractor must not further sub-contract any part of the Works to another Contractor without the prior knowledge and written approval of the Company.

It is essential that the Contractor liaises with all other trades associated with the Works to ensure the sub-structure is installed correctly and appropriately prior to work being carried out, including but not limited to:

**Roof Tiler**

The Contractor is to provide lead or lead replacement soakers and flashing for vent tiles for fixing by the Roof Tile Contractor. The Contractor must also liaise with the Roof Tile Contractor to provide the correct fixing kits for installation from soil pipe to vent tile.

**Electrician**

The Contractor must ensure the wiring is located appropriately for the heating programmer and heating control units.

The Contractor should also work in conjunction with the Electrical Contractor to ensure wiring only element of the installation works of the electrical shower is completed as necessary.

**Kitchen Supplier**

The Contractor is to review kitchen layouts prior to installing pipework to avoid clashes with fixings for kitchen units.

**1. QUOTATION**

- 1.1 The Contractor is required to submit a fully inclusive lump sum price per House Type, Revision and Specification all in accordance with the House Type working drawings, heating design layouts, kitchen layouts and sanitary ware specification as noted in the specification of finishes enclosed with the tender enquiry.
- 1.2 The Contractor is to specifically advise the Company of his inclusions and exclusions. Failure to do so will result in non-payment of associated works / variations. Assume full compliance with specification contained herein.
- 1.3 The Contractor is to review all drawings thoroughly as part of the tender pack to ensure they fully understand the requirements therein and ensure compliance with this Trade Specification. Any queries should be taken up with the Surveying department prior to submitting the quotation for completing the Works.
- 1.4 In all flat/apartment projects, suitable fire sleeves between floors must be provided to soil and vent pipes.
- 1.5 Where an 'unvented' Hot Water system is required in accordance with the heating consultants design, all operatives MUST receive the relevant assessment in 'Unvented HW Storage Systems'. A copy of their Certificate of Achievement MUST be supplied with the quotation and prior to any order/contract being placed.



- 1.6 The Contractor is to ensure that suitable fire protection is provided by the site manager when hot work is to take place. Always ensure when the hot work has been undertaken that the area is inspected one hour after. The Contractor must obtain a “Hot Works” permit from the site agent prior to commencement.
- 1.7 The Company will provide free of charge the following: -
- Shared welfare facilities
  - Water for the works
  - Use of scaffolding whilst erected
  - **110V** power, where available, within the compound (No **240V** power tools to be used).
- 1.8 The Contractor is responsible for the safe storage of all goods supplied by them. Title (and Insurance liability) will not be transferred until goods are fixed.
- 1.9 The Contractor is responsible for all builders work required such as the forming of holes etc. This work must be carried out using a core drill back drilled to avoid damage to face brickwork, decking drilled from both sides to avoid end-grain tear-out.
- 1.10 All Timber / Engineered Joists must be notched in accordance with NHBC requirements or, manufacturer’s instructions.
- 1.11 All sanitary ware to be installed to manufactures specification and compliant with Part M.
- 1.12 Housing specification levels are listed as follows:
- (i) Barratt Homes:  
**President**  
**Embassy**  
**Ambassador**  
**Statesman**
  - (ii) David Wilson Homes:  
**A1**  
**A2**  
**A3**
  - (iii) Apartment specification levels are:  
**F1**
- 1.13 The Contractor is to allow for refixing sanitary ware, after fixing of tiling. The sanitary ware must be fixed level.
- 1.14 All outside taps are to be fitted with a stop tap and a double check valve located inside the building as per specification.
- 1.15 The Contractor is to allow for the supplying and fitting sink tops as per specification and nominated supplier noted above.



- 1.16 The Contractor is to allow for the supply and installation of Electric showers in accordance with the housing specification and nominated supplier noted above.
- 1.17 All services are to be tested and certificates issued in accordance with the requirements of current building regulations and NHBC.
- 1.18 **All works must be completed by a Gas Safe Register registered person and must comply with the Company's Gas Policy and procedures manual.**

