



# AEGION®



## Stronger. Safer. Infrastructure.®



### Resin Systems

#### Vacuum Impregnation Wet Out Process

In addition to having a high-quality felt tube, a sewer rehabilitation project requires the use of resins specifically developed and tested for tube wet out. We developed a patented method to make sure resin completely fills our felt CIPP tube during wet out. Our serial vacuum impregnation process enables our resin to fully saturate tubes of any length or thickness, thereby ensuring the long-term reliability of our cured-in-place pipe.

Finally, we place enough resin in the tube during wet out to completely impregnate the felt in our Insituform® tube and create the desired Insituform® pipe thickness. We add extra resin to compensate for irregularities in the host pipe. This process creates a pipe which fits tightly against the host pipe to maximize buckling resistance and minimize infiltration.

At Insituform, we select and test resins that have been specifically chosen for sewer applications. We could choose any number of resins for our Insituform® process but continue to use polyester resin because it is the most cost-effective, reliable and durable solution on the market. Independent testing and the more than 25,000 miles of CIPP we've installed in sewer rehabilitation projects since 1971 prove it.

#### What makes Insituform's polyester resin better than other sewer rehabilitation resins?

##### It's stronger.

One of the most important properties of any sewer rehabilitation product is its flexural modulus of elasticity. Independent tests show that the flexural modulus of Insituform's standard sewer resin exceeds ASTM F1216 requirements.

##### It has better long-term buckling resistance.

In a study funded by the United States' Government, the long-term buckling resistance of sewer rehabilitation products was evaluated. Insituform's standard polyester resin demonstrated excellent long-term properties with a design life well in excess of 50 years.

##### It cures reliably.

Insituform's polyester resins cure rapidly, even in the presence of water. These rapid cure cycles ensure that a proper cure can be achieved under all project conditions.

##### It is resistant to corrosion.

Independent tests have found that Insituform® CIPP installations completed in 1971 still show no signs of chemical attack or strength loss, despite continuous exposure to sewage, laundry effluent of an elevated temperature and caustic products. What's more, the resins we use today are far superior to those early formulations - and are specifically designed for use in today's more acidic sewers.

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