

MECFLOW PRESS SYSTEM SPECIFICATION

CONTENTS LIST

| | |
|----|------------------------------------|
| 1 | General |
| 2 | MecFlow Press Specification Clause |
| 3 | MecFlow Press System Applications |
| 4 | Materials |
| 5 | Performance Objectives |
| 6 | Installation |
| 7 | Health and Safety |
| 8 | Standards |
| 9 | Testing |
| 10 | Storage |
| 11 | System Guarantee |

MECFLOW PRESS SYSTEM

1. General

The MecFlow Press system is a multi-layer composite [MLC] plumbing system, specifically engineered for potable, hot & cold plumbing and heating applications. MecFlow Press is used for the distribution of warming and cooling fluid around commercial, high-rise and multi-occupancy buildings.

2. MecFlow Press Specification Clause

The MLC water supply system will be MecFlow Press. The material will be manufactured to meet the requirements of BS EN ISO 21003 with WRAS approval. The pipe shall be constructed of five [5] layers. An internal layer of PEX an intermediate layer of butt-welded aluminium and an external layer of PE-RT. The layers must be uniformly bonded by means of an engineered adhesive with an average adhesive force greater than 5N/mm. The PPSU fittings shall be constructed from the high technical performance polymer, polyphenylsulfone and incorporate two recessed Ethylene Propylene Diene Monomer [EPDM] O-rings on each press connection. The spigot cross-section must also be chamfered internally and externally to protect the O-rings, aid pipe insertion and improve flow characteristics. To ensure visible insertion during installation and pressure testing, the press jaws must not cover or restrict the inspection window during the pressing process. The pressing sleeve must include a minimum of four inspection windows. The fitting shall incorporate a Leak before Press Function with a leak detection range of at least 1 to 6.5 bar if the fittings are unpressed. Brass components must be manufactured from DZR lead-free brass. All products must be installed in accordance with instructions issued by Polypipe Building Services.

3. MecFlow Press System Applications

MecFlow Press is ideally suited for hot & cold water supply applications around commercial, high-rise and multi-occupancy buildings.

4. Materials

MLC pipe material: PEX
AL
PE-RT

The layers are bonded by means of an engineered adhesive with an average adhesive force greater than 5N/mm.

Fittings material Press-fit polyphenylsulfone [PPSU]
Dezincification resistant [DZR] lead-free brass
Incorporating two recessed Ethylene Propylene Diene Monomer [EPDM]

4.1 MecFlow Press Sizes

The MecFlow Press pipes are available straight or coiled in the following sizes:

Multi-layer composite pipe

| Description | D | S | L |
|-------------|------|-----|------|
| Straight | 16mm | 2mm | 5m |
| Straight | 20mm | 2mm | 5m |
| Straight | 26mm | 3mm | 5m |
| Straight | 32mm | 3mm | 5m |
| Coiled | 16mm | 2mm | 100m |
| Coiled | 20mm | 2mm | 100m |
| Coiled | 26mm | 3mm | 50m |
| Coiled | 32mm | 3mm | 50m |

Pre-insulated pipe

| Description | D | S ₁ | L | S ₂ |
|-------------|------|----------------|-----|----------------|
| Coiled | 16mm | 2mm | 50m | 9 & 16mm |
| Coiled | 20mm | 2mm | 50m | 9 & 16mm |
| Coiled | 26mm | 3mm | 25m | 13mm |
| Coiled | 32mm | 3mm | 25m | 13mm |

5. Performance Objectives

At a minimum, the MLC system must meet all of the below test standards and have a manufacturer’s performance certification. MecFlow Press is independently third-party tested to EN ISO 21003 test standard which specifies the general aspects of multilayer piping systems intended to be used for hot and cold water installations inside buildings for the conveyance of water — whether or not the water is intended for human consumption (domestic systems) or heating systems — under specified design pressures and temperatures appropriate to the class of application

UK Approval – the MLC system and all its components must be certified by the Water Regulation Approval Scheme [WRAS].

The installer should note that the specification should be strictly adhered in particular to technical requirements as specified in the technical manual: www.polypipe.com/commercial-buildings-services/technical-hub/

6. Installation

Installation should be made according to the installation drawings supplied by the manufacturer. Alterations at site can only be made after consultation of the manufacturer who can decide whether the changed routing will result in a new calculation to be made.

6.1. Fasteners & bracketry

MecFlow Press installed on a supporting substrate must be fastened every 1.0m. Pipe brackets, including sound insulation layer, must be used for the installation of MecFlow Press pipes on walls. You can find the fasteners table for MecFlow Press in the technical manual: www.polypipe.com/commercial-buildings-services/technical-hub/

6.2. Insulation

MecFlow Press should be insulated to limit heat losses, heat gains and protected from potential frost damage in accordance with Part L of the Building Regulations, BS5422, BS6700 and BS EN 806.

6.3. Expansion

MecFlow Press pipes must be routed such that changes in length are not impaired. Intermediate points must be located in such a way that they do not become anchor points during operation. In the case of long pipe sections, anchor points should be located in the middle of the pipe section to direct the expansion in two directions. It must be ensured that pipes in feedthroughs in walls and floors can expand. The coefficient of expansion for the MecFlow Press pipe shall not exceed 0.026mm/m·K. For coefficient calculations, please refer to the MecFlow Press technical manual.

6.4 Operating temperature and pressure

The MLC system shall be capable of operating at 95°C at a maximum pressure of 10 Bar and achieve a services life of 50 years.

6.5 Trace heating

At normal indoor temperatures, trace heating will be attached to the pipe using cable ties or tape. The manufacturer's instructions shall be observed. If trace heating is used, the operating temperature of the drinking water shall not exceed 60°C (short-term max. 70°C, e.g., for thermal disinfection).

6.6 Keeping the pipe and fittings clean

Throughout the installation of the MecFlow Press system, the installer will be responsible for preventing the entry of debris into the fittings and pipes.

7. Health and safety

When the horizontal high level pipework is being installed at high level, the installer will be responsible for providing a suitable working platform for the installation of the MecFlow Press pipework.

8. Standards

All MecFlow Press has been certified against the following:

- Water Regulation Approval Scheme [WRAS]: 2307914
- EN ISO 21003

9. Testing

All completed MecFlow Press systems to be pressure tested immediately after installation and before any secondary work is commenced. Testing to be conducted using water in a two-step process. Firstly, the system must be tested for leak-tightness [leak function between 1 – 6.5 Bar] and secondly for strength. A pressure testing document will be provided by the manufacturer outlining the correct procedure.

10. Storage

MLC pipes must be protected against damage during transport and particularly during loading and unloading. Before unloading, the pipes must be inspected for damage in transit. Where lifting equipment is used, wide straps are recommended. The cargo area and storage location must be free of sharp objects.

Please note: Single-sided exposure to temperature, e.g. solar radiation, can cause short-term deformation of the pipes. For this reason, the pipes must be protected against direct sunlight.

Keep pipes & fittings clean by storing inside buildings or containers and unpack just before use.

11. System Guarantee

The manufacturer shall guarantee the system for ten [10] years against all manufacturing defects in materials from the date of delivery to the customer. The manufacturer shall be notified of repair or replacement issues in writing within the warranty period. MecFlow Press is limited to the recommended application for which it was designed.

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