## **2. BOILER AND FLUE**

- 2.1 Design of the house or apartment's boiler installation and the flue installation with gas meter location and gas pipework sizing **MUST** be undertaken by a qualified consultant or by the boiler manufacturer, carried out to reflect the appliance proposed. Note: a combination boiler requires more gas than a system boiler with a hot water cylinder; therefore the gas pipework size is to be increased accordingly. Ventilation of the appliance and gas installation will be incorporated in the design, preventing remedial action after installation has been completed and adequate ventilation has not been provided.
- 2.2 Any changes to the design must be proposed back to the designer for checking and confirmation that the changes proposed do not affect the safe working of the appliance and its flue, prior to any installation taking place.
- 2.3 Supply and fix boiler in accordance with BS5440, part 1 2008, BS5440 part 2 2004 and the Company's preferred supplier(s), listed in the enquiry letter, complete with fanned or balanced flue as required in accordance with the current building regulations and as detailed on the heating consultant design drawings.
- 2.4 Boiler location to be positioned as close to the external wall as possible to reduce flue run and risk of flue failure.
- 2.5 If boiler is positioned within the garage, a pipe and frost stat must be installed.
- 2.6 Position of balanced flue to be not less than 300mm from any opening and in accordance with Approved Document J1 and British Gas guidelines and in accordance with manufacturer's instructions.
- 2.7 Where flue terminal is within 850mm of a gutter or 450mm of a painted eaves a 750mm long aluminium shield must be fitted to the gutter/eaves underside.
- 2.8 Holes for boiler flue in masonry constructed walls must be core drilled, Cavity wall insulation material to be neatly cut back to clear boiler flue by min. 25mm. Opening cut in timber frame for a flue must be min 75mm bigger than balanced flue size.
- 2.9 Boiler flue chimneys must be sealed into walls using the manufacturers internal seal provided. A weather collar must be installed externally sealed to the wall with sand and cement to seal the chimney to the fabric of the building and prevent ingress of weather and combustion products.



2.10 Air for combustion should always be taken from the external of the building envelope, in the same way the flue terminal exhausts products of combustion.

### 3. CARBON MONOXIDE ALARMS

3.1 A Carbon Monoxide Alarms must be installed in all properties where a gas appliance is installed.

3.2 A national commodity agreement is in place with **Wolseley UK Ltd**. The product specified in this agreement is the Honeywell Analytics SF450EN CO Detector trade box X-Series XC70-EN-C Carbon Monoxide Alarm battery operated unit or where specified for use in Housing Association units Honeywell Analytics X-Series XC100-EN-C Carbon Monoxide Alarm battery operated unit. No other product or supplier is to be used unless expressly instructed to do so by the Group Procurement department.

3.3 Alarms must not be located:

- In an enclosed space, i.e. cupboard
- Directly above a sink
- Next to a door or window
- Next to an extract fan or vent
- In a damp or humid location
- In the immediate vicinity of a cooking appliance.

3.4 Alarms must be fixed:

- 1 - 3m horizontally from the appliance
- 150mm vertically down from the ceiling
- Above the height of any doors.
- Within any room where a concealed flue in a void travels to an outside wall.

### 4. CENTRAL HEATING SYSTEM PIPEWORK

4.1 Supply and fix full gas fired central heating in accordance with the heating consultant design drawings, current building regulations, NHBC, BS 5449: PART 1 and appropriate Manufacturers instruction. All systems to be as specified on relevant heating design drawings.

4.2 Supply and fix hot and cold water system in compliance with the Water Byelaws, Local Water Authority, BS 6700 and NHBC requirements.

4.3 The Company's specified heating pipe work system can be either **Polyfit or Polyplumb by Polypipe** push-fit plumbing and heating system. No variation from this is permitted without written consent from the Company.



- 4.4 For this type of installation the manufacturer's recommendations / instructions are to be strictly adhered to. The Contractor is deemed to fully acquaint all employees and operatives with working practices and procedures necessary to supply and fix plastic plumbing and provide whatever training is necessary. Care should be taken with regard to post installation system testing. Each installation is to be pressure tested to the manufacturer's installation instructions, and must be witnessed by the Site Manager. Copies of all Certificates must be left in the site office for reference.
- 4.5 It is important that the Contractor ensures that all pipe-work runs can be detected at a later date via metal detector and should install some form of metallic sheathing to aid detection.
- 4.6 Flux utilised in copper pipe installations must not come into contact with plastic pipe work or fittings due to the corrosive effect. Adequate protection must be used when using flux in the vicinity of plastic pipe work.
- 4.7 Pipe work must be adequately supported in accordance with manufacturers installation instructions installed to BS5955-8 (plastic Pipework standards for installation).
- 4.8 Plastic pipe work must be sleeved through metal partitions and block work holes.
- 4.9 Manifolds must be located as per the design drawing
- 4.10 Pipe must not be taped or fixed to Soil and vent pipe but must be have separate clips to the wall or boxing frame.
- 4.11 Straight lengths of plastic pipe are preferred to coils.
- 4.12 Where lubricant is required only the manufacturer's (**Polypipe**) spray lubricant is to be used.
- 4.13 All pipes are to be run neatly and as unobtrusively as possible, utilising service ducts where provided.
- 4.14 All exposed pipe work shall be run in approved positions; every precaution is to be taken to reduce the incidence of freezing. All pipe work in cold areas to be insulated to current building regulations.
- 4.15 All pipe ends are to be covered at all times during installation to avoid ingress of deleterious material and safety.
- 4.16 Flow and return pipes to radiators can be installed in copper if so desired. These must exit the wall at the centre of the radiator and must be fitted with a Manthorpe radiator pipe guide and seal GRS or in the case of solid ply stud walls the Manthorpe face fix pipe guide and seal GRS-FF is to be used.



