3-Ply Inner Wrap PE Tape

Inner layer system of the outer surface of the pipe

Features

- Constant coating thickness
- High adhesion and shear resistance
- Resistance to corrosion disbondment
- High resistivity and high dielectric strength
- Can be applied over a wide temperature range
- High corrosion protection for steel substrates

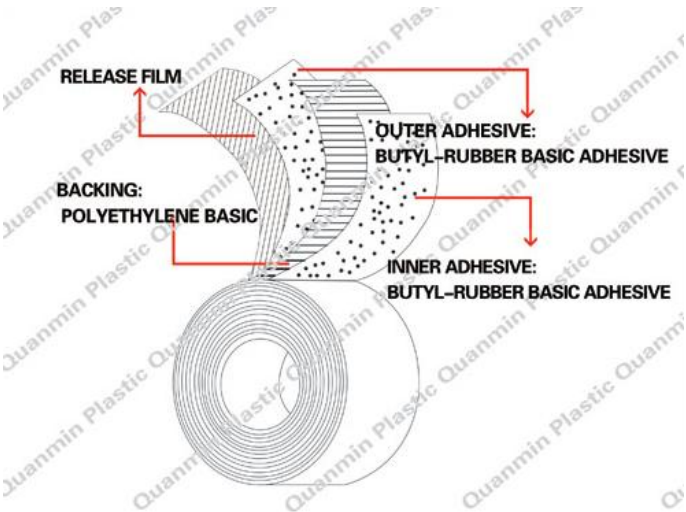
This product is made from a polyethylene carrier material, with butyl rubber adhesive applied on both sides. The inner butyl rubber layer is fully integrated with the outer layer, forming a continuous wrap-around coating.

Our 3-Ply Inner Wrap PE Tape is a cold-applied anti-corrosion tape suitable for metal pipes and pipelines ranging from small to extra-large nominal diameters. It is a true co-extruded three-layer plastic tape, manufactured with a stabilized polyethylene carrier material and coated on both sides with butyl rubber adhesive. Models with a thickness of ≥ 0.66mm (26mils) are available. The inner butyl rubber layer completely fuses with the outer layer, forming a hose-like sealed wrapping that effectively blocks water vapor and oxygen penetration while resisting soil bacteria and electrolytes.

Description

The 3-Ply tape should be applied after the liquid adhesive and before the outer-layer tape, either by hand or using a wrapping machine. As the core component of the 3-Ply Inner Wrap PE Tape system, this product fully complies with all requirements of EN 12068 and DIN 30672 standards for B50 stress grade. Thanks to its excellent flexibility, it achieves perfect coverage on irregular surfaces such as threaded rods.

The product is compatible with polyethylene (PE), polypropylene (PP), fusion-bonded epoxy (FBE), polyurethane (PU), coal tar enamel (CTE), and factory-applied asphalt coatings. For applications with higher mechanical stress, we recommend our Mechanical Protection Tape products, such as Outer Wrap PE Tape or Outer Wrap PVC Tape.



Project	T 4660-26	T 4762-30	T 4800-31	Test Method
Tape Thickness	0.660mm (26mils)	0.762mm (30mils)	0.800mm (31mils)	ASTM D1000
Inner Adhesive Layer Thickness	0.350mm (13.8mils)	0.254mm (10mils)	0.400mm (16mils)	ASTM D1000
Carrier Film Thickness	0.180mm (7.1mils)	0.254mm (10mils)	0.250mm (9.8mils)	ASTM D1000
Outer Adhesive Layer Thickness	0.130mm (5.1mils)	0.254mm (10mils)	0.150mm (6mils)	ASTM D1000
Elongation at Break @23°C (73.4°F)	545%	600%	515%	ASTM D1000
Tensile Strength @23°C (73.4°F)	50.5N/cm (28.84lbs/in)	64.5N/cm (36.8lbs/in)	98N/cm (56lbs/in)	ASTM D1000
Dielectric Strength	≥40.0kV/mm (1020V/mil)			ASTM D149
Water Absorption @23°C (73.4°F) 24h	0.05%	0.08%	1.0%	ASTM D570
Lap Shear Strength @23°C (73.4°F)	9N/cm² (13.05psi)	15.0N/cm² (21.76psi)	18N/cm² (26.11psi)	ASTM D1002
Interlayer Peel Strength @23°C (73.4°F)	33.5N/cm (306oz/in)	36.0N/cm (329oz/in)	38.5N/cm (352oz/in)	ISO 21809-3
Peel Strength Between Primer and Steel @23°C (73.4°F)	21.5N/cm (196oz/in)	22.5N/cm (206oz/in)	26.5N/cm (242oz/in)	ISO 21809-3
Cathodic Disbondment @23°C (73.4°F) 28D	3.5mm (0.14in radius)	4.0mm (0.16in radius)	4.5mm (0.18in radius)	ASTM G8
Application Temperature	-40 to +50°C (-40 to 122°F)	-34 to +85°C (-29 to 185°F)	-42 to +100°C (-44 to 212°F)	-

