

GRP JACKING PIPES FOR MICRO-TUNNELING



FLOWTITE GRP JACKING PIPES

Flowtite GRP Jacking Pipes are designed and manufactured for the construction and renovation of belowground pipelines using trenchless methods. They are recognised and chosen for their high axial compressive strength and ring stiffness and provide significant advantages compared to other pipe materials. **Flowtite GRP Jacking Pipes** are supplied with a range of high performance coupling systems suitable for micro-tunnelling and pipe jacking.

The **Flowtite GRP Jacking Pipe** product range consists of:

- Standard jacking pipes
- Jacking pipes with injection nozzles
- Jacking pipes for intermediate jacking stations
- Relining pipes
- Specially tailored fittings and manholes
- Jacking pipe joints



APPLICATIONS FOR FLOWTITE GRP JACKING PIPES

Flowtite GRP Jacking Pipes are suitable for the construction of new sewer and pressure pipelines, replacement of old sewers, road culverts in transport engineering and relining using the following trenchless methods of construction:

- Micro-tunnelling
- Hydraulic jacking with remote control drilling
- Free boring
- Sliplining

Flowtite GRP Jacking Pipes can be installed in:

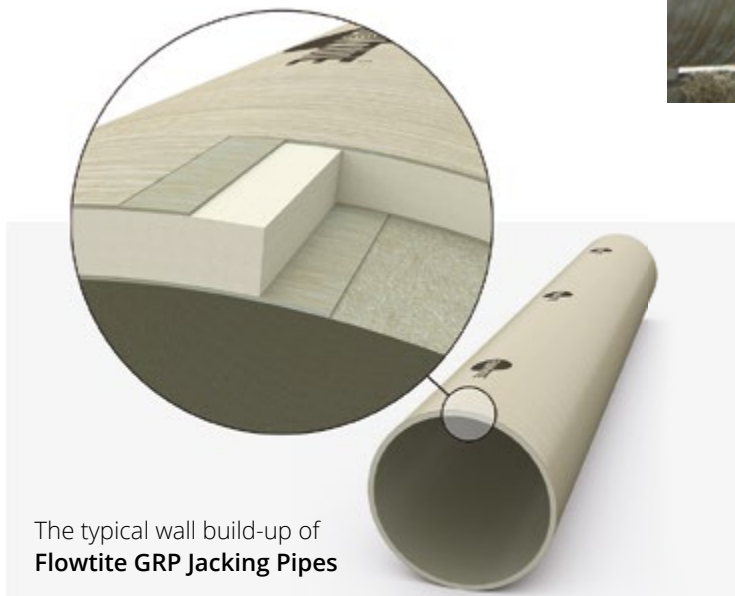
- Straight or curved alignments
- Cohesive and non-cohesive soils
- Dry or high water table conditions



MANUFACTURE

Flowtite GRP Jacking Pipes are manufactured worldwide in Europe, America, Asia, Australia and Africa. A continuous winding and advancing mandrel process is used to produce a dense laminate which maximises the contributions of the raw materials. The process allows high production output compared with other manufacturing processes. The pipes are manufactured with polyester or vinyl ester resin, glass fibre, and silica sand.

The technology enables the production of a range of pipe sizes and wall thicknesses, allowing for optimal pipe selection. Pipe spigots are machined to the required dimensions and tolerances and assembled with either GRP or stainless steel couplings, depending on the application. All pipes are quality inspected after manufacturing to ensure that they comply with the relevant national and international standards.



The typical wall build-up of **Flowtite GRP Jacking Pipes**



TECHNICAL DATA

The **Flowtite GRP Jacking Pipes** manufacturing process allows a wide range of pipe dimensions and properties and is not restricted by outside diameters or pipe lengths.

Pipe Lengths

The pipe length can be customised according to specific requirements to fit the site conditions and jacking pipe equipment. Such flexibility helps to maximise installation efficiency.

Pipe Diameters

Flowtite GRP Jacking Pipes can be manufactured to fit the internal diameter of any pipe, ensuring a smooth transition between open trench and jacked pipe. Flowtite GRP transition pipe allows direct jointing of standard trenched pipe to jacking pipe, eliminating the requirement for a maintenance structure. Customised internal and external pipe diameters can be accommodated



FEATURES AND BENEFITS

Flowtite GRP Jacking Pipes systems provide:

- High axial compressive strength for longer single drive lengths, depending on soil conditions and jacking parameters
- Consistent distribution of concentrated compressive stress (especially in curves)
- Excellent hydraulic properties
- Operating temperatures from -50 °C to +70 °C

The high compressive strength of **Flowtite GRP Jacking Pipes** also allows reduced wall thicknesses compared with other pipe materials, maximising cost savings and optimising the price / performance ratio. Further benefits can be achieved with:

- Smaller jacking machines
- Minimum excavation volume
- Smaller starting pit (thrust block volume)
- Lower energy consumption
- Reduced construction time
- Chemical resistance



MATERIAL PROPERTIES

Physical Characteristics

The wall construction of **Flowtite GRP Jacking Pipes** can vary, depending on the stiffness and jacking load requirements. Indicative mechanical properties are provided in the following table.