## 5. CHASED PIPEWORK

- 5.1 The Contractor is to allow within the quotation for chasing all gas pipes and all other pipes greater than 15mm into blockwork walls.
- 5.2 Chasing must be vertical (not horizontal or diagonal) to all gas appliances from the ceiling to exit point of the wall in one continuous line.
- 5.3 Chasing depth is to be no greater than 25mm.
- 5.4 All gas pipes must be manufactured yellow/orange plastic coated copper pipe. All other copper pipes are to be wrapped in PVC tape to prevent deterioration of the pipe from the covering sand/cement mix.
- 5.5 The Contractor must then cover the wrapped pipe with a strong sand/cement mix (3:1:1 soft sand: sharp sand: cement) ensuring that the mix does not come into contact with the pipe or fitting.
- 5.6 Chasing on either side of the wall must be avoided and should not be within 500mm of the chased pipe on the opposing wall.
- 5.7 The Contractor must limit the operative's exposure to silica dust during the chasing process by;
- (i) The use of a specially adapted grinder or chaser with on-tool extraction. The extraction unit must be a minimum of M class extraction including all filters and collection bags.
  - (ii) All operatives must wear a FFP3 disposable mask or half face respirator with a P3 filter. All operatives involved in the work must be face fit tested and records made available to site management.

## 6. CONTROLS

- 6.1 The Contractor is to provide all heating controls, cylinder thermostats and motorised valves, to the heating system, in accordance with EuP/ErP legislation and the Company's preferred manufacturers listed in the section below headed Schedule of Materials.
- 6.2 The Contractor is to supply only, zone thermostats, to two heating zones as specified on the heating consultant design drawings, in readiness to be fitted by the Electrician as a part of the Contractors tender package.
- 6.3 The heating controls must provide independent control of central heating and hot water. The programmer must have 2 on and 2 off functions for a 24-hour period as well as an independent manual control (zones are indicated on all the Company's working drawings).

## 7. FLEXIBLE FILLING LOOPS

- 7.1 Flexible filling loops that feed the expansion vessel, as detailed on the heating consultant design drawings, must be installed to the current Water Regulations requirement.



- 7.2 The short length of flexible pipe must be disconnected from both ends and handed over to the client with heating instructions.
- 7.3 To avoid accidental spillage in the cupboard, the stop valve should have a cap fitted over the open end.

## 8. GAS PIPEWORK

- 8.1 All work on gas fittings including the installation of any pipework must be undertaken by a person who is a Gas Safe Registered Engineer and is deemed competent for the type of installation being undertaken.
- 8.2 Supply and fix copper gas service points for gas hobs, gas cookers (if applicable), gas fires/open fireplaces (if applicable) and boiler positions. Only copper tube to EN 1057 is permitted for use with gas installations jointed using capillary or compression fittings to EN 1254. Compression fittings must only be used where they are readily accessible for tightening and inspection. All joints must be kept to a minimum.
- 8.3 Gas pipes in England and Wales in traditional masonry housing must be installed in intermediate timber house floors (not compartment floors) providing that the following precautions are taken:-
- (i) I-beam timber joists must be either cleanly drilled or knock-out panels within the center of the joist used to accommodate the gas pipes. The Contractor is to provide hair-felt, wrapped around the pipe, through the joist void to prevent pipe noise.
  - (ii) Gas pipes installed parallel to joists must be supported adequately.
  - (iii) Pipes running parallel to I-beams should be clipped utilising the side of the I-beam.
- 8.4 Gas pipes in blockwork walls must be chased vertically (not horizontally or diagonally), from the ceiling to exit point of the wall in accordance with the requirements noted in the **CHASED PIPEWORK** section above.
- 8.5 A gap of 25mm must be maintained between the gas pipe and other services and a minimum distance of 150mm from electricity meter boxes and fuse boxes.
- 8.6 All gas pipes must be sleeved where it passes through solid walls. The gap between the gas pipe and sleeve should be left open on the external end to allow gas to escape to atmosphere in the event of a leak within the sleeve. It is not permitted for gas pipes to be laid in ground floor screed or a concrete floor slab in traditional masonry housing. Where gas pipes are specified to be installed in concrete plank flooring to apartment structures, these must be specified and approved by the structural engineer.
- 8.7 Pipework in 3 storey houses is to be routed through garage (ventilated) where provided and up into living room / kitchen if possible.



