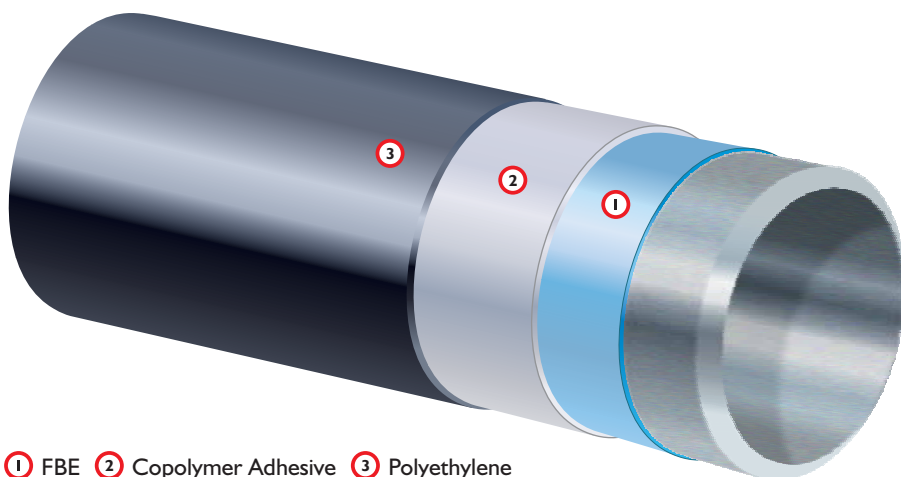


ARABIAN PIPECOATING COMPANY

3LPE

Three Layer Polyethylene Coating



PRODUCT DESCRIPTION

This anti-corrosion system consists of a high performance fusion bonded epoxy (FBE) followed by a copolymer adhesive and an outer layer of polyethylene which provides tough, durable protection. 3LPE Systems provide excellent pipeline protection for small and large diameter pipelines with moderate operating temperatures.

FEATURES AND BENEFITS

Long Term Corrosion Protection

The FBE component of the 3LPE system provides excellent adhesion to steel, thereby providing superior long term corrosion resistance and protection of pipelines operating at moderate temperatures. The superior adhesion properties of the FBE also results in excellent resistance to cathodic disbondment which reduces the total cost of cathodic protection during the operation of the pipeline.

Engineered Solutions

Advanced manufacturing techniques allow the 3LPE System to be customized to your specific project. The system can be applied to various pipe diameters from 51 mm (2") to over 2032 mm (80"). 3LPE Systems can also be applied in a

wide range of thicknesses to cost effectively meet unique project specifications and performance requirements.

Excellent Mechanical Protection

The tough outer layer of polyethylene protects pipelines during transportation and installation from abrasion and mechanical damage thereby reducing costly repairs. When the pipeline is laid in-ground the polyethylene layer protects against shear forces, moisture ingress, chemical exposure of the FBE and abrasive soil conditions. By increasing the thickness of the polyethylene outer layer, the 3LPE System can provide a high level of mechanical protection across many diverse environments without requiring the use of costly select backfill.

PARTIAL PROJECT LIST

PROJECT	LENGTH (km)	DIAMETER (")	LOCATION	YEAR
Aziz Company SWCC Project Shoaiba Water Transmission	349	44, 60, 76, 80	Saudi Arabia	2006-08 Ongoing
Aziz Co. Qassim Cities Feeders	13.4	44	Saudi Arabia	2002
Saudi Steel Pipe Dove Energy Ltd Yemen Project	7	10	Yemen	2001
SWCC/NPC Khobar-Hofuf WTS	140.9	56, 16	Saudi Arabia	2001
Saudi Aramco Khuff Gas Lines	44.5	20	Saudi Arabia	2001
Raymond International HIDD Water Works	3.1	12 - 60	Bahrain	2000

PRODUCT DATA SHEET



Oil & Gas pipelines



Large diameter pipelines



Small diameter pipelines



Waterworks pipelines



www.apco-coating.com



3LPE



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APCO Plants

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TYPICAL PLANT CAPABILITIES

PROPERTY	Typical Value
Minimum Pipe Diameter	51 mm (2")
Maximum Pipe Diameter	2133 mm (84")
Minimum Pipe Length	10.5 m (34')
Maximum Pipe Length	26 m (85')
Residual Surface Chlorides	< 15 mg/m ²
Compressed Air Supply	No Moisture / No Oil
Acid Wash	Yes
Surface Profile	> 85 microns
Surface Finish	Near White Metal Sa2 ½

TYPICAL COATING PROPERTIES

PROPERTY	3LPE
Minimum Recommended Operating Temperature	-40°C (-40°F)
Maximum Recommended Operating Temperature	85°C (185°F)

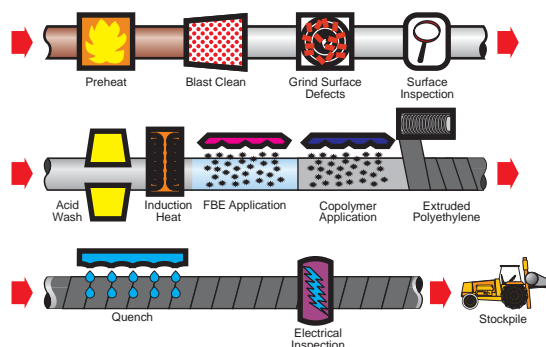
PROPERTY	Test Standard	Results
Peel Strength 90 N/cm 70 N/cm 40 N/cm 35 N/cm	DIN 30670	@ 25°C – 220 N/cm @ 50°C – 170 N/cm @ 80°C – 120 N/cm @ 90°C – 80 N/cm
Elongation @ 23°C	DIN 30670	% Elongation > 1100%
MFR Polyethylene Copolymer	ISO 1133 @ 190°C	Results Acceptance Criteria 0.44 g/10min 0.35 - 0.45 3.7 g/10min 2.5 - 4.5
Hot Water Soak 48 hours @ 75°C 7 days @ 75°C 14 days @ 75°C 28 days @ 75°C	CAN/CSA.Z245.20	Rating I Rating I Rating I Rating I
Impact @ 23°C No Holiday @ 30 kv	DIN 30670	Drop Height 1.45 m Puncher Weight (10 drops) 2.0 kg Energy 7 J/mm (24.5 J)

APPROVALS / INTERNATIONAL STANDARD



- CSA Z245.21
- ISO 9001:2015
- Takreer
- DIN 30670
- SWCC
- KOC
- AS 1518
- Transco
- PDO

PRODUCT APPLICATION PROCESS



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