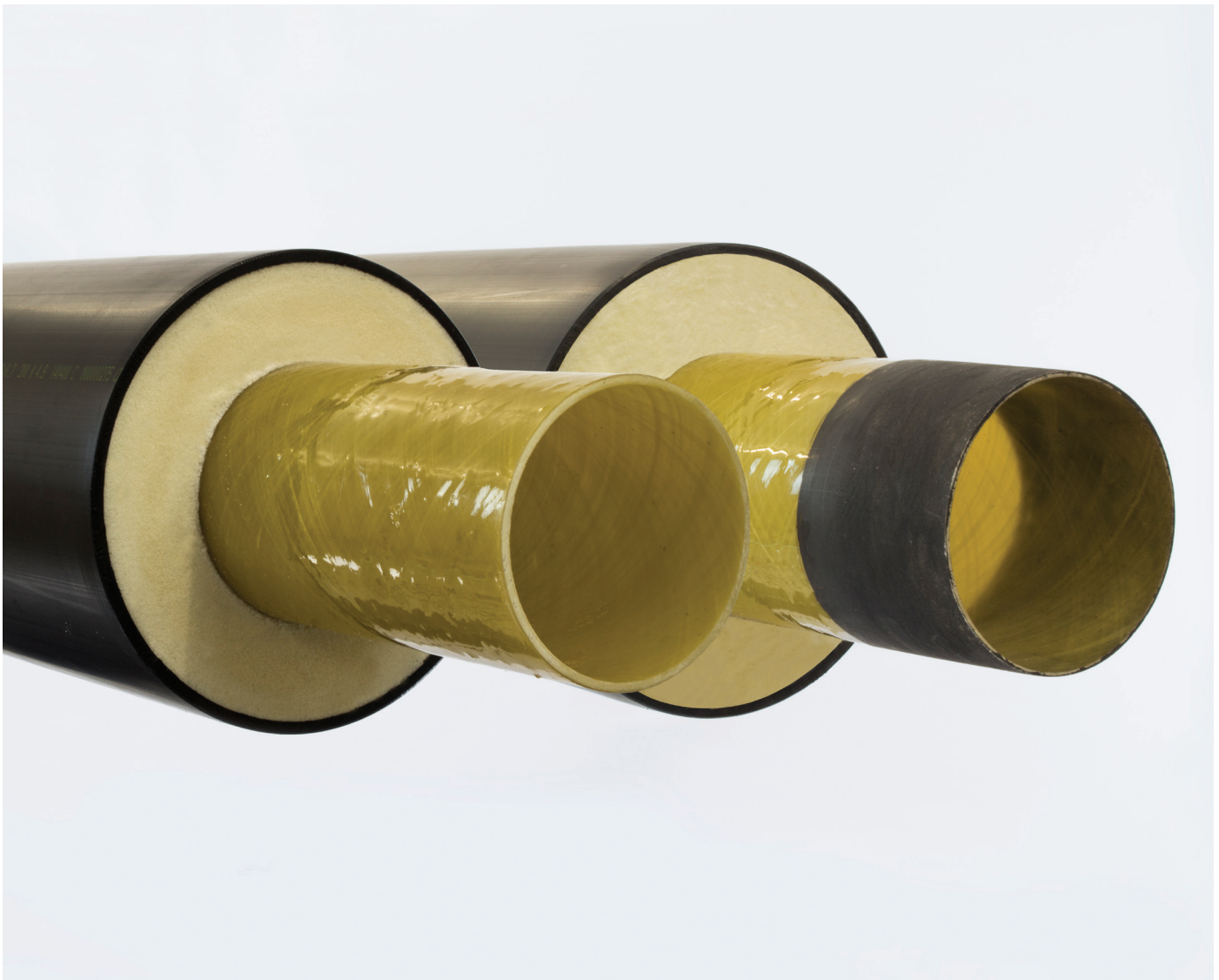


GRE PIPE SYSTEM

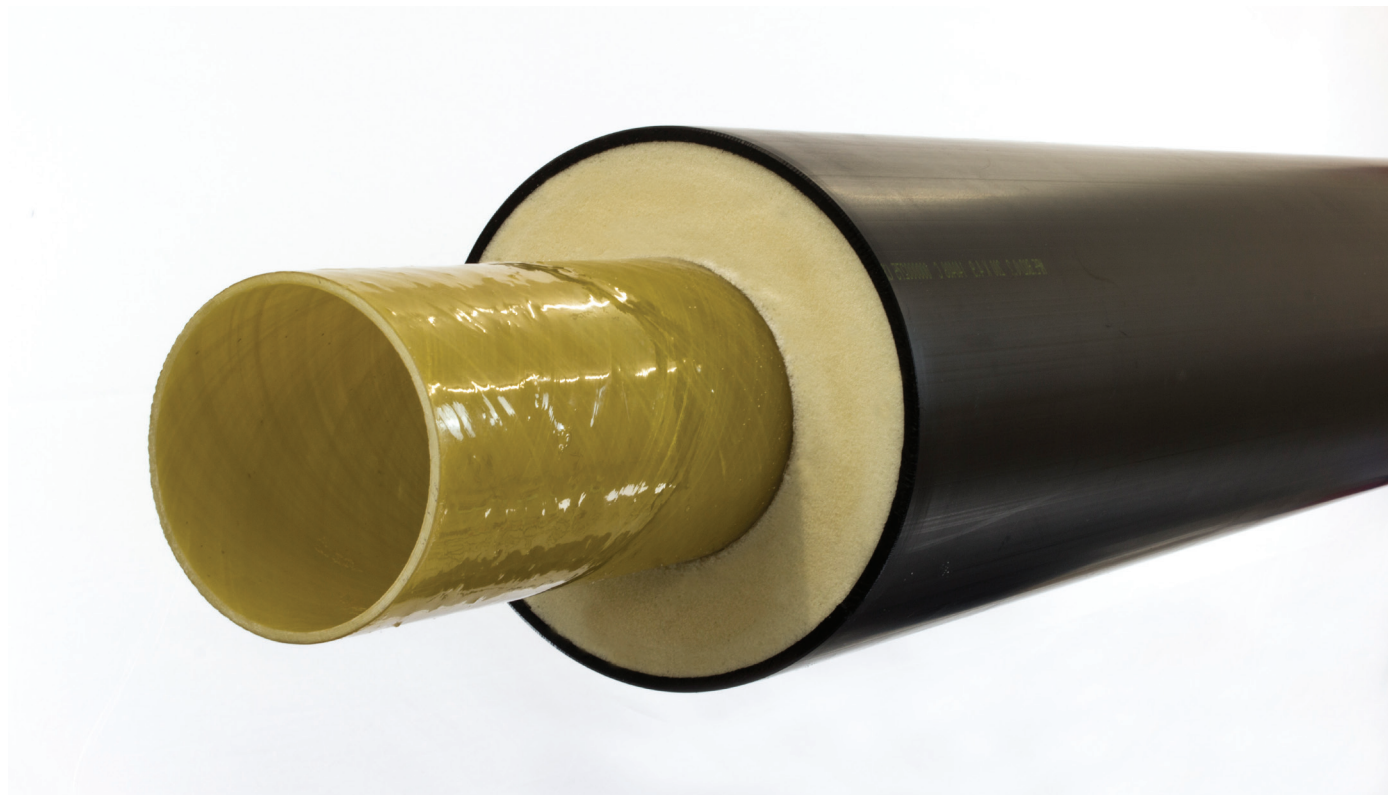


HILINE GRE

A rigid pre-insulated glass-reinforced epoxy pipe system for district heating and cooling applications

INTRODUCTION

Hiline GRE is a rigid, pre-insulated glass-reinforced epoxy (GRE) pipe system specifically developed for the next generation of district heating and cooling networks. Capable of operating at temperatures and pressures previously only achievable with steel systems, it offers outstanding thermal performance coupled with exceptional levels of reliability



Glass-Reinforced Epoxy (GRE) Service Pipe

A composite pipe manufactured from helical-wound glass-fibre-reinforced epoxy material that is designed for use in heating and cooling networks. Offering a minimum life of 25 years when operating at 120°C and 10 bar, the service pipe will accommodate pressures of up to 20 bar and details of service life at other temperature and pressure combinations can be found on the table opposite.

Tough Outer Casing

Manufactured in HDPE to the requirements of the EN253 standards, the tough and resilient outer casing enables the pipe to be buried directly in the ground – so ensuring the network's insulation integrity is maintained throughout its service life.

High-Performance Insulation

A layer of CFC-free rigid polyurethane foam provides outstanding insulation properties, with values of 0.022 W/mK and with the insulation thickness according to the Series 1 requirements of EN 253. With the service pipe and outer casing being bonded together by the foam insulation, the system far out-performs other systems with an air gap. With this increased efficiency, comes lower heat loss and therefore a saving in both operational costs and carbon emissions.

For even greater efficiency, Hiline GRE pipe systems are also available with increased insulation thickness to series 2 and series 3.

Complete System

Hiline GRE has a comprehensive range of pre-fabricated bends, tees, fittings and accessories that enable it to be adapted to meet all possible configurations – including transitions to other types of pre-insulated pipe systems – such as Hiline Steel or Hiline Flex. Hiline GRE can be offered as off-site pre-fabricated fittings and spool assemblies to meet a client's bespoke requirements – significantly reducing installation time and cost.