- 8.8 All gas points are to be protected against dust or debris entering them, prior to full connection, by the fitting of compression blanking caps. All gas service installations are to be tested for gas tightness before the meter is connected in accordance with the latest Gas Safety (Installation and Use) Regulations. Further tests must be undertaken once the meter is connected and the installation purged into the ground. 1<sup>st</sup> fix Gas test certificates are to be handed to site agent.
- 8.9 The gas carcass should be sized in accordance with the latest Gas Safety (Installation and Use) Regulations and manufacturer's installation instructions.
- 8.10 Gas isolating valves are to be accessible and suitably labelled at all times in accordance with the latest Gas Safety (Installation and Use) Regulations, for kitchen appliances (hobs and ovens) they should be positioned in a suitable, adjacent, cupboard unit and not directly behind the appliance.
- 8.11 All gas pipework in common areas within flats / apartments shall be in medium black steel screwed pipework and ventilated in accordance with the latest Gas Safety (Installation and Use) Regulations and IGE/G/5 requirements. Where flats / apartments are constructed in timber framed structures, all gas pipework in common areas shall be installed in accordance with IGE/UP/7.

## **9. GUTTERS AND RAIN WATER PIPES**

- 9.1 Supply and fix guttering, to fascia board (or if no fascia, to the eaves using proprietary "rise and fall" brackets) together with rainwater pipes to the positions shown on the construction drawings, colour as specified.
- 9.2 Guttering at high level to be fixed prior to the scaffolding being dropped. If necessary temporary rainwater pipes must be fixed to prevent saturation of the external walls.
- 9.3 Ensure adequate numbers of brackets are used to fix downpipes to walls to ensure they are fitted vertically against the wall, the only exception to this being the first 0.5m, which may be angled from the gutter connection.
- 9.4 All rainwater downpipes are to terminate into the relevant drain connections, refer to site drainage layout for exact positions. Care must also be taken to ensure downpipes are installed vertically above the relevant drain connection with no exception.
- 9.5 All installations to be in accordance with manufacturer's instructions.
- 9.6 All Gutter brackets to be installed at 600mm centres maximum.
- 9.7 With the exception of Barratt Homes Sovereign range and David Wilson Homes A1 range. All houses are to be fitted with 100mm approved section UPVc rainwater gutters to discharge into 63mm dia. downpipes (maximum roof area 37m<sup>2</sup> per outlet).
- 9.8 Barratt Homes Sovereign range and David Wilson Homes A1 range houses are to be fitted with 115mm approved section or 'Deepflow' or equivalent capacity UPVc rainwater gutters to discharge into 63mm dia. downpipes (maximum roof area 53m<sup>2</sup> per outlet).



9.9 The Contractor is to position the manufacturers' name printed on the down-pipe facing the house wall.

## 10. HEATING EXPANSION VESSELS

10.1 A pressure relief & discharge valve/pipe must be installed in accordance with current building regulations and manufacturers installations instructions to ensure that the stored hot water does not exceed 100° C all in accordance with G3 building regulations.

## 11. HOT AND COLD PIPEWORK

11.1 Pipework within the floor void is to be either **Polyfit or Polyplumb by Polypipe** push-fit plumbing and heating system. All push-fit pipework is to be completed as part of the first fix installation and must be tested as described in **TESTING & COMMISSIONING** section of this specification.

11.2 The Contractor is to chase, vertically or horizontally (not diagonally), 18mm pipes into blockwork walls, from the ceiling to exit point of the wall.

11.3 All hot and cold water pipework drops to kitchen, utility rooms, cloakrooms and ground floor shower rooms must be in copper pipe-work. Additionally, feeds to bathrooms, shower-rooms, all pipe-work within airing cupboards and roof spaces, must also be in Copper pipe-work connected within the ceiling void at first fix stage. All connections at second fix stage must also to be in copper to prevent joint failure.

11.4 Pipe drops must be a minimum 300mm away from window/door reveals.

11.5 All copper pipework in roof voids/ room-in-roof bathrooms must be jointed using compression fittings, no soldering must be completed in these areas due to the risk of fire.

