

Pipeline Rehabilitation Using Fold & Formed Technology

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Fold and formed technology utilizes a thermoplastic pipe which is folded or deformed at the time of manufacture to reduce the cross-sectional area. The pipe is extruded continuously, then it is coiled on a reel or spool for transport. Thermoplastic materials used in the production of fold and formed pipe consist of PVC, PVC alloys or HDPE. The reduced cross section allows the pipe to be mechanically pulled into the host pipe to be lined. Existing manholes provide access to insert and process the pipe during installation.

After the folded pipe is in position, the material is softened by heating with steam. Internal pressure and in some instances, a progressive device is used to return the folded pipe to a round cross section and conform it to the internal diameter of the host pipe. Service laterals are reinstated by using a remote controlled camera and cutting device.

The fold and form method of sewer rehabilitation has many advantages. The installation is quick and non-disruptive. Proper material specifications will result in a fully structural pipe with a design life of 50 years. Typically, the hydraulic capacity of the line is increased even with the slight reduction of the internal diameter. The seamless, jointless extrusion of the material provides an excellent barrier to root intrusion and internal corrosion. Finally, fold and formed technology will generally provide a very cost-effective rehabilitation method when compared to other technologies.

Although fold and form technology is a very advantageous method of sewer reconstruction, several factors may limit its application. These factors include, but are not limited to the host pipe condition, groundwater conditions and the customer's purpose of rehabilitation. Typically, fold and formed technology is limited to small diameter pipelines (4-12") due to the heating and pull-in requirements. Despite these limitations, over 2,000,000 linear feet of fold and formed product are being installed annually throughout the world as customers continue to enjoy a no-dig solution consisting of a tight-fitting pipe within a pipe.

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