

iplus Composite™



A higher strength, stiffer and thinner CIPP product



iplus Composite™ is a high-strength, fibre-reinforced composite cured-in-place pipe (CIPP) used for the rehabilitation of gravity pipes in the 600 to 2,400 mm size range. iplus Composite™ offers excellent structural integrity and can be used in circular and non-circular pipe reconstruction. Reinforcing fibres are integrated into the pipe wall to form a sandwiched laminate structure with improved physical properties. The higher strength and stiffness of iplus Composite™ provide a fully structural pipeline rehabilitation product with about half the wall thickness of conventional CIPP products. The improved flexural strength makes it an excellent material choice for non-circular cross-sections that contain straight sides, like egg shapes or flat bottom arch pipes.

iplus Composite™ offers a structural, corrosion resistant pipe that fits tightly within the host pipe. The product is installed in accordance with ASTM F 1216 or ASTM F 1743 using traditional procedures eliminating the need for additional inspector training. iplus Composite™ offers enhanced material physical characteristics in a conventional trenchless rehabilitation process to maximise the pipe performance.

iplus Composite™ is an economical solution for reconstructing medium-diameter gravity flow pipes:

- Provides a seamless, jointless “pipe-within-a-pipe”
- Restores structural integrity
- Significantly reduces infiltration
- Stabilises pipes with a wide range of shapes
- Increases flow capacity relative to the host pipe and more conventional rehabilitation products

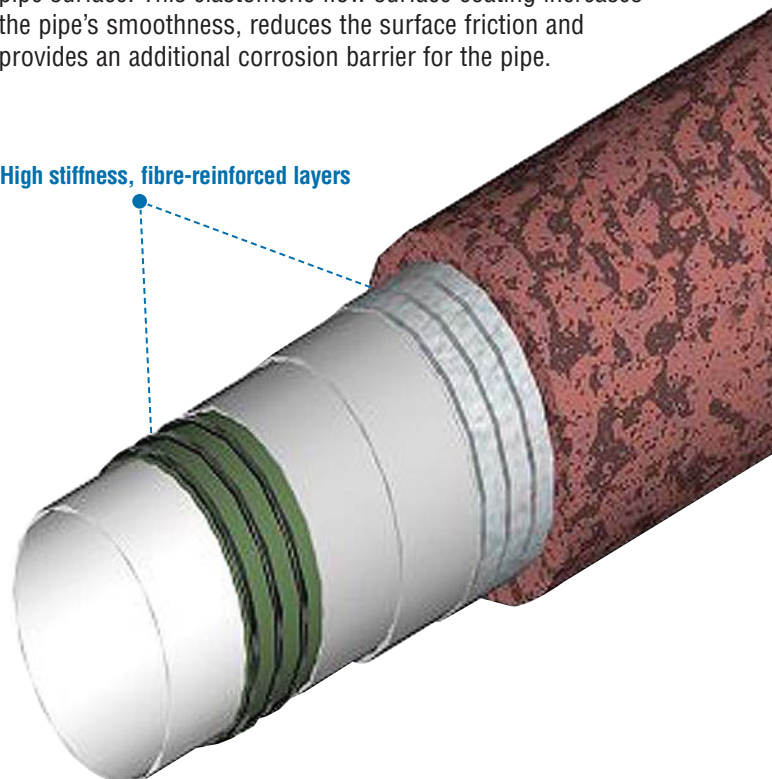
Materials & Structure

iplus Composite™ is reinforced with carbon fibre and/or Advantex® fiberglass materials which have excellent chemical resistance to constituents found in sewers and exceed all of the trenchless ASTM industry corrosion requirements.

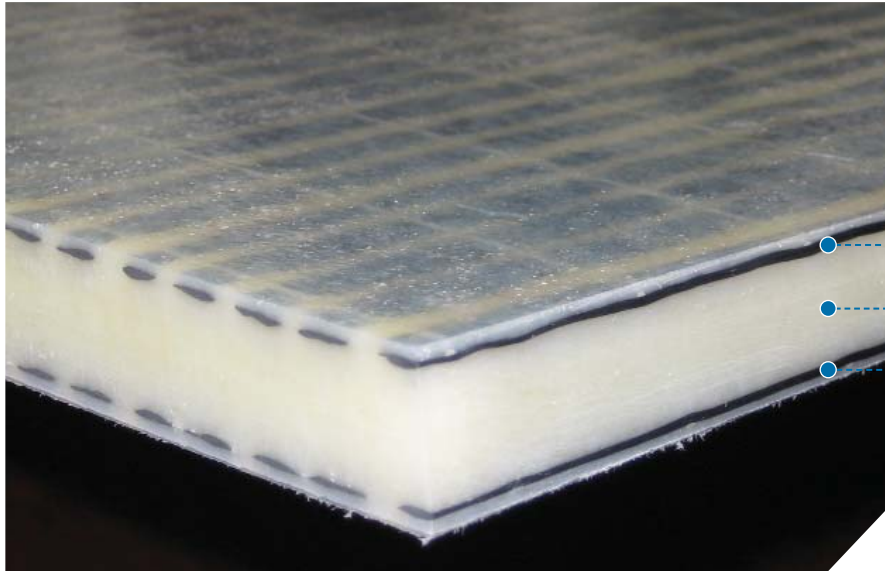
The iplus Composite™ laminate design method optimally locates the structural reinforcing materials (see picture below), reducing the pipe wall thickness by about half. As with other CIPP products, the applied pipe loads are calculated according to trenchless technology's industry accepted standards, such as ASTM F 1216.

iplus Composite™ has a polypropylene coating on the inside pipe surface. This elastomeric flow surface coating increases the pipe's smoothness, reduces the surface friction and provides an additional corrosion barrier for the pipe.

High stiffness, fibre-reinforced layers



iplus Composite™ Sandwich Construction



High stiffness, fibre-reinforced layers

Conventional CIPP material

Manufacturing

The iplus Composite™ tube is assembled in Insituform's ISO-certified manufacturing facilities using the manufacturing processes and equipment used to construct traditional Insituform® CIPP products. This ensures the tubes are made with the same attention to detail and high standards of quality our customers have come to expect from decades of conventional CIPP tube manufacturing.

iplus Composite™ Technical Envelope*

Diameter Range	600 – 2,400 mm
pH Range	.5 – 10.5
Effluent Temperature	Up to 60° C
Pipe Condition – Fully Deteriorated	Yes
Pipe Condition – Partially Deteriorated	Yes
Bends	Yes
Offset Joints	Yes
Typical Shot Length	15 – 245 m
Host Pipe Shape	All Shapes
Host Pipe Material	All Materials

*Applications outside these ranges may be considered on a case-by-case basis.