11.6 Copper Pipe used must be to BS EN1057R250. All compression fittings (where used) are to be DZR or Gunmetal. All capillary fittings to be soldered using lead free solder and Non-Acid fluxes. All float-operated valves are to be connected using service valves. Where any copper pipe work penetrates the walls or ceiling they should be covered using white plastic circular Flamco cover plates. All pipe work in notched joists must be laid in hair-felt insulation.

11.7 The first 1.0m primary flow and return from the boiler **MUST** be in copper. At the boiler position the gas and condense pipes are to be placed behind the Drylining. No pipe work is to be visible around the finished boiler except the primary flow and return at the top, which must be neat and tidy without excessive visible pipe work.

11.8 All pipe work within the airing cupboard and roof voids must be insulated in accordance with current building regulations.

11.9 Copper pipe work must be sleeved through metal partitions and block work holes.

11.10 Pipes must not be taped or fixed to Soil and vent pipe but must be have separate clips to the wall or boxing frame. Fixing of pipe work runs must be with suitable clips in accordance with manufacturer's guidelines.



- 11.11 Hot & cold pipes for washbasins and cold pipe to WC cisterns, should be hidden in the wall and then exit the wall as high as possible and finished with a cover plate to minimize exposed pipework.
- 11.12 All service pipes to appliances should be fitted with a Pegler ballofix isolation valve 1581ZA; reference code 13111 with Pegler flow restrictor; reference code 13779 – 13782 depending on the flow rate required for the appliance.
- 11.13 All pipe ends are to be covered at all times during installation to avoid ingress of deleterious material and safety.

## **12. INSULATION**

- 12.1 All pipe-work in unheated areas, such as roof spaces, garages, floor voids and airing cupboards, is to be fully insulated to current building regulations.
- 12.2 Fire-stops to be provided where fire resisting walls and floors are perforated by holes for pipes, ducting and flues.

## **13. LEADWORK**

- 13.1 Supply and fix (Code 4) lead flashing to chimney, chimney bottoms / internal aprons, bay tops, bottoms of fibreglass valleys, porches, dormers (refer to working drawing), garage abutments and also as indicated on the working drawings. Please indicate in the tender qualifications whether lead cheeks have been allowed for.
- 13.2 All lead flashing, lengths, laps and dressing to installed to NHBC standards 7.2
- 13.3 All lead is to be cleaned and oiled upon completion with Patanation Oil.
- 13.4 The Contractor is to work off suitably provided working platforms when fitting lead flashing, all in accordance with latest HSE Guidelines.
- 13.5 The Contractor must provide lead or lead replacement soakers for fixing by Roof Tiler.

## **14. RADIATORS**

- 14.1 Supply and fix radiators in accordance with the Company's preferred supplier(s), listed above unless otherwise noted in the enquiry letter, to the sizes shown on the heating consultant design drawings. All radiators must be fixed in accordance with Manufacturers installation instructions in positions shown.
- 14.2 All ground floor radiators are to be fitted with a lock shield drain off radiator valve and/or Thermostatic/Wheel head valve as shown on the heating consultant design drawings. TRV's can be fitted vertically or horizontally depending on space issues encountered. All other radiators are to be fitted with a lock shield valve and/or Thermostatic/Wheel head valve, again as shown on the heating consultant design drawings.
- 14.3 Allow for touching up of all scratches and damage. Where any copper or plastic pipe-work penetrates the walls they should be covered using white plastic circular Flamco cover plates.

- 14.4 Where elbows are used they must be recessed into the wall as necessary to allow flush fitting of the cover plate.
- 14.5 Where radiator brackets have been fitted prior to tiling, these must be removed (by the Plumber) before tiling commences and refitted (by the Plumber) following completion.

## **15. RETURNS PROCEDURE**

- 15.1 The Contractor must notify the supplying branch of any item the needs to be returned due to damage or manufacturing fault to raise a collection note for the faulty items using the original delivery address, plot no. and contractor order ref (for reconciliation purposes both businesses).
- 15.2 Once the faulty items is received back at the supplying branch, the collection note creates a credit for the contractor and a supplier returns note.
- 15.3 The supplier returns note will capture the history of the product; i.e. Contractor, date supplied, address, and the Company's contract number, this will then be collected by the manufacturer for inspection and credit to the merchant.
- 15.4 Where a minor fault occurs within an occupied dwelling, faulty items are to be reviewed for immediate replacement if possible as noted above. Where a fault occurs with a serviceable item, such as a hot water cylinder or boiler, the Contractor should request that the manufacturer attends the plot to repair or provide a replacement part, to be sent directly to the contractor.
- 15.5 For installed items that have failed and that have caused damage or require additional work with an associated cost to replace; the manufacturer would be expected to visit, as compensation may be applicable. In this instance the manufacturer should be invited to inspect the installation, damage caused and additional associated cost for replacement works by all trades, i.e. replacing a faulty shower tray could impact on tiling, new door or water damage to the ceiling/room below.
- 15.6 The information that the returns note captures, will enable reports to be generated on specific manufacturer/products, Contractors or sites and feedback to be assessed by the Company.

