

L.T.H.W HEATING INSTALLATION NOTES

STANDARD 2.1.14 - OPENINGS AND SERVICE PENETRATIONS - WHERE PIPEWORK PASSES FROM ONE FIRE PROTECTED ZONE TO ANOTHER, THE PIPEWORK SHALL BE SLEEVED USING PVC PIPE. THE ANNULAR SPACE BETWEEN THE PIPEWORK AND THE SLEEVE SHALL BE SEALED AT BOTH ENDS WITH A FLEXIBLE FIRE RESISTANT COMPOUND. FURTHERMORE, UPON INITIATION OF THE FIRE ALARM SYSTEM, ALL PLANT SHALL CEASE TO FUNCTION IMMEDIATELY. THE PLANT SHALL REMAIN INOPERATIVE UNTIL THE RESETTING OF THE FIRE ALARM SYSTEM.

FIRE RATED INSULATION SLEEVE FOR FIRESTOPPING INSULATED METAL PIPES, PLASTIC PIPES WHERE THEY PENETRATE SOLID WALLS AND FLOORS AND PARTITIONS. CP 645 IS CUT TO FIT SERVICE AND WALL THICKNESS TO MANUFACTURER'S INSTRUCTIONS.

- TESTED TO BS 476 PT 20:1987 AND EN 1366:3
 - FIRE RESISTANCE: UP TO 2 HOURS
 - AGE TESTED AS DEFINED IN THE DAFSTB GUIDELINES, WITH SUBSEQUENT FIRE TESTING.
 - MANUFACTURER: HILTI (GT BRITAIN) LTD, 1TRAFFORD WHARF ROAD, MANCHESTER M17 1BY, TEL NO 0800 886 100, FAX 0800 886 200. WEBSITE WWW.HILTI.COM
- PRODUCT REFERENCE: CP 645 FIRESLEEVE

STANDARD 4.9.4 - DISCHARGE FROM UNVENTED HOT WATER STORAGE SYSTEMS - DISCHARGE FROM PRESSURE AND TEMPERATURE RELIEF VALVES SHALL BE IN ACCORDANCE WITH THIS STANDARD.

STANDARD 6.4.1 - INSULATION OF PIPES AND DUCTS - ALL PIPEWORK AND DOMESTIC WATER STORAGE VESSELS SHALL BE INSULATED THERMALLY IN ACCORDANCE WITH BS 5422 (2009). ALL INSULATION TO ONLY BE APPLIED TO DRY PIPEWORK AND TO ITSELF BE COMPLETELY DRY. THE INSULATION SHALL BE SECURELY ATTACHED TO PIPEWORK WITH AN APPROVED ADHESIVE.

STANDARD 6.7.1 - INSPECTION AND COMMISSIONING - PRIOR TO COMMISSIONING, THE L.T.H.W HEATING SYSTEM SHALL BE FLUSHED THROUGH IN ACCORDANCE WITH THE GUIDANCE PROVIDED IN B.S.R.I.A APPLICATION GUIDE BG 29/2012. THE ENTIRE L.T.H.W HEATING SYSTEM SHALL BE COMMISSIONED IN ACCORDANCE WITH B.S.R.I.A APPLICATION GUIDE BG 2/2010 - COMMISSIONING WATER SYSTEMS AND C.I.B.S.E COMMISSIONING CODE B.

STANDARD 6.8.1 - LOGBOOK INFORMATION - ON COMPLETION OF THE WORKS, THE OCCUPIER SHALL LEFT WITH 1NO. COPY OF ALL MANUFACTURERS OPERATING AND MAINTENANCE INSTRUCTIONS FOR EACH ITEM OF EQUIPMENT INSTALLED DURING THE WORKS. ALL OPERATION AND MAINTENANCE MANUALS RELEVANT TO THE L.T.H.W HEATING INSTALLATION SHALL BE COMPILED AND HANDED OVER TO THE OCCUPIER ON COMPLETION OF ALL COMMISSIONING. THE CONTENTS AND ITS PRESENTATION SHALL BE IN ACCORDANCE WITH C.I.B.S.E TM31.

