

# 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 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 (pre-heated) pipe surface without any primer being required. During installation, the heat-shrinkable sleeve 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.
- Excellent aging performance.
- Superior cathodic disbondment and hot water immersion resistance.
- Dimpled backing provides a “permanent change” indicator for application of heat.
- No special equipment or skills required (standard gas torch & roller)
- Self-healing effect. Saves extra intervention steps.

### Benefits:

- Installation friendly in combination with high functional performance.
- No shelf life issues.
- Offers the optimum barrier protection against corrosion.
- Dimpled backing allows easy post-heat inspection and offers a reliable inspectability at any time.
- Makes installation fast and easy. Keeps installation costs low.
- Tough, but flexible even at low temperatures!

## Product properties

### Backing

Property	Test method	Typical value
<b>Tensile strength at break</b>	ASTM D638	3300 psi 22.8 MPa
<b>Elongation at break</b>	ASTM D638	600 %
<b>Hardness, Shore D</b>	ASTM D2240	57
<b>Shrink force</b>	ASTM D638 @ 150°C (302°F)	40 psi
<b>Dielectric Strength</b>	ASTM D149	900 V/mil 35 kV/mm
<b>Water absorption</b>	ISO 62	0.04%

### Adhesive

Property	Test method	Typical value
<b>Softening point</b>	ASTM E28	134°C (273°F)
<b>Lap shear</b>	ASTM D1002 EN 12068/ @ 10 mm /min	50 psi > 0.1 N/mm <sup>2</sup>

### Installed sleeve

Property	Test method	Typical value
<b>Peel to Steel</b>	ASTM D1000 EN 12068 @ 10 mm /min	50 lb/in 1.1 N/mm
<b>Cathodic disbondment</b>	ASTM G42 @65°C(149°F), 30 days	7 mm radius
<b>Hot water immersion</b>	ASTM D870 @ 65°C (149°F), 120 days	No delamination, no blisters or water ingress
<b>Impact resistance</b>	ASTM G14 EN 12068	80 in.lb >8 J
<b>Indentation resistance</b>	ASTM G17 EN 12068, Class B30	No holiday with 10 kV detector >0.6 mm remaining thickness
<b>Low temperature flexibility</b>	ASTM D2671, procedure C	-14°C (6.8°F)

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

## Product selection guide

<b>Max operating temperature</b>	65°C (149°F)
<b>Compatible line coatings</b>	PE, PP, FBE, PU, Tape, Coal Tar & Asphalt
<b>Min. preheat temperature</b>	60°C (140°F)
<b>Recommended pipe preparation</b>	ST2 ½ -ST3 or SA2 ½
<b>Soil stress restrictions</b>	Moderate
<b>Performance</b>	EN12068 Class B30, AWWA-C-216

## Product thickness

	WPCT
<b>Backing as supplied</b>	0.75 mm (0.030 in)
<b>Backing fully free recovered</b>	1.00 mm (0.039 in)
<b>Adhesive as supplied</b>	1.20 mm (0.047 in)
<b>Finished Product as supplied</b>	1.95 mm (0.077 in)

Ordering information	
Covalence® WPCT type product are available	
<ul style="list-style-type: none"> <li>– As Uni-sleeve (pre-cut sleeve with pre-attached closure patch)</li> <li>– As a roll (closure patch to be ordered separately)</li> </ul>	
Min.sleeve width = (bare steel dimension + 50 mm (2") on each side of the fieldjoint) + 10%	
Maximum 10% of the supplied rolls can have a splice. Min length of a partial length is 5 M or 15 ft.	

Cut piece / Uni-sleeve		
Example	Designation	Standard ordering options
	<b>WPCT-10750X17/UNI</b>	
<b>10750</b>	Outside pipe diameter (mils)	2.375 – 68.000 (DN50-DN1700)
<b>17</b>	Sleeve width (in)	11 (11.25" or 285 mm)* 17 (17.75" or 450 mm)* 24 (23.625" or 600 mm)* 34 (34.25" or 870 mm)* * nominal width
<b>/UNI</b>	Designates pre-attached closure patch	Optional

Roll form (closure patch to be ordered separately)		
Example	Designation	Standard ordering options
	<b>WPCT-17X100-RL</b>	
<b>17</b>	Sleeve width (in)	11 (11.25" or 285 mm)* 17 (17.75" or 450 mm)* 24 (23.625" or 600 mm)* 34 (34.25" or 870 mm)* * nominal width
<b>100</b>	Roll length (ft)	100 (30 m)

Rolls can have a splice. Max 10% of the roll order will have a splice. Min partial length will be 5M or 15 ft.

Closure patches (to be ordered separately)		
Example	Designation	Standard ordering options
	<b>WPCP-IV-4X17</b>	
<b>4</b>	Patch width (in)	4 (100 mm), 6 (150 mm), 8 (200 mm)
<b>17</b>	Patch length (in)	11 (11.25" or 285 mm)* 17 (17.75" or 450 mm)* 24 (23.625" or 600 mm)* 34 (34.25" or 870 mm)* * nominal length

General information	
<b>Product dimension</b>	Sleeve cut lengths and appropriate closure patch widths depend on the pipe size and product construction, see latest application table AT-GIRTHWELD.
<b>Installation guide</b>	For proper product installation, see latest installation instruction.
<b>Handling</b>	Handle with care. Keep boxes upright.
<b>Storage</b>	Store indoor, clean and dry, away from direct sunlight in a cool place at temperatures between 0°C (32°F) and +50°C (122°F). Unlimited shelf life.

Information	
<b>Documentation</b>	Extensive information is available on our web-site. Application instructions and other documentation can be obtained by contacting our head office, from our local distributor or by sending an email to <a href="mailto:info@sealforlife.com">info@sealforlife.com</a>
<b>Certified staff</b>	Application of the described coating system shall be carried out by certified personnel.



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