PROPERTIES OF FLOWTITE GRP JACKING PIPES	
Parameter	Value
Material density	2 000 – 2 100 kg/m ³
Longitudinal compressive strength	> 90 MPa
Hoop flexural modulus	12 000 – 18 000 MPa



STANDARDS AND QUALITY

Flowtite GRP Jacking Pipes are manufactured acc. to the following relevant standards, under third party certified quality assurance programmes complying with ISO 9001 Quality Management System:



- **ISO 25780:2011**
„Plastics piping systems for pressure and non-pressure water supply, irrigation, drainage or sewerage – Glass reinforced thermosetting plastics (GRP) systems based on unsaturated polyester (UP) resin – Pipes with flexible joints intended to be installed using jacking techniques“.
- **ISO 10467:2004**
„Plastics piping systems – Glass reinforced thermoplastics (GRP) systems based on unsaturated polyester (UP) resin: Pressure and non-pressure drainage and sewerage“.
- **ISO 10639:2004**
„Plastics piping systems – Glass reinforced thermoplastics (GRP) systems based on unsaturated polyester (UP) resin: Pressure and non-pressure water supply“.
- **EN 1796:2013**
„Plastics piping systems for water supply with or without pressure – Glass-reinforced thermosetting plastics (GRP) based on unsaturated polyester resin (UP)“.
- **EN 14364:2013**
„Plastics piping systems for drainage and sewerage with or without pressure - Glass-reinforced thermosetting plastics (GRP) based on unsaturated polyester resin (UP) – Specifications for pipes, fittings and joints“.
- **ASTM D3262**
„Standard Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe“.

Distributed by

Amiantit Service GmbH

Am Fuchsloch 19
04720 Döbeln
Germany
Tel.: + 49 3431 71 82 0
Fax: + 49 3431 70 23 24
info@amiantit.eu
www.amiantit.eu

Amiantit Germany GmbH

Am Fuchsloch 19
04720 Döbeln
Germany
Tel.: + 49 3431 71 82 0
Fax: + 49 3431 70 23 24
info-de@amiantit.eu
www.amiantit.eu

Amiantit Poland Sp. z o.o.

43 Św. Michała Street
61-119 Poznań
Poland
Tel.: + 48 61 650 34 90
Fax: + 48 61 650 34 99
info-pl@amiantit.eu
www.amiantit.eu

Amiantit Spain, S.A.

Polígono Industrial La Venta Nova, 91
43894 Camarles (Tarragona)
Spain
Tel.: + 34 977 470 777
Fax: + 34 977 470 747
info-es@amiantit.eu
www.amiantit.eu

Amiantit France

58 bis, Rue de l'Ambassadeur
95610 ERAGNY-sur-OISE
France
Tel.: + 33 1 34 02 06 30
Fax: + 33 1 34 02 30 38
info-fr@amiantit.eu
www.amiantit.eu

Amiantit Norway AS

Østre Kullerød 3,
3241 Sandefjord
Norway
Tel.: + 47 99 11 35 00
Fax: + 47 33 44 92 00
info-no@amiantit.eu
www.amiantit.eu



amiantit.eu



THE FIRST CHOICE OF ENGINEERS **WORLDWIDE**

04-16 | EN | V1

This brochure is intended as a presentation only. Flowtite have separate handbooks and manuals for engineering and installing Flowtite products, which should be used for such purposes.

All values listed in the product specifications are nominal. Unsatisfactory product results or applications may occur due to environmental fluctuations, variations in operating procedures, or interpolation of data. We highly recommend that any personnel using this data have specialized training and expertise in the application of the products and their normal installation and operating conditions as well as any particular requirements and the degree of care required for product installation or service.

Flowtite does its utmost to ensure that all technical information, data and recommendations are based upon good research and our wealth of experience. We provide the data in this brochure in good faith, and, as such, accept no liability, and will not be held liable, for any losses or damage which may result from the installation or use of any products listed in this brochure. Flowtite companies reserve the right to revise, delete or make obsolete any data and product featured in this brochure without prior notice. We welcome comments regarding this brochure.