Project	T 4813-32	T 4101-40	T 4110-43	Test Method
Tape Thickness	0.813mm (32mils)	1.010mm (40mils)	1.100mm (40mils)	ASTM D1000
Inner Adhesive Layer Thickness	0.256mm (14mils)	0.500mm (20mils)	0.450mm (17mils)	ASTM D1000
Carrier Film Thickness	0.305mm (12mils)	0.260mm (10mils)	0.500mm (20mils)	ASTM D1000
Outer Adhesive Layer Thickness	0.152mm (6mils)	0.250mm (10mils)	0.150mm (5.9mils)	ASTM D1000

Elongation at Break @23°C (73.4°F)	510%	580%	500%	ASTM D1000
Tensile Strength @23°C (73.4°F)	100N/cm (57.1lbs/in)	71N/cm (40.5lbs/in)	110N/cm (62.8lbs/in)	ASTM D1000
Dielectric Strength	≥42.5kV/mm (1080V/mil)			ASTM D149
Water Absorption @23°C (73.4°F) 24h	0.08%	0.08%	0.05%	ASTM D570
Lap Shear Strength @23°C (73.4°F)	15N/cm² (21.76psi)	15N/cm² (21.76psi)	9N/cm² (13.05psi)	EN 12068
Interlayer Peel Strength @23°C (73.4°F)	36.0N/cm (329oz/in)	38.0N/cm (347oz/in)	35.5N/cm (324oz/in)	ISO 21809-3
Peel Strength Between Primer and Steel @23°C (73.4°F)	22.5N/cm (206oz/in)	22.5N/cm (206oz/in)	23.0N/cm (210oz/in)	ISO 21809-3
Cathodic Disbondmen @23°C (73.4°F) 28D	4.0mm (0.16in radius)	4.0mm (0.16in radius)	3.5mm (0.14in radius)	ASTM G8
Application Temperature	-34 to +85°C (-29 to 185°F)	-34 to +85°C (-29 to 185°F)	-40 to +50°C (-40 to 122°F)	-
Diameter of Inner Core	41 or 78mm (1.614 or 3.071in)			
Available Roll Size (width X length)	50 to 750mm X 15 to 240m (1.97 to 29.53in X 49.29 to 787.4ft)			
Color	Black			

Storage and Shelf Life

This product should be stored in a dry and ventilated place, and the same environment must be maintained during transportation. The storage temperature range should be no lower than -40°C (-40°F) and no higher than +40°C (+104°F). Humidity should not exceed 90%.Vertical stacking height ≤5 layers. Shelf life 12 months.

General Requirements for Applications

General: The area to be coated has to be cleandry, and free from oil, grease and dust. All contamination including mill-scale has to be removed.

Degreasing: Degrease surfaces with Toluene or Heptane and e.g. a lint-free cloth.

Preventing Condensation of Water: Before and during construction, the working surface temperature must always remain at least 3°C (37.4°F) above the dew point temperature.

Working Surface Temperature: The surface temperature of the operation should be maintained between +20°C and +40°C (68°F to 104°F) and preheating should be performed if necessary.

Special Handling: For spiral welded pipelines, filler materials should be used. Choose our butyl rubber filler tape to supplement the gaps.

Application Instruction

Step 1

Clean substrate to SSPC-SP6/NACE3 or SA2 (Commercial Blast) with a 25–76μm (1–3mils) anchor profile.

Step 2

The primer should be uniformly applied to achieve a wet film thickness of 50.8 to 76.2micrometers (2 to 3mils). Before applying the 3-Ply inner Wrap PE Tape, the primer must reach a "touch-dry" state.

Step 3

Apply 3-Ply inner Wrap PE Tape in a spiral pattern, ensuring an overlap width that meets the design requirements, and is no less than 25.4mm (1 inch).

Step 4

Helical winding, select an outer wrapping of polyethylene tape or outer wrapping of polyvinyl chloride tape (mechanical protective layer), maintaining a necking rate of 1% to 2%, with an overlap of no less than 25.4mm (1 inch) or as per the design requirements.

Step 5

Perform holiday detection per NACE SP0274 Handling and commissioning.

Friendly Reminder

1. Objects coated with polyethylene anti-corrosion tape shall not bear external loads from supports or lifting equipment. Unbonded outerwrap materials can be selected for enhanced protection, such as: Non-woven polypropylene blanket, Non-woven polypropylene blanket, etc.

2. The backfill should be kept clean and should not contain any foreign matter that could damage the coating system.

For more technical inquiries, please visit our website.

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