

3 Layer Polypropylene (3LPP) work is protecting your assets and prevent future coating failures.



- Avoid expensive repair costs and down time due to coating failure such as corrosion and losing adhesive coats.
- Determine the cause of coating failure and prevent similar occurrences in the future

PURPOSE

This anti-corrosion system consists of a high-performance fusion bonded Epoxy (FBE) followed by adhesive and outer layer of polypropylene which provides tough, durable protection. The FBE component provides excellent adhesion to steel, providing long term corrosion resistance and protection of pipe lines operating at moderate temperature. Reduces the total cost of cathodic protection during the operation of the pipe lines

OPERATION AND APPLICATIONS:-

Main application of 3LPP is in oil and gas both onshore and offshore pipe line, large diameter pipelines, small diameter pipelines and water work pipeline. The tough outer layer of 3LPP coating can provide high level of mechanical protection to products during transportation and installation thereby reduce repair cost.



3 Layer Polypropylene coating and failure analysis from Orbit International Survey Services LLC

Ensure your coating work is protecting your assets and prevent future coating failures. Whether your assets include the management of construction sites, factories, laboratories, shipyards or power plants, you need to be certain that your coating work is protecting your facility. Coating failures mean expensive repair costs and lengthy downtime. Our coating inspection and failure analysis helps ensure the continued protection of your facility

Why use coating inspection and failure analysis from ORBIT?

To ensure that coating work is fully protecting your facility. We provide comprehensive inspection of coating work, 3 layer polypropylene for the cause of any failure to help you prevent future occurrence.

Our coating inspection and failure analysis helps you to:

- Assess coating on Ferrous-Steel, Stainless Steel, Aluminum, 3 layer polypropylene for conformity, compatibility and performance.

3LPP COATING

ORBIT also conducts periodic quality control at contractors, coating shops and manufacturers, 3-Layer polypropylene (3LPP), which consists of fusion bonded epoxy (FBE) primer, a polypropylene adhesive and a polypropylene top coat. The coating type is similar to 3-layer Polyethylene except that polypropylene is more temperature resistant than high density polyethylene, which becomes a major factor on pipelines operation at temperatures greater than 80°C

Another reason for specifying polypropylene is its superior hardness and abrasion resistance. This can be important for use in remote oilfields, where pipe handling for directional drilling application or offshore pipelines where a damage-free coating will save time and money during pipeline construction.

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OUR SERVICES

Manufacturer installation recommendations are followed and ongoing inspection is done to ensure quality of 3LPP.

Periodic technical inspection:-

- Material inspection
- Salt contamination test
- Environmental condition
- Surface preparation by abrasive blasting
- Surface profile measurement
- Surface cleanliness check
- Coating application
- Thickness test
- Holiday detection

Technical coating laboratory services:-

- Bond strength (adhesion)(peel strength) test
- Indentation (penetration) test
- Impact test
- Cathodic Dis bonding test
- Differential scanning calorimetry (DSC)
- Porosity of FBE
- Flexibility bend test
- Hot water resistance



Reference standard:

ISO 8503-5	Replica Tape Method for the Determination of the Surface Profile
NACE SP 0394	Fusion-Bonded Epoxy External Pipe Coating
ASTM D570	Water absorption
ASTM D638	Tensile Properties
ASTM D746	Brittleness Temperature by Impact
ASTM D1505	Density of Plastics by the Density-Gradient Technique
ASTM D2240	Rubber property Durometer Hardness
ASTM D3418	Measuring Adhesion by Tape Test
ASTM G8	Cathodic Dis bonding ASTM D4285 Water in Compressed Air