Covalence®
Heat Shrinkable Technology

PRODUCT DATA SHEET

TESI

COVALENCE® TPSM

Product Information

TPSM is a two-layer field-joint coating system for corrosion protection of pipelines operating at ambient and elevated temperatures.

Product description: Covalence® TPSM is a heat-shrinkable, tubular sleeve which prevents corrosion of welded pipe joints in gas & water distribution lines. This mechanically strong and flexible sleeve is compatible with most standard pipeline coatings and outer jackets.

Construction: Two-layer system

- *First layer*: Visco-elastic butyl based low preheat adhesive
- *Second layer*: Radiation-cross-linked, high density polyethylene with PCI (Permanent Change Indicator)

The installation is carried out directly on the cleaned and dried (preheated) pipe surface without primer. Heat is applied to the sleeve, which shrinks to form a tight fit around the joint. While shrinking, the visco-elastic sealant homogeneously flows to cover the complete surface and fills in all surface irregularities.

Features:
- Fully resistant to shear forces induced by soil and thermal movements.
- Dimpled backing provides a "Permanent Change Indicator" (PCI) for application of heat.
- No special equipment or skills required.
- Low preheat sensitivity & proven functionality
- Mechanically strong & resists abrasion, impact and penetration.
- Sealing adhesive automatically flows and repairs minor mechanical damages.

Benefits:
- No primer required. Makes installation fast and easy. Keeps installation costs low.
- Ensures correct application of heat & allows easy post-heat inspection. Reliable inspectability at any time.
- Allows easy application combined with high functional performance.
- Reliable and tough. Remains user-friendly (even at low temperatures).
- "Self-healing effect".

Product selection guide

Max operating temperature	65°C
Compatible line coatings	PE, PP, FBE, PU, Tape, Asphalt & Enamel
Min. preheat temperature	60°C
Recommended pipe preparation	ST2 1⁄2 -ST3 or SA2 1⁄2 Clean, dry and free of grease
Soil stress restrictions	Moderate
Performance	EN 12068 B30

General information

Installation guide	For proper product installation, see latest installation instruction.
Handling	Handle with care. Keep boxes upright.
Storage	To ensure maximum performance, store Covalence® products in a dry, ventilated area. Keep products sealed in original boxes and avoid exposure to direct sunlight, rain, snow, and dust Avoid prolonged storage temperatures above 40°C or below -10°C. Unlimited shelf life.

Product properties

Backing

Property	*Test method*	*Typical value*
Tensile strength at break	ASTM D-638	3300 psi 22.8 MPa
Elongation at break	ASTM D-638	600%
Hardness, Shore D	ASTM D-2240	57
Specific electrical insulation resistance R_{s100}	EN 12068	> 106 Ωm^2
Thermal ageing followed by elongation	ASTM D-3045, 150°C, 21 days ASTM D-638, 23°C	> 450%
Dielectric Strength	ASTM D-149	30 KV/mm
Moisture absorption	ASTM D-570	0.04%

Adhesive

Property	*Test method*	*Typical value*
Softening Point	ASTM E-28	134°C
Lap shear	EN 12068 @ 10 mm/min	0.09 N/mm^2

Installed sleeve

Property	*Test method*	*Typical value*
Peel to Steel	ISO21809-3 / EN12068 @10 mm/min	> 1.5 N/mm
Peel to PE	ISO21809-3 / EN12068 @10 mm/min	> 1.5 N/mm
Cathodic disbondment	ISO 21809-3 @ 65°C, 28 days	< 10 mm radius
Hot water immersion	ASTM D870 @ 65°C, 120 days	No delamination, no blisters or water ingress
Impact resistance	EN 12068	> 8 J
Indentation resistance	EN 12068, Class B30	> 0.6 mm remaining thickness
Low temperature flexibility	ASTM D2671 procedure C	- 14°C

Note: Typical values in this data sheet are based on lab prepared samples. Values shown are not to be interpreted as product specifications.

Product thickness

Backing as supplied	0.70 mm
Backing fully free recovered	1.00 mm
Mastic sealant as supplied	0.90 mm

Product order information

TPSM type products are available
- As ready-to-size tubular sleeve

Example	**TPSM-210/135-450**
210/135	Min. supplied diameter /Max. recovered diameter
450	Supplied Sleeve width (mm)

Information

Documentation	Extensive information is available on our web-site: **www.tesigroup.com** Application instructions and other documentation can be obtained by contacting our offices or by sending an email to **info@tesigroup.com.**
Certified staff	Application of the described coating system should be carried out by certified personnel.

OFFICIAL DISTRIBUTOR:

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