



Controlling corrosion in the field

Pipeline construction is an expensive undertaking and there are many factors to consider, from the point where the steel is rolled to when the pipe is buried and the right-of-way is restored. A key element to long term performance of a pipeline is the corrosion resistant coatings, both plant-applied mainline coatings and field-applied joint coatings. A number of coating technologies are available and selection depends on pipeline construction conditions, in-service conditions and specifier preferences.

The most popular pipeline corrosion-resistant coatings in the world are three-layer polyethylene or three-layer polypropylene, each of which offers superior resistance to damage during construction and long term corrosion protection while in service. These coatings are applied in factories under well-controlled conditions with constant quality control monitoring.

Field-applied coatings, however, are applied under demanding conditions and the products need to be engineered for application in some very severe climates. With oil and gas reserves being more difficult to find, deeper reservoirs and remote fields have become the norm. Hot, dusty desert conditions, arctic cold and humid rainforests are a few of the field conditions that may be encountered¹. These highlight the need for proper specification of products which are truly compatible with the mainline coating, and proper application in the field.

Product specification, qualification, installation training, applied quality and ongoing inspection are cornerstones to ensuring long term performance of field applied coatings. When specifying projects, it is important to consult with those who are most knowledgeable in the field and can work with you from start to finish.

Canusa-CPS understands all of this and has a broad range of field-applied coating products to suit the needs of today's oil and gas pipeline industry. Along with state-of-

the-art products, Canusa-CPS has field service engineers and technicians who are experienced on many different types of projects all over the world. The services offered by this group of dedicated professionals include assistance in product selection, demonstration of products and new technologies, project specific pre-qualification trials, project startup applicator training and ongoing field service.

Understanding what product is best for the application then clearly stating that in the spec is a start. Specifically for three-layer polyolefin coatings, heat-shrinkable sleeves are the most commonly used field joint protection system in the world. This is because heat-shrink sleeve systems are engineered to best replicate the factory applied three-layer mainline coating and can be readily applied under severe field conditions given proper procedures.

The spec must ensure that the selected system is compatible with the chosen pipeline coating. With proper equipment and training, the prime pipeline contractor can then effectively apply the products in the field and the client can expect performance in line with their specification requirements.

After the project is awarded and the contractor is preparing for mobilisation is a good time to pre-qualify the contractor and their field application crews in the proper installation of the products. Credible manufacturers of field-applied products have the resources to supply field service people to accomplish this goal.

Field installation quality is the next step. On start-up, field service people need to be available to train crews in proper application and inspection of field-applied products. These same people can work with site inspectors in determining what to look for in a quality installation through to the end of the project.

The important factors toward a successful project centre on specification, product



selection, contractor experience and preparedness, equipment, training and ongoing inspection.

When specifying your next project, speak with Canusa-CPS's regional staff in order to fully understand our products and capabilities to assist you on your most challenging projects. ●

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MORE INFORMATION

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¹ Terrain and Geohazard Challenges facing Onshore Oil and Gas Pipelines, London, UK, 2-4 June 2004 - Robert Buchanan, Ron Dunn, Nick Gritis, Canusa-CPS - Pipeline Girth-Weld Joint Corrosion Protection: Remote Project Field Installation Challenges