

Hiline

FIBREFLEX PRO



THE NEXT GENERATION OF PRE-INSULATED PIPES FOR HEAT NETWORKS

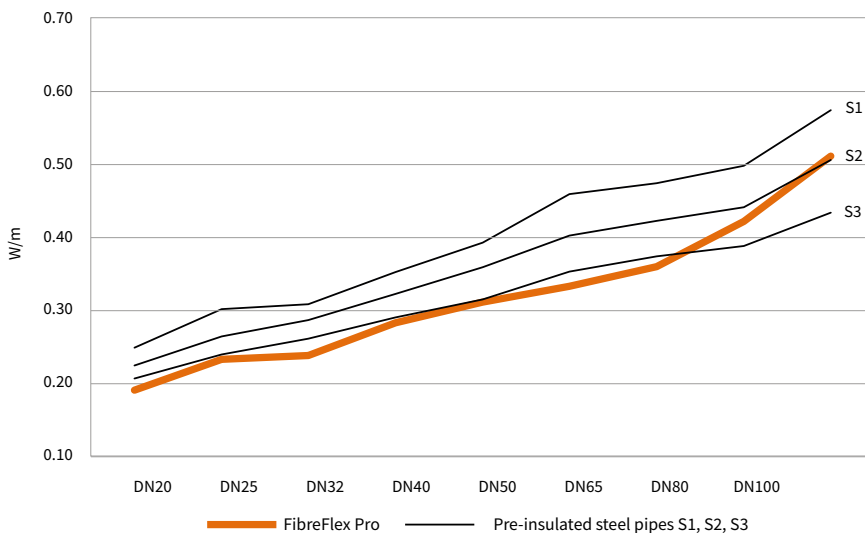
 **CPV**
Engineering Pipework Solutions

www.cpv.co.uk

The next generation of pre-insulated flexible pipe systems for high-temperature and high-pressure district heating applications



Heat loss comparison for FibreFlex Pro and standard pre-insulated steel pipes with insulation series S1, S2, S3 (heat transfer coefficient for flow and return)



System Overview

Hiline FibreFlex and FibreFlex Pro are cutting-edge pre-insulated, flexible pipe systems that combine a high-modulus aramid mesh reinforcement with modern polymer materials in a multi-layer pipe construction. This significantly improved structure allows plastic pipes to be used at high operating pressures of up to 16 bar and operating temperatures of up to 115°C peak.

This makes Hiline FibreFlex and FibreFlex Pro ideal alternative, or complimentary, piping solutions to rigid pre-insulated steel pipes commonly found in district heating networks. Additionally, they can provide an alternative to conventional pre-insulated PE-Xa pipes, offering higher performance and improved factors of safety.

Efficient Insulation

FibreFlex and FibreFlex Pro pipes are insulated in one continuous manufacturing process, using a CFC-free bonded polyurethane foam with an outstanding thermal conductivity value of $\leq 0.021 \text{ W/mK}$ at 50°C.

As the insulation layer has a lower thermal conductivity than conventional pre-insulated steel pipes ($\lambda=0.07 \text{ W/mK}$), in diameters up to 80mm, both FibreFlex systems' heat loss is lower than insulation series S3 pipes and in larger diameters, heat loss is lower than series S2 pipes.

When compared to conventional, bonded pre-insulated PE-Xa pipes, the heat loss can be up to 17% lower for the FibreFlex systems and even better when compared to non-bonded pipes.



Applications

Available in service pipe diameters from DN20 to DN129mm, FibreFlex and FibreFlex Pro are ideal solutions for:

- Biomass district heating networks
- High-temperature city heat networks
- High-pressure heat networks supplying high buildings
- High-pressure heat networks in hilly areas
- Special applications at operating temperatures up to 115°C and pressures up to 16 bar

On-Site Flexibility

The service pipe's reduced wall thickness makes both systems more flexible to install, significantly increasing their range of application in district heating systems. In addition, this includes a full range of fittings and accessories to meet the design requirements of all district heating pipeline projects.

