IPLUS INFUSION® UV

Insituform’s cutting-edge UV felt cured-in-place pipe (CIPP) for trenchless sewer rehabilitation

iPlus Infusion® UV

The iPlus Infusion® UV lining system is Insituform’s next generation, small-diameter cured-in-place pipe (CIPP) solution. Enhancements to manufacturing and installation allow us to deliver this higher quality and less disruptive solution.

The iPlus Infusion® UV system is a seamless, jointless pipe-within-a pipe that can be used to rehabilitate deteriorating small-diameter sanitary and storm sewers without digging or disruption. The product meets or exceeds the physical properties set forth in ASTM F1743 with the benefit of UV light curing.

Manufacturing and Installation

The iPlus Infusion® tube is assembled in an Insituform® manufacturing facility, whose quality management system is registered to ISO 9001:2015 and employs the manufacturing processes and equipment used to construct traditional Insituform® CIPP products. This ensures the tubes are manufactured with the same attention to detail and high standards of quality our customers have come to expect from decades of conventional CIPP tube manufacturing. A pull-in process is used to install the tube into the host pipe, reducing stress on the tube. It can be installed in pipelines with diameters from 6 to 15 inches and in lengths up to 750 feet.

By combining the benefits of UV cure technology with the 5.5 million feet of iPlus Infusion® manufacturing/saturation experience, Insituform has truly created the next generation UV CIPP.
Environmental Benefits

CIPP is inherently environmentally friendly, but we have raised the bar by applying green engineering concepts to the design of iPlus Infusion® UV. An enhanced wetout or resin impregnation process helps us reduce waste.

Using UV light to cure the resin utilizes less equipment than standard steam/water curing, thereby reducing overall emissions.

iPlus Infusion® UV enhances the proven iPlus Infusion® CIPP process and addresses top concerns:

Infiltration Reduction

Water entering your sewer system through cracks, holes and joint failures can overload your treatment facilities, especially during wet weather. The iPlus Infusion® system significantly reduces this infiltration.

Structural Integrity

The iPlus Infusion® tube restores structural integrity to your damaged sewer pipes and has a design life of 100 years.

Increased Flow Capacity

The smooth, jointless interior of our product improves flow capacity, despite the cross-sectional reduction. There are no joints or seams that can separate over time.

iPlus Infusion® UV Benefits:

- Continuously monitored and recorded through the curing cycle to ensure a defect-free final product
- Shorter installation cycle time produces less disruption and minimizes service outages
- Permanent internal/external barriers to encapsulate styrene emissions during the curing and cool down cycles
- Reduced equipment results in a quieter, less disruptive jobsite and minimal traffic disruption
- 30 percent less expensive than traditional glass-reinforced UV materials
- Patented positive-head impregnation fully saturates the tube, providing optimal physical characteristics

iPlus Infusion® UV Installation Process

Step 1: The iPlus Infusion® tubes are wet out using a patented resin impregnation system that fully saturates the tube with thermosetting resin.

Step 2: The resin-saturated tube is pulled into the damaged pipe.

Step 3: In lieu of steam/water, UV light is used to cure the tube. Throughout the curing process, sensors continuously monitor the temperature of the tube.

Step 4: Service laterals are restored internally with robotically controlled cutting devices and rehabilitated pipes are inspected by closed-circuit TV.

iPlus Infusion® UV Technical Envelope

<table>
<thead>
<tr>
<th>iPlus Infusion® UV Technical Envelope</th>
<th>Diameter range</th>
<th>6 in to 15 in</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH range</td>
<td>0.5 – 10.5</td>
<td></td>
</tr>
<tr>
<td>Effluent temperature</td>
<td>140°F</td>
<td></td>
</tr>
<tr>
<td>Pipe condition — fully deteriorated</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Pipe condition — partially deteriorated</td>
<td>Yes</td>
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</tr>
<tr>
<td>Bends</td>
<td>Yes, on a case by case basis</td>
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<tr>
<td>Offset joints</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Maximum shot length</td>
<td>750 ft</td>
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