

FP-Flex

Flexible reinforced pipe for (bio)methane transportation



- Flexible reinforced thermoplastic pipe
- Elimination of corrosion
- 35 bar pressure rated
- Lower pressure drop compared to steel
- Installed in continuous runs
- Reduce installation from days to hours

 **CGH**
Belgium

FP-Flex

Flexible reinforced pipe for (bio)methane transportation

Thanks to more than 25 years of experience in non-metallic pipework design and project engineering, both in the upstream and downstream segment, CGH Belgium can once again introduce a new product that raises the standards of gas transportation.

The new reinforced thermoplastic pipe “FP-Flex” is designed for (bio)methane applications.

This innovation is a derivative product of the well known LPG-Flex® which for over 10 years has proven to offer



The reinforced thermoplastic pipe is suited for direct burial.

The outer jacket protects the aramid fibre braiding and the nylon inner tube, giving the pipe an excellent longevity.

The elimination of steel pipework, welding and corrosion substantially increases the safety of gas installations, one of the authorities’ most important objectives.

This advantage, combined with the greatly reduced installation time and cost, ranks the FP-Flex pipework number one when looking at safety and cost efficiency!

The pipe, supplied on a spool of up to 665 m, is installed in continuous runs with no underground connections, which drastically reduces the risk of leaks. It can be easily unspooled and laid in the trenches due to its flexibility. Installation time is greatly reduced, resulting in significant savings.



The pipe is completely constructed from advanced polymers and rules out time consuming welds and the associated x-ray tests. Pipe corrosion is also a problem of the past.

The smooth nylon inner walls cause a much lower pressure drop than steel and smaller diameters can be used for the same flow rate.

FP-Flex

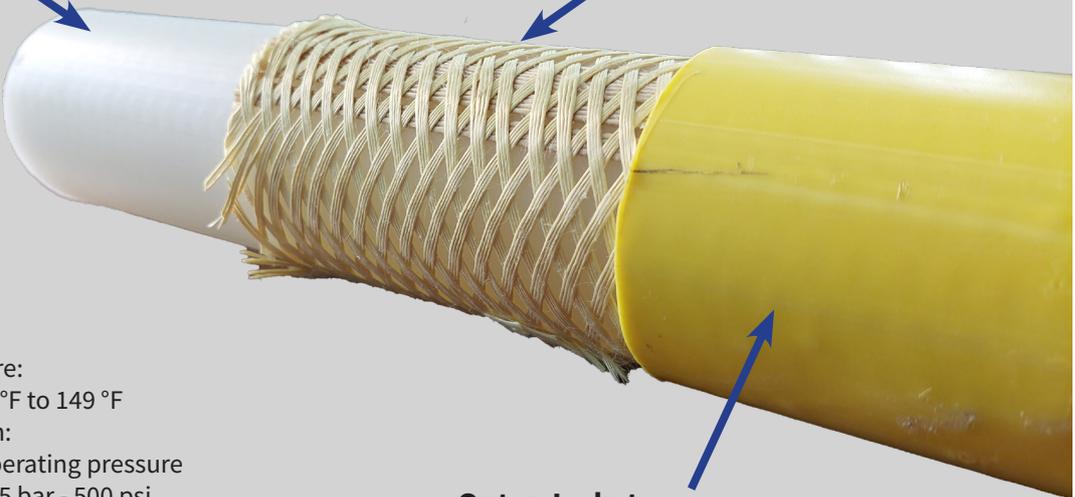


FP-Flex

Composition and specifications

Inner liner (base tube):
Nylon inner liner suited for biogas transportation.

Reinforcement:
Aramid fibre braiding in radial criss-cross as well as longitudinal direction prevents the pipe expansion in all directions



- Max operating temperature:
-40 °C to +65 °C / -40 °F to 149 °F
- Pipe braid design strength:
2,2 times the max operating pressure
- Max operating pressure: 35 bar - 500 psi
- Max testing pressure: 52 bar - 760 psi
- Min installation temperature: 0 °C
- Standard pipe diameters: DN48
Other diameters on demand
- Spools with length of 665 m (2182 ft)
- Pipes have length marks in meter or foot
- Suited for direct burial

Outer Jacket:
Yellow polypropylene abrasion resistant braid protection

Installation of the fittings



Crimping one fitting takes less than 10 minutes. A long length of pipe installed in one piece only has fittings on both ends and installation time will be drastically reduced. No complex machines are required to crimp the fittings. These can be installed on site or in a workshop giving great flexibility. The only tools needed are a pipe cutter, a crimping machine and a caliper. CGH provides a short training for installers and distributors.



FP-Flex

Dielectric testing and quality control

Like many other non-metallic pipes, FP-Flex is non-conductive. The dielectric strength of the pipe wall must be higher than 100 kV to avoid static discharge through the wall.

The picture shows the dielectric test of a pipe in a licensed Belgian laboratory. The pipe wall withstood a voltage of 140 kV DC without failure.

Eventually, static charges will be safely evacuated via the earthed metal end fittings.



Installation in the picture

In the French Picardie region, near the banks of the river Somme, CGH's French distributor installed the first FP-Flex composite pipe for biogas applications.

The new biogas plant is a 5 million Euro investment from a cooperative of several local farmers and will turn organic waste into a renewable and environmentally friendly biogas.

The brand new FP-Flex pipe is used for the underground connections at the site. FP-Flex is a DN48 Reinforced Thermoplastic Pipe (RTP) with stainless steel end fittings. It has the same features as the well-known LPG-Flex pipe: rapid installation, no underground connections, no internal nor external corrosion, high flexibility and extreme durability.

The biogas made from 100% local feedstocks is injected to an existing high pressure gas line running about 200 m from the site; local production – local consumption.



Further developments

CGH Belgium is continuously developing new products and solutions to meet the needs of the customers.

A higher pressures version of the FP-Flex is also available. This DN25 pipe has a working pressure of 85 bar - 1200 psi and transports the gas to the injection point on the main



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