



The WPC120 with PCI (Permanent Change Indicator) is a two-layer field-joint coating system for pipeline operating at 120°C (248°F) temperature.

## Product description

WPC120 field-joint coating.

Construction: Two-layer system:

First layer: High shear-strength copolymer adhesive.

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

WPC120 is a wrap-around, heat-shrinkable sleeve designed for corrosion prevention and sealing on various types of piping systems (oil, gas, water, pipe-type cable, etc.), which operate at temperatures up to 120°C (248°F). WPC120 is specially suited for higher stress conditions

caused both by elevated temperatures and by soils with severe contraction between wet-dry cycles. WPC120 is normally used for girth weld protection of steel pipes coated with Rayclad120 heat shrinkable tape. WPC120 may be cut to appropriate length to cover all pipe diameters. The system is designed to be applied with minimum preheating of the pipe.

While installing, WPC120 is wrapped around the joint, a closure patch is then installed (already pre-attached if Uni-sleeve) forming a tube, and the sleeve is shrunk in place. No epoxy primer is required. Upon heat exposure, the sleeve starts shrinking from its expanded size to form a tight fit around the substrate. During recovery, the copolymer adhesive softens and flows to form a perfect bond with the pipe surface providing pipe protection against corrosion. The radiation cross-linked outer layer forms a durable barrier to moisture and mechanical damage.

## 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.
- **Available as a one-piece wrap-around unit or in roll form**  
Saves money by keeping inventory and logistics costs low.
- **High shear resistance**  
Provides high functional performance and safety.
- **High operating temperature rating**  
Top performance in demanding conditions.
- **No special equipment (standard gas torch & a roller) or skills required**  
Makes installation fast and easy. Keeps installation costs low.

## Product selection guide

	WPC120
Max operating temperature	120°C (248°F)
Compatible line coatings	PE, FBE, Rayclad120
Min preheat temperature	230°C (446°F)
Recommended pipe preparation	SA 2½
Soil stress restrictions	None

## Product thickness

	WPC120 (B)
Backing (as supplied)	0.030 in. (0.75 mm)
Backing (fully free recovered)	0.039 in. (1.0 mm)
Adhesive (as supplied)	0.039 in. (1.0 mm)

## Product properties: WPC120 (1)

Property	Test method	Typical Value
<b>Backing</b>		
Tensile strength	ASTM D-638	2500 psi @ 23°C (73°F) 630 psi @ 120°C (248°F)
Elongation	ASTM D-638	580% @ 23°C (73°F) 670% @ 120°C (248°F)
Hardness, Shore D	ASTM D-2240	55
Shrink force	ASTM D-638	40 psi
Dielectric strength	ASTM D-149	420 volts/mil 17 kV/mm
Moisture absorption	ASTM D-570	0.08%
<b>Adhesive</b>		
Softening point	ASTM E-28	155°C (311°F)
Lap shear	ASTM D-1002	1300 psi @ 23°C (73°F) 100 psi @ 120°C (248°F)

## Product properties: WPC120 (2)

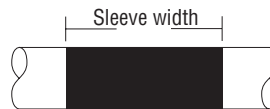
Property	Test method	Typical Value Property
<b>Sleeve</b>		
Peel to Steel	ASTM D-1000	30 lbs/in.width @ 23°C (73°F) 6 lbs/in.width @ 120°C (248°F)
Cathodic disbondment	ASTM G-42, 30 days	10 mm radius @ 120°C (248°F)
Hot water immersion	ASTM D-870, @ 90°C (194°F), 120 days	no delamination, no blisters or water under sleeves
Soil stress creep resistance	TP-206, @ 120°C (248°F), 24 hrs	0.002 inches (0.051 mm)
Low temperature flexibility	ASTM D-2671-C	-55°C (-67°F)
Impact resistance	ASTM G-14	75 in-lbs
Penetration resistance	ASTM G-17	no holiday with 12 kV detector @ 120°C (248°F)

(<sup>1</sup>) Nominal width

## Ordering information

### WPC120 type products are 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 patches to be ordered separately)



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.

### \* Cut piece / Uni-sleeve

#### Example: WPC120-10750X17/B/UNI

* Roll form (closure patches to be ordered separately)		Standard Ordering options
WPC...	Product type	WPC120
10750	Outside pipe diameter in mils	2.375" – 48.000" (DN50 – DN 1200)
17	Sleeve width in inches (Sw)	11" (11.25 or 285 mm) ( <sup>1</sup> ), 17" (17.75 or 450 mm) ( <sup>1</sup> ) 24" (23.5 or 600 mm) ( <sup>1</sup> ), 34" (34.25 or 870 mm) ( <sup>1</sup> )
B	Thickness code	B
/UNI	Designates pre-attached closure patch	optional

(<sup>1</sup>) Nominal width

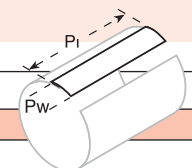
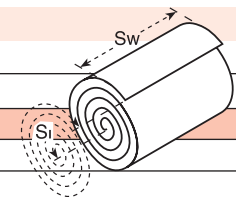
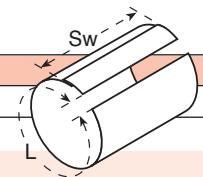
#### Example: WPC120-17x100-RL

* Closure patch		Standard Ordering options
WPC...	Product type	WPC120
17	Roll width in inches (Sw)	11" (11.25 or 285 mm) ( <sup>1</sup> ), 17" (17.75 or 450 mm) ( <sup>1</sup> ) 24" (23.5 or 600 mm) ( <sup>1</sup> ), 34" (34.25 or 870 mm) ( <sup>1</sup> )
100	Roll length in feet (Sl)	100 ft (30 m)

(<sup>1</sup>) Nominal width

#### Example: WPCP-IV-4x17

4	Closure patch width in inches (Pw)	4" (100 mm), 6" (150 mm)
17	Closure patch length in inches (Pl)	11" (11.25 or 285 mm) ( <sup>1</sup> ), 17" (17.75 or 450 mm) ( <sup>1</sup> ) 24" (23.5 or 600 mm) ( <sup>1</sup> ), 34" (34.25 or 870 mm) ( <sup>1</sup> )





Oficinas México:

Polyken  
Prolongación Estadio Azteca No.18  
Col.: El Caracol, C.P.: 04300  
México, D.F., Delegación: Coyoacan  
Tel.: (55) 5528-0161; (55) 5528-0052  
Fax.: (55) 5424-1920  
ventasyservicio@polyken.com.mx  
direccion@polyken.com.mx

Oficinas en Estados Unidos

Polyken  
1211 San Dario Ave. No. 1481  
Laredo, Tx. 78040  
Tel. : (956) 220-3812

Bodega en Estados Unidos

Polyken  
406 Enterprise Rd.  
Interamerica Park  
Laredo, Tx 78045  
Tel.: (956) 727-2491  
Fax.: (956) 724-8509  
Contacto: Jesús Alberto Marina Delgado