

# COVALENCE® WPC65M

## Product Information

**Product description:** Covalence® WPC65M system is a two-layer wrap-around heat-shrinkable sleeve field-joint coating system for pipeline operating at ambient and elevated temperatures.

Construction: Two-layer system

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

The WPC65M is compatible with most commonly used steel pipe coatings and is used for offshore and onshore girth weld protection or to recoat (rehabilitate) long pipe sections and large radius bends. The installation is carried out directly on the cleaned and pre-heated pipe surface without any primer required. During installation, the heat-shrinkable sleeve is wrapped around 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.
- No special equipment (standard gas torch & a roller).
- Dimpled backing provides a “permanent change” indicator for application of heat.

### Benefits:

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

## Product selection guide

<b>Max operating temperature</b>	65°C (149°F) 93°C (200°F) for offshore applications with infill.
<b>Compatible line coatings</b>	PE, PP, FBE, Coal Tar, AE, CTE, DFBE.
<b>Min. preheat temperature</b>	60°C (140°F)
<b>Recommended pipe preparation</b>	Sa 2½ or ST3
<b>Soil stress restrictions</b>	Moderate
<b>Performance</b>	ISO21809-3, Type 14A2* EN12068 UV

## Product thickness

	/B	/E*	/C**	/1.4-1.8**
<b>Backing as supplied</b>	0.75 mm (0.030 in)	0.90 mm (0.035 in)	1.04 mm (0.041 in)	1.04 mm (0.041 in)
<b>Backing fully free recovered</b>	1.0 mm (0.039 in)	1.2 mm (0.047 in)	1.4 mm (0.055 in)	1.4 mm (0.055 in)
<b>Adhesive as supplied</b>	1.0 mm (0.039 in)	1.3 mm (0.051 in)	1.5 mm (0.060 in)	1.8 mm (0.071 in)

\* Minimum order quantities apply

## Product properties

Backing		
Property	Test method	Typical value
<b>Tensile strength at break</b>	ASTM D-638	3300 psi (22.8 MPa)
<b>Elongation at break</b>	ASTM D-638	600 %
<b>Specific gravity</b>	ASTM D-792	0.97 g/cm <sup>3</sup>
<b>Hardness, Shore D</b>	ASTM D-2240	57
<b>Shrink force</b>	ASTM D-638, @150°C (302°F)	40 psi
<b>Dielectric Strength</b>	ASTM D-149	900 V/mil (35 kV/mm)
<b>Moisture absorption</b>	ASTM D-570	0.04%
Adhesive		
Property	Test method	Typical value
<b>Softening Point</b>	ASTM E-28	134°C (273°F)
<b>Lap shear</b>	ASTM D-1002 EN 12068 EN 12068 @ 35°C (95°F) EN 12068 @ 65°C (149°F) ASTM D-1002 @ 65°C (149°F)	50 psi > 0.1 N/mm <sup>2</sup> 0.02 N/mm <sup>2</sup> 0.01 N/mm <sup>2</sup> 3 psi
Installed sleeve		
Property	Test method-	Typical value
<b>Peel to Steel</b>	ASTM D-1000 (@300 mm/min) EN 12068 / ISO 21809-3 @ 23°C (68°F) DIN30672 (@100 mm/min) ASTM D-1000 @ 65°C (149°F) EN 12068 @ 35°C (95°F) EN 12068 @ 65°C (149°F)	50 pli (8.8 N/mm)  1.1 N/mm  > 20 N/cm 3 pli (5.3 N/mm) 0.6 N/mm 0.2 N/mm
<b>Cathodic disbondment</b>	ASTM G-42 @ 65°C (149°F), 30 days	7 mm radius
<b>Hot water immersion</b>	ASTM D-870 @ 65°C (149°F), 120 days ISO 21809-3 @ 65°C (149°F), 100 days	No delamination, no blisters or water ingress  P <sub>100</sub> /P <sub>0</sub> ≥ 0.95
<b>Low temperature flexibility</b>	ASTM D-2671, C	-14°C (6.8°F)
<b>Impact resistance</b>	ASTM G-14 EN12068 class C  ISO 21809-3	80 in lbf > 8 J > 15 J * ≥ 5 J/mm
<b>Penetration resistance</b>	ASTM G-17 @ 65°C (149°F)	No holidays @ 10,000 v
<b>Indentation resistance</b>	EN 12068, Class C, @ 65°C (149°F)	Residual thickness > 0.6 mm *