## **16. SHOWER TRAYS, VALVES AND SCREENS**

- 16.1 Shower trays are to be installed directly onto the chipboard floor. Alternatively, where the shower tray is being installed onto a concrete floor, the installer must ensure that the area where the shower tray is being installed is of good firm construction and free from debris. The shower tray is to be laid on lines of silicone mastic, crossing the floor area – under the location of the tray, to a depth of approximately 20mm, ensuring that the tray is securely fixed in place once the mastic has set.
- 16.2 All shower valves are to be installed on the sidewalls of cubicles with a fixing bracket, this must be used without exception.
- 16.3 All shower screens (even where these are supplied by the Company) are to be fixed so that the shower valve can be accessed easily at the end where the door opens.



## **17. SOIL AND VENTILATION PIPES**

- 17.1 Supply and fix 110mm diameter Solvent Weld soil pipe, internally or externally – where indicated on the working drawings, and fittings to all bathrooms and En-Suite shower rooms as required. Ventilation pipes to terminate at vented tile above roof level - colour as specified, alternatively they can be terminated with AAV, however these must be set above roof insulation or provided with ventilation if in a boxing.
- 17.2 All pipe connectors to tile / vent terminals are to be supplied by the roofing Contractor.
- 17.3 All soil pipe to be installed in accordance with NHBC and manufacturers installation instructions.
- 17.4 Felt isolating packs must be used where soil and vent pipes touch any timber.
- 17.5 The locations of rodding access points are to be provided at 3 storey intervals or less and above the spillover levels of appliances as per approved document H.

## **18. TEMPERATURE REQUIREMENTS**

- 18.1 All details as specified on the heating consultant design drawings.

## **19. TESTING & COMMISSIONING**

- 19.1 The completed installation is to be fully tested and left in working order after commissioning in accordance with the heating consultant design drawings, manufacturer's instructions all in accordance with G3 building regulations. Proportional balancing is required to all radiators and towel rails to give simultaneous heating throughout.

All systems to be flushed using approved cleaner and refilled with approved inhibitor added upon completion in accordance with the products noted in the **SCHEDULE OF MATERIALS** section.

- 19.2 Allow for one cold flush and one hot flush.
- 19.3 After testing an allowance should be made for draining down and refilling to site requirements, to prevent the incidence of freezing.
- 19.4 All work to be carried out in line with the 'Benchmark' code of practice. Log books are to be completed and signed by the Contractor and left with the site manager upon completion of the testing phase, or supplied to the Regional office to the Commercial Director/Manager. Individual operatives license numbers as well as the company's registration numbers must be included in the benchmark.
- 19.5 Ensure that safety testing and examination of gas appliances meet the requirements of the Gas Safety (Installation and Use) Regulations. In particular so far as reasonably practicable, to ensure that all appliances operate safely and the following minimum checks are undertaken.
- (i) The effectiveness of the flue – including a full visual examination of fixings, joints and installation in accordance with the manufacturer's installation requirements.



- (ii) The supply of combustion air.
- (iii) The appliance operating pressure or heat input or wherever possible both.
- (iv) The appliance operation so as to ensure its safe functioning.

19.6 Gas Boilers must be tested for the level of CO in the chimney/flue gases and the combustion ratio using electronic combustion gas analyser (often known as a flue gas analyser). The measured CO level and combustion ratio must then be recorded on the appropriate commissioning documentation i.e. Benchmark Commissioning Checklist supplied with every boiler sold in the UK.

19.7 Where Solar Panels are fitted as part of the finishing specification; installation of glycol and commissioning must not take place until one week prior to the legal completion of the property. In periods of hot weather, this period may need to be reduced to two days prior to legal completion to avoid deterioration of the glycol where there is no use of the pump to circulate the glycol for long periods of time; thus damaging the system and rendering it un-operational.

19.8 Testing documentation (must be left on site).

- First-fix Gas Carcass tightness test certificate,
- First-fix Hot, Cold & Heating pressure test certificates (witnessed by the site manager),
- First fix soil stack test certificate,
- Boiler commissioning certificate,
- Second-fix Gas tightness test certificate,
- Final inspection commissioning form,
- Gas hob commissioning form,
- Gas fire commissioning form,
- Benchmark booklet,
- Unvented cylinder benchmark.

