HEAT PUMPS: Hints and tips for site managers

On Site Checklist

ACCESS THE ONLINE COUNTERPART

This document has a counterpart website designed for use on a mobile device. The website includes additional visual reference information. Use the QR code to access.

HOW TO USE THIS DOCUMENT

- This document is intended as a quick reference for site managers, to prompt thinking on common issues, coordination and best practice related to heat pump installation. The checklist may also be useful to aid design reviews and before install commences.
- Hints and tips should not be considered prescriptive. This document is not a substitute for a qualified technical team or long form design and installation guidance. Ensure the design team and installation teams refer to the manufacturer's guidance.
- Site/project specific requirements and sequencing constraints may justify deviations from these recommendations.
- As a general note, be aware that when compared to gas boiler systems, heat pump installations are sensitive to changes from the approved design. Non-compliant installs can lead to significant performance issues in operation.

EXTERNAL GUIDANCE

The counterpart website also provides links to useful, up-to-date external reference and guidance documents.

ABBREVIATIONS

HP: Heat pump

ASHP: Air source heat pump

GSHP: Ground source heat pump

UFH: Underfloor heating

R290: Refrigerant grade propane

Documentation

- [ ] Is there an up-to-date copy of the drawings, design information and specifications on site or digitally accessible for all contractors' operatives?
- [ ] Is there a document register to track revisions and updates?
- [ ] ~~Has photographic evidence been captured~~ to satisfy Part L requirements? This includes photographs of product information labels.

Groundworks

- [ ] Is the HP suitably located, i.e. clear of restrictions with space for airflow, distance from boundaries, correct stand-off and with installation and maintenance access?
- [ ] Is the HP base suitable for the location and site-specific ground conditions?
- [ ] Has suitable drainage provision been made for HP condensate?
- [ ] Where the HP is not immediately adjacent to the property, has pre-insulated pipework been coordinated into the design i.e. trench depths and sweeping bends?
- [ ] Has provision been made for securing the HP unit using a secure, cast in mounting system suitable for use with the HP?
- [ ] UFH Is floor construction suitable for UFH with appropriate screed or floor system specification and coordinated levels?
- [ ] UFH Is the UFH pipework and manifold position accurately set out to allow ease of install, protection during build and access for maintenance?
- [ ] GSHP Has the groundwork pipework layout been considered and sequenced with other trades?
- [ ] R290: Have refrigerant combustion exclusion zones been designed in, e.g. around doors and electrical isolators?

First Fix

- [ ] Have all heating engineers got appropriate competency or the required supervision for the tasks they are carrying out?
- [ ] Has the quality and continuity of appropriately specified pipework insulation been checked?
- [ ] Has an accessible and appropriate spec electrical isolator been provided adjacent to the heat pump?
- [ ] Have pipe runs been considered with suitable allowance made for insulation, sweeping bends and boxings?
- [ ] Are primary pipe run lengths within manufacturers specified maximum distances and the correct diameter?
- [ ] Has photographic evidence been captured to satisfy Part L requirements? This includes demonstration of continuity of insulation on primary pipework.
- [ ] Is the cylinder cupboard suitably sized allowing ease of installation and maintenance?
- [ ] Is first fix equipment protected from accidental damage by other works before commissioning takes place?
- [ ] Has the flexibility and diameter of pipework been considered when planning connections from radiator outlet plate?
- [ ] Has UV resistant external trunking and insulation been specified and installed?
- [ ] UFH Have internal partitions been set out accurately with consideration to UFH circuits?
- [ ] UFH Has plumbing install been sequenced with other trades, including electricians, and has commissioning been factored in?
- [ ] Air to Water HPs: Are duct runs to façade insulated, direct and below max run length and are façade penetrations adequately separated?

Second Fix

- [ ] Has the heating system and controls been installed by a competent engineer, using only the specified components and exactly to the design?
- [ ] Have any changes to the heat pump system components or design been signed off by the responsible heating designer and has the design information been updated accordingly?
- [ ] Are any required filters provided and installed to manufacturers recommendations? If anti-freeze valves are they mounted with specified clearance from the ground, and free of insulation?
- [ ] Are pipework sizes on all branches and radiator connection positions as per the design?

Commissioning

- [ ] Does the commissioning engineer have the necessary manufacturer training and competency for this specific heat pump?
- [ ] Where the system needs internet access to commission will connectivity be available when required?
- [ ] Has the system been fully flushed, filled and appropriate water treatment applied?
- [ ] Is equipment suitably labelled for ease of maintenance and customer handover?
- [ ] Has a proportion of heat pump commissioning been witnessed by a site manager?
- [ ] Has all necessary paperwork been completed in line with manufacturer, building control and warranty providers requirements?
- [ ] Has the commissioning engineer signed the commissioning sheets?
- [ ] Post-commissioning, has the system been left programmed appropriately for the period before handover or for the householder to move in?

Print and display me

Commissioned by: futurehomes.org.uk

Designed by: studiopartington.co.uk