

# Brymec Multilayer Press-fit System Technical Specification



## System Overview

Suitable for use in commercial and domestic applications, supplying hygienic drinking water or for connecting heating or cooling systems.

This next generation plumbing system unites the advantages of a plastic and a metal pipe into one high performance product. Our Multilayer system is based on a core of an aluminium pipe, which is then bonded both inside and out with a layer of PE-Xb (cross-linked polyethylene).

The comprehensive range of the Brymec Multilayer Press-fit system covers sizes from 16-75mm, with pipes available in either flexible coils (16-32mm) or straight lengths (16-75mm). The pipe is 'form-stable' and can easily be formed into the best profile to suit the installation.

Installation of our system is safe, flame-free, fast and economical.

## Technical information

Brymec Multilayer Pipe Technical Information								
OD	16mm	20mm	25mm	32mm	40mm	50mm	63mm	75mm
Nominal Wall Thickness - mm	2.0	2.0	2.5	3.0	4.0	4.5	6.0	7.5
Internal Diameter - mm	12.0	16.0	20.0	26.0	32.0	41.0	51.0	60.0
Pipe Weight - Kg/m	0.109	0.146	0.220	0.340	0.525	0.782	1.333	1.750
Water Volume - L/m	0.113	0.201	0.314	0.531	0.804	1.320	2.043	2.827
Pipe Weight with Water - Kg/m	0.222	0.347	0.534	0.871	1.329	2.102	3.376	4.577
Max. Operating Pressure	10 Bar to BS EN21003:2008							
Max. Operating Temperature	See Operating Conditions overleaf							
Thermal Expansion Coefficient	0.025 mm (m*K) BS EN 806							
Thermal Conductivity	0.45 W/(m*K)							
Internal Roughness	0.0007							
Pipe Construction	PE-Xb / Aluminium / PE-Xb							
Pipe Reaction To Fire	C-s2-d0 to BS EN13501-1							
Pipe Identification Markings	Markings at 1m intervals with full production data according to BS EN21003:2008							
Oxygen Permeability	100% oxygen diffusion tight, exceeding the requirements of DIN 4726							
Hygiene	Pipes capped immediately after production - to BS EN 806-5							
Approvals	WRAS - 2012108							
Pre-insulated Pipes	50m, pre-insulated coils with 13mm insulation $\lambda$ 0.04 W/(m*K), with either a black, red or blue LDPE vapour barrier							
Insulation Reaction to Fire	BL-s1-d0 to BS EN13501-1 (test report includes insulation and vapour barrier as required by BS 5422:2023 - 6.2.2)							

Brymec Multilayer Fittings Technical Information	
Body Material	CW617N (equivalent)
Plastic Press Jaw Guide Material	Polyethylene
Press Sleeve Material	Stainless Steel 1.4301 (AISI 304) to BS EN 10088
Safety	4 pipe depth inspection windows
O-ring Material	2 x EPDM (Ethylene Propylene Diene Monomer rubber- UBA Elastomer) to BS EN 681-1 with engineered leak path
Flat Sealing Gaskets	CNAF compressed fibre washers
Approved Press Profile	U-Profile
Thread Standard	BSP - R & Rp to BS EN 10226-1:2004
Manufacturing Standard	BS EN ISO 21003-3:2008
Design support	BIM - COBie Level 2

## Operating Conditions

Brymec Multilayer Press-fit Operating Conditions			
Application	Comments	Max. Pressure	Max. Temp.
Mains cold water (MCW) / Boosted Cold Water (BCW)	Water main, tank fed or pump boosted systems	10 Bar	7°C - 20°C
Domestic Hot Water (DHW) - Class 1 & 2 BS EN 21003:2008	Hot water services, typically supplied from a stored water source	10 Bar	50°C - 70°C
Low Temperature Hot Water (LTHW) - Class 5 BS EN 21003:2008	Underfloor heating and low-temperature radiators	10 Bar	45°C - 80°C
Chilled water (CHW) and cooling	For use in space cooling and cooling processes	10 Bar	5°C - 18°C
Private Water Supply	Must contact Brymec for advice	-	-
Brymec Multilayer Press-fit can be used for DHW recirculating systems, provided the operating temperatures and pressures do not exceed the maximum conditions detailed under 'Domestic Hot Water'			
The above applications are typical industry conditions of use. Please refer to Brymec Technical for any applications other than those mentioned in the above table.			
Maximum permissible system operating conditions -20°C - 80°C at 10 Bar (Tmax class 1 & 2 - 80°C, class 5 - 90°C)			

## Warranty

The Brymec Multilayer Press-fit system is covered by a comprehensive 25 year warranty. Please refer to the Brymec terms and conditions for full details.

## Installation and Tooling

For manufacturer's warranties to apply, all products must be installed to Brymec's latest installation instructions. All installers should hold a current manufacturer's training certificate of not more than two years old. Correct tooling, as approved by Brymec, must always be used. All tools should be regularly maintained, calibrated and be of good serviceable quality (safety training MUST be sought).

## Protection from Freezing

If risk of damage from freezing, a suitable anti-freeze additive must be used which must be suitable for use with PE-Xb, CW617N brass and EPDM rubber.

## Buried Services

Building materials such as standard concrete, mortar or plaster do not affect the Brymec Multilayer pipes or fittings. However, Water Regulations (water fittings) 1999 require pipes intended for the purposes of carrying drinking water must be able to be withdrawn from the building structure should they become damaged or need replacing.

## Equipotential Bonding

Brymec Multilayer pipes are non-conductive and do not need to be bonded to earth. However, it is still necessary to bond all mechanical components such as pumps, boilers, heaters and other exposed metallic components of the plumbing and heating system. Brymec Multilayer is not suitable for electrical equipotential bonding of a system.

## Connection to Boilers, Heaters & Cylinders

Brymec Multilayer Press-fit should not be directly connected to boilers or heaters, which have a higher constant temperature of 70°C (Tmal 95°C for 100h) for tap water and constant higher temperature of 80°C (Tmal 100°C for 100h) for heating (seek advice from the equipment manufacturer).

## Chemical Resistance

Brymec Multilayer Press-fit has good resistance to general cleaning products. However, in the event accidental contact with aggressive chemicals, the pipework should be washed with clean water. Solvent based cleaning products, tapes, paints, adhesives or sealing compounds must not come into contact with our system, unless specifically approved by Brymec Technical.

## Limitation of Use

Brymec Multilayer Press-fit MUST NOT be used for the following applications:

- Domestic gas
- Technical gases
- Heating Oil
- Compressed air systems
- Swimming pool water
- Fire control systems
- Brymec Multilayer pipes must not be stored or installed where they are exposed to direct sunlight.

## Manufacturer Details

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Scan to download the Brymec Multilayer Press-fit range brochure and technical data sheets.

*Brymec reserves the right to make changes, without prior notification, to the specification of our Multilayer products in line with our policy of continuous improvement and development.*