19.9 In accordance with regulation 20 of the Building Regulations 2010, it is the Contractor's responsibility to notify the Local Authority of the installation of a notifiable gas appliance and unvented cylinder or system.

## **20. UNVENTED HOT WATER CYLINDER**

20.1 Supply and fit unvented indirect/direct hot water cylinder as detailed on the heating consultant design drawing all in accordance with the Company's preferred supplier(s), listed above.

20.2 A pressure relief & discharge valve/pipe must be installed in accordance with current building regulations and manufacturers installations instructions to ensure that the stored hot water does not exceed 100° C.



- 20.3 Where non-thermostatic bath shower mixers are installed; a Peglar 402 TMV3/2 thermostatic mixing valve must be fitted to provide hot water within a temperature range of between 43° and a maximum of 48° C to prevent scalding. In line with part G of the building regulations 2009 the TMV should be fitted at the front of the bath inside the bath panel for access for maintenance and temperature adjustment.
- 20.4 All Contractors/operatives should hold relevant assessment in the fitting of unvented cylinders (see 1.6.1) care should be taken with regard to post installation system testing.
- 20.5 The Contractor, prior to installation, must check water pressures, to ensure the unit will operate to its design criteria. Should the cold water mains kinetic or static pressure exceed 3.0bar, then a non-dynamic (static) pressure reducing valve must be installed. The non-dynamic (static) PRV should be located; on the cold main as it enters the property, immediately after the isolating valve and before any connections for water outlets.
- 20.6 The installer must be competent in installing mains pressure hot water cylinders (see 1.15).
- 20.7 All flexible hoses, from either a shower or bath/shower mixer tap, shall be retained by a plastic clip to ensure that the handset cannot be immersed into the bath or the adjacent toilet pan, this is a requirement of the water by-laws to prevent contamination / back syphonage in to the supply pipes.
- 20.8 Zone valves supplied with the unvented hot water cylinder should be labelled to indicate which valve controls which zone.

## **21. WASTE PIPES**

- 21.1 Supply and fix 32mm, 40mm and 50mm (as necessary) solvent weld waste pipe system in direct compliance with the current building regulations, NHBC and manufacturers installation instructions where waste pipes are used for discharge of boiling water, a high pressure polyethylene pipe must be used.
- 21.2 Where waste pipes discharge to the soil stack, 76mm seal traps **MUST** be used.
- 21.3 Wherever possible (subject to adequate soffit depth), external soil stack pipes should be directed through the soffit in preference to formation of swan-neck around eaves.
- 21.4 Where waste water plumbing connections are required for washing machines and dishwashers these are to be provided using appliance trap connectors fitted with a jubilee clip at sink waste connection.
- 21.5 All 2½ and 3 storey plots to have anti syphon valves fitted to traps on showers & basins.
- 21.6 All Builders work for waste pipes should be formed using a core drill back drilled to avoid damage to face brickwork.
- 21.7 WC waste pipes should be within floor structure wherever possible. Washbasin waste pipes should be run within the pedestal if fitted. Felt isolating packs must be used where waste pipes touch any timber.



21.8 All bath waste pipes must be accessible by the removal of the bath panel. Where overflow waste pipes are located in the middle of the bath side, the bath must be installed with the overflow nearest to bath panel so that this can be maintained.

## **22. WASTE WATER HEAT RECOVERY DEVICE ATTACHED TO THERMOSTATIC SHOWERS (WWHR)**

22.1 Supply and fit a WWHR device as detailed on the heating & plumbing consultant design drawing, all in accordance with the Company's preferred supplier(s), listed under **Group Suppliers** above and in accordance with the manufacturer's instructions.

22.2 Return SAP documentation to the required parties (as described in the supplied SAP documentation from the supplier).

22.3 Install the WWHR device in the correct 'System' configuration, as per heating consultants design.

22.4 WWHR instructions and Legionella guidance must be left in the plot to be included within the home owner pack.

22.5 Fix the SAP label provided with the system to the boiler or service cupboard.

22.6 When installing the WWHR device (Recoup Pipe+ HE), ensure that the pipe is perfectly vertical and fixed correctly as detailed in the construction drawings. See house type specific drawings and WWHR Standard Detail, REF: DB-SD09001 for further information.

22.7 Insulation wrapped or inserted into the SVP boxing **MUST NOT** insulate the WWHR device. Please refer to the WWHR Standard Detail, REF: DB-SD09001 for further information.