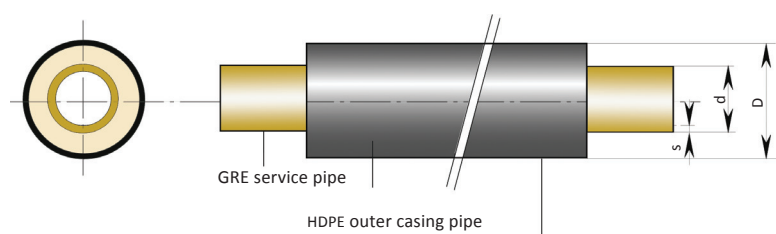
Robust and Adaptable Joints

The Hiline GRE service pipe is joined by means of an adhesive-bonded taper socket and spigot technique that provides secure and reliable connections that will exceed the life expectancy of the pipe system. The HDPE outer casing can be joined using the proven Hiline range of wrap-around heat-shrink or electro-fusion couplings to ensure the very tightest of joints to protect against the ingress of ground water.

Trace Heating and Leak Detection Options

Hiline GRE is available with the option of integrated trace heating cables to protect the media temperature and leak detection systems that warn of moisture ingress into the insulation.

AVAILABLE DIMENSIONS



Hiline GRE (9m / 11.89m lengths)

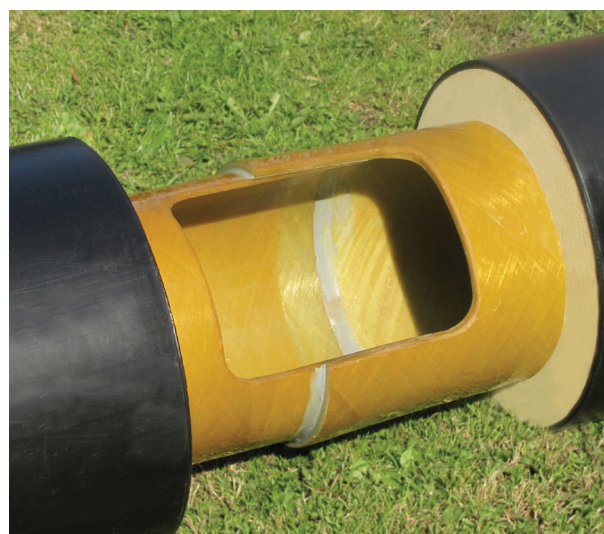
TYPE	GRE Service Pipe					Casing and Insulation (Series 1)		Length	Weight
	OD	ID	Wall	Volume	PN	Casing OD	Insulation thickness		
	d		s			D	(nominal)		
	mm	mm	mm	l/m	bar	mm	mm	m	kg/m
HG.050.P20/9	56.8	53.2	1.8	2.22	20	125	32	9.00	3
HG.080.P20/9	85.4	81.8	1.8	5.26	20	160	35	9.00	5
HG.100.P20/9	109.6	105.2	2.2	8.69	20	200	42	9.00	6
HG.150.P20/9	165.6	159.0	3.3	19.86	20	250	39	9.00	9
HG.200.P20/12	217.4	208.8	4.3	34.24	20	315	45	11.89	14
HG.250.P20/12	273.5	262.9	5.3	54.28	20	400	59	11.89	17
HG.300.P20/12	326.3	313.7	6.3	77.29	20	450	58	11.89	24
HG.350.P20/12	358.2	344.4	6.9	93.16	20	500	67	11.89	30

Please Note:

- Pipes are supplied with factory-prepared taper spigot/socket ends
- Larger diameters, up to DN600mm, are available on request

Hiline GRE - Service Life		
Water Temperature	Service Life (years)	Working Pressure (bar)
Up to 95°C	1-20	20
	25	20
	30	20
	50	20
100°C	1-20	17.5
	25	17.5
	30	17.5
	50	17.5
120°C	1-20	10
	25	10
	30*	-
	50*	-

* Contact us for details



Cutaway showing the adhesive-bonded tapered spigot and socket joint on the GRE service pipe

Standards

The GRE service pipe is manufactured in line with procedure ISO 14692; 1-4 and ASTM D 2310 class 11FX1 and ASTM D 2996, indicating type, grade, class and long term pressure strength classification for the GRE pipe axial load resistant type of pipe being RTRP-11 FW1.

Hiline GRE pre-insulated pipes and fittings for thermal utilities are manufactured within an ISO 9001 accredited environment, generally in accordance with the requirements of EN 253 and in compliance with EN 448, EN 488, EN 489 and EN 13941

Complete Range

Hiline GRE is part of the wider Hiline range of pre-insulated pipe systems that include the following service pipe options:

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

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

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