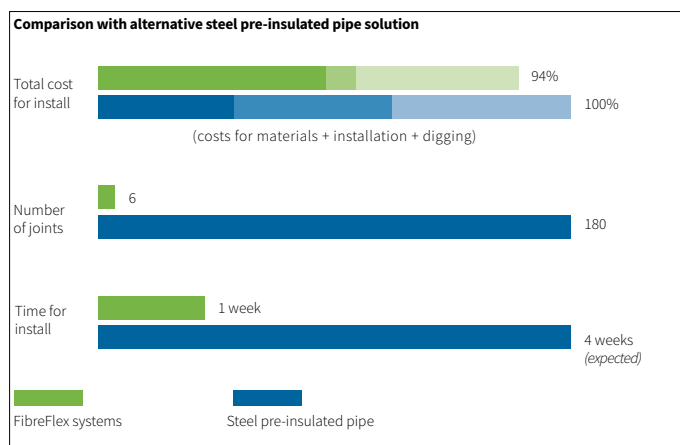
Secure Joining System

FibreFlex and FibreFlex Pro systems are quick and easy to join using specially designed compression fittings, incorporating a unique polymer sleeve, which is inserted between the fitting's outer sleeve and the service pipe. A steel insert is then easily fitted inside the pipe, without the need for the pipe end to be expanded. This provides a robust connection with maximum joint integrity.



Project Example

In a project where a heat network of 1,400m of FibreFlex piping was installed, it could be demonstrated that when compared to installing the same network in pre-insulated steel, there was an installed cost saving and a significant reduction in the network installation time.



Approvals

The FibreFlex pipe system is certified to OFI CERT ZG 200-2 Class Technical Specification, in line with EN 15632-2



Operating Performance

	FibreFlex	FibreFlex Pro
Max continuous operating temperature (30 years):	80°C	95°C
Max peak operating temperature:	95°C	115°C
Max continuous operating pressure (30 years):	10 bar at 80°C	10 bar at 95°C (16 bar to order)

FibreFlex and FibreFlex Pro

Size	Service pipe	Nominal	Outer casing	Minimum bending radius	Max length
	d x s (mm)	DN (mm)	D (mm)	(m)	(m)
25/ 91	25.0 x 2.2	20.6	91	0.90	550
32/ 91	32.0 x 2.5	27.0	91	0.90	550
40/ 111	40.0 x 2.8	34.4	111	0.90	410
50/111	47.6 x 3.6	40.4	111	0.90	410
63/126	58.5 x 4.0	50.5	126	1.00	300
75/142	69.5 x 4.6	60.3	142	1.10	225
90/162	84.0 x 6.0	72.0	162	1.20	149
110/182	101.0 x 6.5	88.0	182	1.30	86
125/202	116.0 x 6.8	102.4	202	1.40	80
140/202	127.0 x 7.1	112.8	202	1.40	80
160/225	144.0 x 7.5	129.0	225	1.60	36



FibreFlex DUO and FibreFlex Pro DUO

Size	Service pipes	Nominal	Outer casing	Minimum bending radius	Max length
	d x s (mm)	DN (mm)	D (mm)	(m)	(m)
25 + 25/ 111	2 x 25.0 x 2.2	20.6 + 20.6	111	0.90	410
32 + 32/126	2 x 32.0 x 2.5	27.0 + 27.0	126	1.00	300
40 + 40/142	2 x 40.0 x 2.8	34.4 + 34.4	142	1.10	225
50 + 50/162	2 x 47.6 x 3.6	40.4 + 40.4	162	1.20	149
63 + 63/182	2 x 58.5 x 4.0	50.5 + 50.5	182	1.30	86
75 + 75/202	2 x 69.5 x 4.6	60.3 + 60.3	202	1.40	80



Complete Range

Hiline FibreFlex Pro is part of the wider Hiline range of pre-insulated pipe systems that include the following service pipes:

- Steel
- Polypropylene
- Copper
- Glass-Reinforced Epoxy (GRE)
- Polyethylene
- PE-Xa
- Stainless steel

World-Class Support

The Hiline range is backed by world-class support services that include assistance with:

- System design and stress analysis
- Planning and drawing support
- Technical support and on-site advice
- Installation training
- Commissioning and operational support services
- Tool hire

CPV is a member of the following organisations:



CPV Ltd
Woodington Mill
Woodington Road
East Wellow
Romsey
Hampshire
SO51 6DQ
United Kingdom

Tel: +44 (0)1794 322 884
Fax: +44 (0)1794 322 885
Email: enquiries@cpv.co.uk

Registered Office:
Station Road West, Ash Vale, Hampshire, GU12 5LZ
Registered in England and Wales No: 468471

www.cpv.co.uk
Follow us on Twitter: @CPVltd
Follow us on LinkedIn: /cpv-limited

Available from:



FM 33749
ISO 9001

QALIT 238 Issue 1.0