



Tape it Up

Proper Installation of a Pipe Wrap and Tape

By Jim Tolly

During summer 2011, Farwest Corrosion Control supplied a field-applied tape coating system for a pipeline relocation project in Southern California. While not involved in assisting with the coating specification, Farwest has long-standing relationships with the contractor and the pipeline owner.

Two new 12-in. pipelines were built. The fittings and some of the girth welds were field-coated with Amcorr Viscotaq Coat Wrap ST for corrosion protection and then followed with Polyken tape for mechanical protection. Visco-Elastic tapes aren't new to the market, but it's within the past few years that their popularity and use have started to rise.

Typical field-applied tape coatings require a number of meticulous steps, time and patience for successful application. The first step is cleaning the pipe to meet the manufacturer's requirements. This usually means a wire brush, a power wire brush or abrasive blast cleaning. Applying a primer is the next step. Tape application can begin after the primer has sufficiently dried. When tape is spirally wrapped

around pipe, uniform tension must be held on the tape roll and each successive wrap must overlap the previous wrap, meeting the project specifications relative to the number of tape layers. If a wrinkle is created, the tape should be pulled off the pipe and repositioned, ensuring that the tape backing is smooth. The tape should adhere to the pipe and itself, creating an airtight and watertight bond. If wrinkles aren't removed, they can and will create a path for water to find its way to the pipe surface.

Visco-Elastic tapes are atypical. They require minimal pipe surface preparation. A wire brush cleaning is usually sufficient, therefore no specialized tools or equipment are required. The adhesive is mastic-like. It's very soft, tacky and aggressive, negating the need for a primer. It easily fills the irregularities of the pipe surface substrate. When applied, the tape requires minimal overlap and tension on the tape roll. Contractors and inspectors can be trained in proper application in a relatively short time period as was the case with this project.



The above images show the proper installation of a field-applied pipe wrap and tape. Farwest Corrosion Control Coatings conducted the pipe repair during a relocation project in California in summer 2011.

Some Visco-Elastic tape manufacturers make these claims:

- If a wrinkle is created when applied, it needs to only be pressed down or smoothed out, avoiding possible water migration to the pipe surface.
- Visco-Elastic tapes are self-healing to a degree. If the tape incurs a relatively small damaged area, the adhesive will cold flow to cover it.
- If the tape fails due to sheer or soil stress, the adhesive will pull apart but some adhesive will remain on the pipe surface, providing corrosion protection.
- Visco-Elastic tapes will remain flexible for decades. They won't crack or become brittle over time.

The following procedure took place on the girth welds and fittings that required coating. A clean, solvent-soaked rag was used to wipe down the area. The bare steel was abrasive blasted to a near white metal degree of cleanliness. The plant-applied coating was lightly sanded where it would be overlapped. Viscotaq Coat Wrap ST tape was meticulously wrapped around the pipe. Polyken tape was applied over the Viscotaq tape. The tape coating was visually inspected and holiday tested. No repairs were necessary.

Established in 1956, Farwest Corrosion Control Co. is a world-class leader in cathodic protection products and equipment, plus cathodic protection engineering services and installation services. The company is known for protection of submerged metallic structures such as pipelines, storage tanks, offshore structures and marine vessels, but the Farwest serves a wide range of industries such as oil and gas, the building industry, water distribution, wastewater, power generation, communications and agriculture.

Jim Tolly is a corrosion control coatings specialist for Farwest Corrosion Control Co.

BENJAMIN

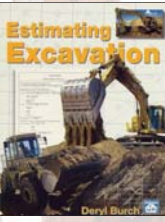
MEDIA • RESOURCE CENTER

Add these resources to your reference library!

Estimating Excavation

Step-by-step instructions on how to read plans, estimate labor and equipment costs, evaluate a site, determine undercuts, figure factors for swell and shrinkage and much more.

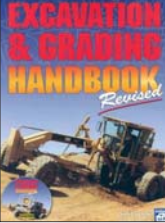
PRICE: \$49.99*



Excavation & Grading Handbook — Revised

Learn how to read topo maps, set crows feet, install water, drain and sewer pipes, lay or remove asphaltic concrete, use a laser level, cut drainage channels, pressure-test sewer pipes and use GPS and sonar for absolute precision.

PRICE: \$49.99*



*SHIPPING AND HANDLING NOT INCLUDED. SELLING PRICE SUBJECT TO CHANGE WITHOUT NOTICE.

RESOURCE CENTER

benjaminmedia.com/book-store
330-467-7588