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FibreFlex Pro

Energy efficient pre-insulated flexible pipe system for elevated temperature and pressure heating applications

Applications:

Elevated temperature and pressure heating networks, large- and medium size district heating networks, condensate return piping.

Description:

An innovative class of Thermoplastic Reinforced Service (TRS) pipe with PEX-a liner and high modulus aramid reinforcement mesh is used for FibreFlex Pro pipes for maximum 232 psi operating pressure at continuous 203°F operating temperature (application temperature profile according to OFI CERT ZG 200-2 Class C).

Both the service pipe and outer jacket have diffusion barrier layers to prevent oxygen entering the system.

Due to reduced wall thickness, FibreFlex Pro service pipes have smaller OD compared to conventional plastic solutions, which allows a thicker insulation layer with same jacket dimensions. This, combined with the low value of the cyclopentane-based PUR foam insulation thermal conductivity of $\leq 0.146 \text{ Btu}\cdot\text{in}/\text{ft}^2\cdot^\circ\text{F}$, makes FibreFlex Pro pipes an outstanding, **highly-energy-efficient** solution for heating networks.

FibreFlex Pro is an innovative solution, enables the safe implementation of plastic flexible pre-insulated pipe system in district heating networks with **elevated operating temperatures and pressures**, where previously, only steel pipes could operate.

Technical Specification

Max continuous operating temperature for high pressure applications: +203°F (+95°C)

Max continuous operating temperature for low pressure applications (condensate piping): +212°F (+100°C)

Max variable operating temperature: +239°F (+115°C)

Max operating pressure: 145/232 psi at +203°F

Insulation thermal conductivity: $\leq 0.146 \text{ Btu}\cdot\text{in}/\text{ft}^2\cdot^\circ\text{F}$

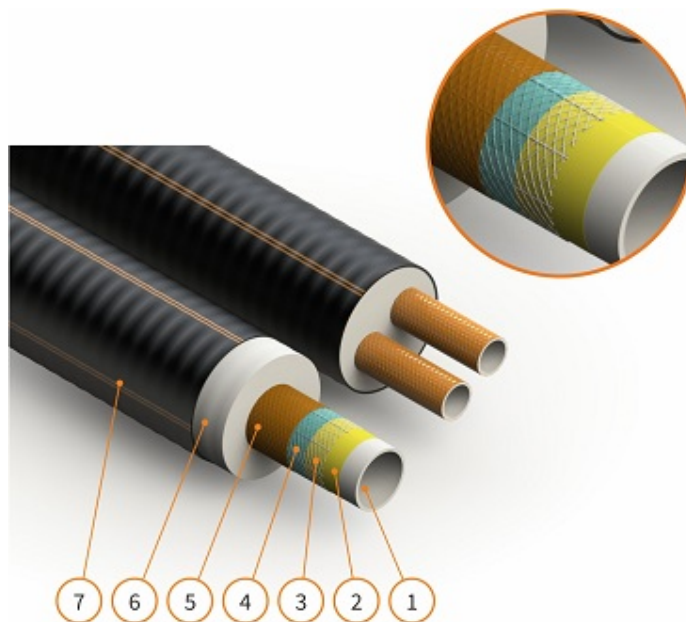
Service pipe: PEX-a with Aramid reinforcement

Thermal insulation: PUR, CFC-free, cyclopentane-based

Jacket pipe: corrugated PE-HD



1. PEXa liner
2. High temperature adhesive
3. Aramid fiber high temperature composite
4. High temperature adhesive with oxygen barrier
5. Core pipe jacket
6. Polyurethane foam
7. Diffusion barrier jacket





