QUAL-PE-X BARRIER PIPE – TECHNICAL DATA SHEET

1) Product Description

Qual-PEX barrier pipe is a 5-layer barrier (EVOH) pipe manufactured from cross-linked high density polyethylene developed for hot and cold water services. Qual-PEX barrier pipe is designed to suit BS 7291 Pushfit fitting as well as standard brass compression fittings and has a smooth bore and a flexibility that prevents the build-up of lime scale from adhering to the inner surface of the pipe in hard water areas. The flexible nature of Qual-PEX also allows for considerable ease of installation with significant time and cost savings. Qual-PEX is not designed for permanent direct exposure to sunlight, under these conditions painting or lagging is required.

2) Field of application

Qual-PEX barrier pipe has been approved for hot and cold water distribution systems, underfloor heating systems and central / plumbing heating systems.

3) Pipe Dimensions

Pipe description	Outer diameter	Wall thickness
10mm Qua-PEX	9.9 – 10.1	1.5 – 1.8
15mm Qual-PEX	14.9 – 15.1	1.5 – 1.8
22mm Qual-PEX	21.9 – 22.1	2.0 – 2.3
28mm Qual-PEX	27.9 – 28.1	2.6 – 2.9

4) PE-X Pipe Layering – technical information

1. PE-X inner pipe layer (PE-X).
2. An adhesive layer bonding the inner pipe layer to the oxygen barrier.
3. Ethylene vinyl alcohol copolymer (EVOH) oxygen barrier layer.
4. An adhesive layer bonding the outer pipe layer to the oxygen barrier.
5. PE-X outer pipe layer (PE-X).

5) EVOH - oxygen barrier layer

Qual-PE-X barrier pipe incorporates an EVOH oxygen diffusion barrier layer sandwiched within the wall of the pipe which protects the layer from physical and UV damage. The EVOH layer which complies with DIN 4726 and ISO 17455 renders the pipe virtually impervious to gases.

6) Certificatio

Qual-PEX barrier pipe is BSI Class S Kitemark approved to BS 7291-3: 2010
Qual-PEX barrier pipe is WRAS approved.

Pipelife UK 13 Saxon Way East · Oakley Hay Industrial Estate · Corby, Northants · NN18 9EY / Great Britain
T +8 45 241 94 90 **F** 08 45 241 94 91 **E** info@pipelife.co.uk **www.pipelife.co.uk**

7) Qual-PE-X barrier pipe – applications classes and service conditions

Qual-PE-X barrier pipe is certified and manufactured to the Class S service requirements of BS7291, the approved service conditions and applications of which are as follows:

BS 7291-1:2010 **BRITISH STANDARD**

Table 1 Class "S" service Conditions

Application	Nominal system flow temperature T_f °C	Maximum system service temperature T_s °C	System malfunction temperature T_m °C	System maximum working pressure[A] bar[B]
Indirect cold water systems	20	20	-	3½
Direct mains-fed cold water systems	20	20	-	12½
Subsurface heating systems	60	83	100	3½
Vented hot water supply systems	65	83	100	3½
Unvented hot water supply systems including instantaneous heaters and/or incorporating storage	65	95	100	6
Vented central heating systems and indirect hot water primary circuits	82	95	100	3½
Sealed central heating systems and indirect hot water primary circuits	82	105	114	3

Continuously operated re-circulating systems are excluded from these applications

[A] Where a nominal working pressure does not comprise an integer value, the mantissa is expressed in a fractional format. This is done to reduce the possibility of misinterpretation or obscurity that could cause a system to be subjected to an excessive pressure (see also 8.4).

[B] 1 bar = 10^5 N/m^2 = 10^5 Pa

8) Key Technical / Performance data

Max operating temperatures / pressures: as per table above.
Thermal conductivity W/m K: 0.45.
Tensile strength at break 20MPa @ 50mm/min.
Elongation at break > 150%
Allow for 1% expansion when pipe is installed at 20°C for use up to 82°C.
Oxygen diffusion DIN 4726 (g O2 / m3 / d) compliant: < 0.1.

9) Qual-PE-X product guarantee

Qual-PE-X barrier pipe is guaranteed for a period of:
50 years
Provided Qual-PE-X installation guidelines are adhered to, the pipe is guaranteed against any manufacturing defects for a period of 50 years.
For and Behalf of Pipelife Ireland Ltd

Paul Warren
Technical and Quality Control Dept.
January 10th 2020