22.8 A non-return valve, with full flow shut-off, should be installed on the mains water supply prior to the WWHR unit. A further non-return valve must be installed close to the connection for the pre-heated water leaving the WWHR device, to facilitate in any replacement of parts.

22.9 System Configurations & Install methods

- (i) System A Configuration Install - Ensure the preheated water supply is feeding both the DHW water heater (Combi or Hot water cylinder) AND the cold water inlet of the shower's thermostatic mixing valve.
- (ii) System B Configuration Install – Preheated water supply feeding the cold inlet of the shower's thermostatic mixing valve ONLY (System B installation)

22.10 The preheated water supply from the WWHR device must be clearly labelled to avoid future connections of other services.

22.11 Pipework between the WWHR device and the water heater (combi or cylinder) and/or cold water inlet of the thermostatic mixing valve, is to be insulated in accordance with the Building Services Compliance Guide.



## 23. SCHEDULE OF MATERIALS

### Thermostatic and lockshield Radiator Valves – Pegler Limited

Part Number	Description
42295	15mm TRV with 15x10mm Elbow
663001	15mm WH MRV with 15x10mm Elbow
663005	15mm DLS MRV with 15x10mm Elbow
647080	15mm LS MRV with 15x10mm Elbow

### Thermostatic Mixing Valves – Peglar Limited

Part Number	Description
PEG 402	15mm TMV3/2 with a pre-set temperature of 43°
PEG 402 STC	22mm TMV3/2 with a pre-set temperature of 43°

### Heating Controls – As Noted

Part Number	Description
V4043H1056	Honeywell 2-port 22mm valve
026645	Programmer TPOne – B DANFOSS 087N785100
026646	Programmer TPOne – M DANFOSS 087N785200

Note: The above specified products will be supplied as part of the pre-plumb cylinder kits from both Kingspan and Megaflow distributed via PTS or Plumb Centre.

### Carbon Monoxide Alarms – Honeywell Analytics

Part Number	Description
XC70-EN-C	Carbon Monoxide Alarm
XC100-EN-C	Carbon Monoxide Alarm (for use in Housing Association units – where specified)



### Cleaning and Commissioning Products – Adey Innovation Limited

Part Number	Description
CH1-03-01669	MC1 Cleaner
CH1-03-01670	MC1 Inhibitor
SR1-03-01978	15mm Magnascale Reducer
SR1-03-02794	22mm Electroscale Reducer



# PLUMBING & HEATING

## TRADE SPECIFICATION AGREEMENT

This Specification Agreement relates specifically to the Company's development at .....

I confirm that I have read and understood the foregoing Specification and that my prices include for all items contained therein and will "Remain Fixed" for a period of: ..... as outlined in the Enquiry letter.

**SIGNED:** .....

**FOR AND ON BEHALF OF:**  
.....

**DATE:** .....

N.B. The contractor is to sign this Agreement and return it with his Quotation. Any prices received without this Agreement will be excluded from consideration.

- |          |                           |                            |
|----------|---------------------------|----------------------------|
| Revised: | Rev A – 6 September 2001  | Rev U – 1 August 2010      |
|          | Rev B – 30 April 2002     | Rev V – 15 December 2010   |
|          | Rev C – 3 May 2003        | Rev W – 28 February 2011   |
|          | Rev D – 1 August 2003     | Rev X – 3 January 2012     |
|          | Rev E – 1 December 2003   | Rev Y – 1 September 2012   |
|          | Rev F – 28 May 2004       | Rev Z – 1 February 2013    |
|          | Rev G – 29 September 2004 | Rev AA – 1 June 2013       |
|          | Rev H – 1 June 2005       | Rev AB – 1 October 2013    |
|          | Rev I – 17 November 2005  | Rev AC – 1 May 2014        |
|          | Rev J – 28 February 2006  | Rev AD – 21 October 2014   |
|          | Rev K – 30 April 2007     | Rev AE – 1 February 2015   |
|          | Rev L – 3 January 2008    | Rev AF – 10 February 2015  |
|          | Rev M – 1 May 2008        | Rev AG – 1 January 2015    |
|          | Rev N – 13 June 2008      | Rev AH – 1 July 2016       |
|          | Rev O – 30 September 2008 | Rev AI – 1 October 2016    |
|          | Rev P – 9 April 2009      | Rev AJ – 1 January 2017    |
|          | Rev Q – 18 May 2009       | Rev AK – 1 July 2017       |
|          | Rev R – 18 December 2009  | Rev AL – 1 January 2018    |
|          | Rev S – 30 April 2010     | Rev AM – 1 January 2019    |
|          | Rev T – 12 May 2010       | Rev AN – 20 September 2019 |