FibreFlex Pro

Container delivery

Pipe coil dimensions for 40' HC container deliveries

FIBREFLEX PRO UNO			Standard coils				Maxi coils				
Pipe diameters core/jacket			Coil dimensions			Pipe length	Coil dimensions			Pipe length	
			ID	OD	Wide		ID	OD	Wide		
mm/mm	Inch	Inch	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	
25 / 76	1"	3"	5.3	8.3	2.3	919	5.3	8.3	3.4	1345	
32 / 76	1.25"	3"	5.3	8.3	2.3	919	5.3	8.3	3.4	1345	
25 / 91	1"	3.5"	5.3	8.3	2.3	558	5.3	8.3	3.4	886	
32 / 91	1.25"	3.5"	5.3	8.3	2.3	558	5.3	8.3	3.4	886	
40 / 91	1.5"	3.5"	5.3	8.3	2.3	558	5.3	8.3	3.4	886	
40 / 111	1.5"	4"	5.3	8.3	2.3	492	5.3	8.3	3.4	755	
50 / 111	2"	4"	5.3	8.3	2.3	492	5.3	8.3	3.4	755	
50 / 126	2"	5"	5.3	8.3	2.3	295	5.3	8.3	3.4	492	
63 / 126	2.5"	5"	5.3	8.3	2.3	295	5.3	8.3	3.4	492	
63 / 142	2.5"	5.5"	5.9	8.3	2.3	197	5.9	8.3	3.4	295	
75 / 142	3"	5.5"	5.9	8.3	2.3	197	5.9	8.3	3.4	295	
75 / 162	3"	6"	6.1	8.3	2.3	164	6.1	8.3	3.4	262	
90 / 162	3.5"	6"	5.9	8.3	2.3	164	5.9	8.3	3.4	262	
110 / 162	4"	6"	5.9	8.3	2.3	164	5.9	8.3	3.4	262	
						Maxi coils HC container			Tall Maxi coils OT container		
110 / 182	4"	7"	6.5	8.3	3.4	98	6.5	9.4	3.4	262	
125 / 182	5"	7"	6.5	8.3	3.4	98	6.5	9.4	3.4	262	
110 / 202	4"	8"	6.5	8.3	3.4	98	6.5	9.4	3.4	262	
125 / 202	5"	8"	6.5	8.3	3.4	98	6.5	9.4	3.4	262	
140 / 202	5.5"	8"	6.5	8.3	3.4	98	6.5	9.4	3.4	262	
160 / 225	6"	9"	Delivered on 12' drum Open Top container				394				



Delivered vertically

Pipe coil dimensions for 40' HC container deliveries

FIBREFLEX PRO DUO			Standard coils				Maxi coils				
Pipe diameters core/jacket			Coil dimensions			Pipe length	Coil dimensions			Pipe length	
			ID	OD	Wide		ID	OD	Wide		
mm/mm	Inch	Inch	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	
25+25 / 91	1"+1"	3.5"	5.3	8.3	2.3	558	5.3	8.3	3.4	886	
32+32 / 111	1.25"+1.25"	4"	5.3	8.3	2.3	492	5.3	8.3	3.4	755	
40+40 / 126	1.5"+1.5"	5"	5.3	8.3	2.3	295	5.3	8.3	3.4	492	
50+50 / 162	2"+2"	6"	6.1	8.3	2.3	164	6.1	8.3	3.4	262	
						Maxi coils HC container			Tall Maxi coils OT container		
63+63 / 182	2.5"+2.5"	7"	6.5	8.3	3.4	98	6.5	9.4	3.4	262	
75+75 / 202	3"+3"	8"	6.5	8.3	3.4	98	6.5	9.4	3.4	262	
90+90 / 225	3.5"+3.5"	9"	Delivered on 12' drum Open Top container				394				



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FibreFlex PRO and FibreFlex Fittings and Accessories



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FibreFlex

FibreFlex pipes are connected using press connectors of different configurations (weld adaptors, couplers, elbows, tees).

The installation of the press connector requires pipe end to be expanded before placing the steel insert into the pipe; this is followed by the compression of the outer sleeve onto the pipe's outer surface. Industry standard PEX press tools may be used when installing FibreFlex press connectors to FibreFlex pipes (up to and including 4½" diameter).



FibreFlex Pro



FibreFlex Pro press connectors have additional high temperature polymer sleeve, which placed between outer sleeve and service pipe, provides required compression without any need for pipe end to be expanded before placing the steel insert into the pipe.

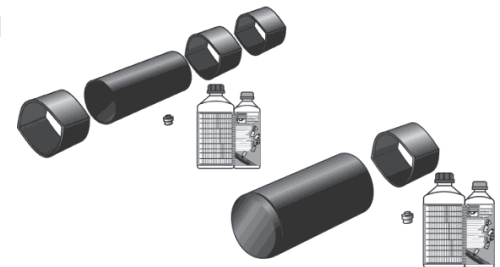
Industry standard PEX press tools may be used when installing FibreFlex Pro press connectors to FibreFlex Pro pipes (up to and including 4" diameter). Special tooling is used for larger pipes.

To insulate the joints, a heat-shrink insulated casing joint is used.

FibreFlex and FibreFlex PRO Sleeve Heat Shrinks and Dead End Sleeve Heat Shrinks

A range of PE-HD shrink sleeves, double sealed with adhesive
Incl. 3 pc. shrink collar, PUR-foam components, vent plug and PE closure plug.

PE-HD end caps, incl. adhesive, shrink collar and PUR-foam components for insulation of pipe ends.



Insulation Shells for FibreFlex and FibreFlex PRO



Insulation Shells of different configurations are available for FibreFlex and Fibre Flex PRO pipes joints (Straight, T-Branch, Elbow 90 Degree). Combined with special design Sealing Rings they provide reliable insulation for all types of FibreFlex and FibreFlex PRO connectors, these insulation shells are quick and easy to install without the requirement for special tooling.

FibreFlex and FibreFlex PRO Pre-insulated fittings

A range of insulated pre-fabricated steel fittings complete with press fitting adapters are available for FibreFlex and FibreFlex PRO pipe systems.

When insulating the joints, a heat-shrink insulated casing joint is used.