SPECIALIST SUBCONTRACTOR - UNDERFLOOR HEATING

AS PART OF THE WORKS, THE CONTRACTOR SHALL ENGAGE A SPECIALIST SUB-CONTRACTOR WHO SHALL DESIGN, SUPPLY, TEST, COMMISSION AND SET TO WORK THE UNDERFLOOR HEATING INSTALLATION. THE CONTRACTOR SHOULD APPROACH 'OPTIMUM UNDERFLOOR HEATING' TO SUPPLY & COMMISSION THE UNDERFLOOR HEATING SYSTEM. THE SPECIALIST SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR UNDERTAKING THEIR OWN HEAT LOSS CALCULATIONS, GIVING DUE CONSIDERATION TO THE GROUND FLOOR CONSTRUCTION AND FLOOR COVERINGS / FINISHES. THE EXTENT OF THE WORKS SHALL INCLUDE ALL PIPEWORK LOOPS WITHIN THE FLOOR CONSTRUCTION, PIPEWORK FIXINGS AND SUPPORTS, MANIFOLDS AND WALL FIXINGS, PRESSURE / FLOW / TEMPERATURE GAUGES, VALVES AND ALL OTHER ITEMS OF EQUIPMENT WHICH FORM PART OF THE UNDERFLOOR HEATING INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FLOW AND RETURN DISTRIBUTION PIPEWORK, VALVES AND ALL OTHER ITEMS OF EQUIPMENT WHICH FORM PART OF THE L.T.H.W HEATING INSTALLATION BETWEEN THE PLANT ROOM AND THE UNDERFLOOR HEATING MANIFOLDS. THE SPECIALIST SUB-CONTRACTOR SHALL CARRY OUT THEIR OWN TESTING OF THE ENTIRE UNDERFLOOR HEATING INSTALLATION WHICH SHALL BE WITNESSED AND SIGNED OFF BY THE CLIENT / CLIENT'S REPRESENTATIVE. ALL COMMISSIONING CHECKLISTS ETC SHALL BE ENTERED INTO THE APPROPRIATE SECTION OF THE 'OPERATION AND MAINTENANCE MANUAL'.

REFER TO ENTIRE ARCHITECTURAL INFORMATION INCLUDING SECTIONS AND ELEVATIONS FOR HEAT LOSS CALCULATIONS. THE CONTRACTOR SHALL CONTACT THE ARCHITECT TO CONFIRM FABRIC U-VALUE DETAILS.

INTERNAL DESIGN TEMPERATURES TO BE IN LINE WITH CIBSE GUIDELINES. A 10% PRE-HEAT MARGIN SHALL BE APPLIED TO THE HEAT LOSSES AND THE UNDERFLOOR HEATING SHALL BE SIZED TO SUIT.

EXTERNAL WINTER DESIGN TEMPERATURE OF -5°C @ 100% RH

DRAWING LEGEND

- PIPEWORK WITHIN CEILING VOID
- HIGH LEVEL PIPEWORK
- LOW LEVEL PIPEWORK
- PIPEWORK WITHIN FLOOR VOID
- CHANGE IN PIPEWORK LEVEL
- L.T.H.W HEATING FLOW (HTGF)
- L.T.H.W HEATING RETURN (HTGR)
- ISOLATION VALVE (IV) / REGULATION VALVE (RV)
- 2 PORT MOTORISED VALVE (2PMV)
- 3 PORT MOTORISED VALVE (3PMV)
- AUTOMATIC BYPASS VALVE
- TEMPERATURE & PRESSURE RELIEF VALVE (T&PRV)
- AUTOMATIC AIR VENT (AAV)
- DRAINCOCK
- CIRCULATING PUMP
- TEMPERATURE SENSOR
- DOUBLE REGULATION VALVE (DRV)
- STRAINER (ST)
- PRESSURE GAUGE
- NON RETURN VALVE (NRV)
- PRESSURE REDUCING VALVE (PRV)
- COMMISSIONING STATION (CS)
- L.T.H.W HEATING PLANT
- RTA
- RFB
- DTLL
- DFA
- T
- RTL
- RISE TO ABOVE
- RISE FROM BELOW
- DROP TO LOW LEVEL
- DROP FROM ABOVE
- THERMOSTAT
- RETURN TEMPERATURE LIMITER (SET AT 65°C)

A Issued for Building Warrant 12/03/24

Rev Description Date

IPME

Unit 4B Gateway Business Park,
Beancross Road,
Grangemouth,
FK3 8WX

Building Services | Mechanical | Electrical | Low Carbon
Sustainable Engineering by Design

Low Carbon
Energy Assessor
Scotland

Heat
Historic
Consultant

Client
Dunblane Square Limited

Project
The Bank, Dunblane

Project No. 23009

Drawing No.
23009-IPME-XXXX-GF-DR-M-56001

Revision A

Mechanical Engineering Services
Heating Services

Status
S2 - FOR INFORMATION

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JA

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