\* Construction /E or thicker

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

**Ordering information**

- Covalence® WPC65M products are available
- As cut piece (pre-cut with separate closure patch)
  - As Uni-sleeve (pre-cut with attached closure patch)
  - As a roll (closure patches to be ordered separately)

Select sleeve width that will overlap onto the mill-applied coating by 50 mm (2 inches) minimum on each side of the weld joint. Take a 10% shrinkage during installation of sleeve into account when calculating minimum sleeve width.

**Cut piece / Uni-sleeve**

Example	WPC65M-16000X17/C(/UNI) (-OS)	
	Designation	Standard ordering options
16000	Outside pipe diameter	2.375" – 100.000" (DN50 – DN2500)
17	Sleeve width (in)	17 (17.75" or 450 mm)* 20 (20.25" or 514 mm)* 24 (23.625" or 600 mm)*
/C	Product thickness	-, /C, /E, /1.4-1.8
UNI	Designates pre-attached closure patch	Optional
-OS	For off shore (OS) designates pre-attached closure patch (UNI) and cut corners	Optional

\* nominal width

**Roll form (closure patch to be ordered separately)**

Example	WPC65M-20X100/C-RL	
	Designation	Standard ordering options
20	Sleeve width (in)	17 (17.75" or 450 mm)* 20 (20.25" or 514 mm)* 24 (23.625" or 600 mm)*
100	Roll length	100 ft (= 30 m)
/C	Product thickness	-, /C, /E, /1.4-1.8

\* nominal width

Note: maximum up to 10% of the supplied rolls can have 1 splice. Min partial length is 5 m or 16.5ft.

**Closure patches (to be ordered separately)**

Example	WPCP-IV-4X17	
	Designation	Standard ordering options
4	Patch width (in)	4 (100 mm) 6 (150 mm) 8 (200 mm)
17	Patch length (in)	17 (17.75" or 450 mm)* 20 (20.25" or 514 mm)* 24 (23.625" or 600 mm)*

\* nominal width

**General order 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 application guideline.
<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 below +50°C. Unlimited shelf life.

**Information**

<b>Documentation</b>	Extensive information is available on our website. 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.



Seal For Life Industries Mexico S de R.L. de C.V.  
Tijuana, Mexico  
USA Tel: +1 858 633 9797  
Mx Tel: +52 664 647 4397  
mexico@sealforlife.com

Seal For Life Industries - Stopaq B.V.  
Stadskanaal, the Netherlands  
Tel: +31 599 696 170  
Fax: +31 599 696 177  
info@sealforlife.com

Seal For Life Industries BVBA  
Westerlo, Belgium  
Tel: +32 14 722 500  
Fax: +32 14 722 570  
belgium@sealforlife.com

Seal For Life India Private Ltd.  
Baroda, India  
Tel: +91 2667 264 721  
Fax: +91 2667 264 724  
india@sealforlife.com

DISCLAIMER: Seal For Life Industries warrants that the product conforms to its chemical and physical description and is appropriate for the use stated on the technical data sheet when used in compliance with Seal For Life Industries' written instructions. Because many installation factors are beyond the control of Seal For Life Industries, the user shall determine the suitability of the products for the intended uses and assume all risks and liabilities in connection herewith. Seal For Life's liability is stated in its General Terms and Conditions of Sale. Seal For Life Industries makes no other warranty either express or implied. All information contained in this document is to be used as a guide and is subject to change without notice. This technical data sheet supersedes all previous data sheets on this product.