

WPC65M elevated temperature Wraparound Girth Weld Sleeve



The WPC65M elevated temperature is a two-layer field-joint coating system for pipeline operating at ambient and elevated temperature.

Product description

WPC65M field-joint coating.

Construction: Two-layer system:

First layer: Visco-elastic adhesive sealant.

Second layer: Radiation cross-linked, high density polyethylene with *PCI* (Permanent Change Indicator).

WPC65M is a wraparound heat-shrinkable sleeve specially suitable for higher stress conditions caused both by elevated temperatures and by soils with severe contraction between wet-dry cycles. The WPC65M is compatible with most commonly used steel pipe coatings and is used for girth weld protection or to recoat (rehabilitate) long pipe sections and large radius bends. WPC65M may be cut to the appropriate length to cover all pipe diameters.

The installation is carried out directly on the cleaned and pre-heated pipe surface without any primer being 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.

Product features/benefits

- Dimpled backing provides a 'permanent change' indicator for application of heat**
 Ensures correct application heat & allows easy post-heat inspection.
 Reliable inspectability at any time.
- Low preheat sensitivity & proven functionality**
 Installation friendly in combination with high functional performance.
- Available as all-in-one unit or roll form**
 Saves money by keeping inventory and logistics costs low.
- High shear resistance**
 WPC offers 'safer protection'.
- Covers a wide range of operating temperature ratings**
 Offers a solution for nearly every application.
- No special equipment (standard gas torch & a roller) or skills required**
 Makes installation fast and easy.
 Keeps installation costs low.

Product selection guide

	WPC65M
Max. operating temperature	65°C (149°F) *
Compatible line coatings	PE, PP, FBE, Tape & Coal Tar
Min. preheat temperature	60°C (140°F)
Recommended pipe preparation	St2½ - St3 or Sa 2½
Soil stress restrictions	Moderate

* for offshore applications with infill max operating temperature 93°C (199°F)

Product thickness

	WPC65M	WPC65M/1.2-1.5*	WPC65M/C*
Backing (as supplied)	0.030 in. (0.75 mm)	0.035 in. (0.90 mm)	0.041 in. (1.04 mm)
Backing (fully free recovered)	0.040 in. (1.00 mm)	0.047 in. (1.20 mm)	0.055 in. (1.40 mm)
Adhesive (as supplied)	0.040 in. (1.00 mm)	0.060 in. (1.50 mm)	0.060 in. (1.50 mm)

* Minimum ordering quantities apply.

Product properties: WPC65M (1)

Property	Test method	Typical value WPC65M
Backing		
Tensile strength	ASTM D-638	3300 psi (22.8 MPa)
Elongation	ASTM D-638	600%
Hardness, Shore D	ASTM D-2240	55
Shrink force	ASTM D-638	40 psi
Dielectric strength	ASTM D-149	900 volts/mil (35 KV/mm)
Water absorption	ASTM D-570	0.05%
Adhesive		
Softening point	ASTM E-28	134°C (273°F)
Lap shear	ASTM D-1002	60 psi (41 N/cm²) @ 23°C (73°F) 4 psi (2.7 N/cm²) @ 65°C (149°F)
	EN 12068/DIN30672 @ 10 mm (0.4")/min.	9N/cm² @ 23°C (73°F) 1 N/cm² @ 65°C (150°F)

Product properties: WPC 65M (2)

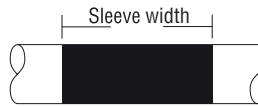
Property	Test method	Typical Value WPC65M
Sleeve		
Peel to Steel	ASTM D-1000 @ 12" (305 mm)/min EN 12068 @ 10 mm/min DIN30672 @ 100 mm/min	74 lbs/in.width 13 N/mm @ 23°C (73°F) 3 lbs/in.width 0.5 N/mm @ 65°C (149°F) 1.5 N/mm @ 23°C (73°F) 0.2 N/mm @ 65°C (149°F) 9.0 N/mm @ 23°C
Cathodic disbondment	ASTM G-42, 30 days	7.0 mm radius, @65°C (149°F) -14°C (6.8°F)
Low temperature flexibility	ASTM D-2671-C	
Impact resistance	ASTM G-14 EN 12068	80 in-lbs (WPC65M) > 15 Nm (WPC65M/1.2-1.5 and WPC65M/C)
Penetration resistance	ASTM G-17 EN12068 class B EN12068 class C	no holiday with 10 kV detector @ 65°C (149°F) Pass (WPC65M) Pass (WPC65M/1.2-1.5 and WPC65M/C)

Ordering information

WPC65M type product is available:

- as cut piece (pre-cut sleeve and separate closure patch)
- as Uni-sleeve (pre-cut sleeve with pre-attached closure patch)
- as a roll (closure patch to be ordered separately)

* Cut piece / Uni-sleeve



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

Example: WPC65M-10750X17/UNI

WPC...	Product type	Standard ordering options: WPC65M
10750	Outside pipe diameter in mils	2.375" – 48.000"
17	Sleeve width in inches (Sw)	11" (11.25 or 285 mm) ⁽¹⁾⁽²⁾ , 17" (17.75 or 450 mm) ⁽¹⁾⁽²⁾ , 20" (20.25 or 514 mm) ⁽¹⁾⁽²⁾ 24" (23.5 or 600 mm) ⁽¹⁾⁽²⁾ , 34" (34.25 or 870 mm) ⁽¹⁾⁽²⁾
/UNI	Designates pre-attached closure patch	optional

* Roll form (closure patches to be ordered separately)

Example: WPC65M-17x100-RL

WPC65M	Product type	Standard ordering options: WPC65M
17	Roll width in inches (Sw)	11" (11.25 or 285 mm) ⁽¹⁾⁽²⁾ , 17" (17.75 or 450 mm) ⁽¹⁾⁽²⁾ , 20" (20.25 or 514 mm) ⁽¹⁾⁽²⁾ 24" (23.5 or 600 mm) ⁽¹⁾⁽²⁾ , 34" (34.25 or 870 mm) ⁽¹⁾⁽²⁾
100	Roll length in feet (SI)	100 ft (= 30 m), 66 ft (= 20 m, for 34" (870 mm) width)

* Closure patch

Example: WPCP-IV-4X17

4	Closure patch width in inches (Pw)	4" (100 mm), 6" (150 mm), 8" (200 mm)
17	Closure patch length in inches (PI)	11" (11.25 or 285 mm) ⁽¹⁾ , 17" (17.75 or 450 mm) ⁽¹⁾ , 20" (20.25 or 514 mm) ⁽¹⁾⁽²⁾ 24" (23.5 or 600 mm), 34" (34.25 or 870 mm) ⁽¹⁾

(1) nominal width

(2) not standard in all countries

Sleeve cut lengths and appropriate closure patch widths depend on the pipe size and product construction, see latest application table AT-GIRTHWELD. For proper product installation, see latest installation instruction.



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