Covalence®
Heat Shrinkable Technology

PRODUCT DATA SHEET

TESI

COVALENCE® WPCT

Product Information

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

Product description: Covalence WPCT is a wraparound heat-shrinkable, ready-to-fit assembly for the corrosion protection of field girth weld joints in distribution and transmission systems. WPCT is compatible with standard pipe coatings. WPCT can also be used for coating bare, replacement pipe sections and large radius bends. The system is designed to be applied with minimum preheating and is ideal for large diameter water pipe.

Construction: Two-layer system

- ***First layer***: Visco-elastic butyl based low preheat sealing 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 any primer being required. During installation, the hss is wrapped and shrunk to form a tight fit around the joint. During recovery, the adhesive softens and flows to form a perfect bond with the pipe surface providing protection against corrosion. The radiation cross-linked outer layer forms a tough barrier against mechanical damage and moisture transmission.

Features:

- Low preheat sensitivity & proven functionality
- Superior cathodic disbondment and hot water immersion resistance
- Dimpled backing provides a "Permanent Change Indicator" (PCI) for application of heat.
- No special equipment or skills required (standard gas torch & roller)
- Mechanically strong & resists abrasion, impact and penetration.
- Self-healing effect: 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.
- Reliable and tough. Remains user-friendly (even at low temperatures).

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 ½ -ST3 or SA2 ½ 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	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	> 10^{10} Ωm²
Thermal ageing followed by elongation	ASTM D-3045, 150°C, 21 days ASTM D-638, 23°C	> 450%
Dielectric Strength	ASTM D-149	35 KV/mm
Moisture absorption	ASTM D-570	0.04%

Adhesive

Property	*Test method*	*Typical value*
Softening Point	ASTM E-28	134°C
Lap shear	ASTM D-1002 EN 12068 @ 10 mm/min	35 N/cm² 0.22 N/mm²

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	< 7 mm radius
Hot water immersion	ASTM D870 @ 65°C, 120 days	No delamination, no blisters or water ingress
Impact resistance	EN 12068	> 10 J
Indentation resistance	EN 12068, Class B30	> 0.7 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. All properties are at 23°C unless otherwise specified.

Product thickness

Backing as supplied	0.75 mm
Backing fully free recovered	1.00 mm
Mastic sealant as supplied	1.20 mm

Product order information

Covalence® WPCT type products are available

- As Uni-sleeve (pre-cut with pre-attached closure patch)
- As a pre-cut sleeve to measure with separated closure patch
- As a roll (closure patch WPCP-IV to be ordered separately)

Example	**WPCT-DN250X450/UNI**	
DN250	Outside pipe diameter	up to DN 3000 (120")
450	Supplied Sleeve width (mm)	450, 600 and 870 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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