



**WPC is a two-layer field-joint coating system designed for corrosion protection of pipelines operating at ambient temperature.**

## Product description

### WPC field-joint coating.

**Construction:** two-layer system:

**First layer:** Visco-elastic low preheat sealant adhesive.

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

WPC is a wraparound heat-shrinkable, ready-to-fit assembly for the corrosion protection of field girth weld joints in distribution and transmission systems.

WPC is compatible with standard pipe coatings. WPC 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.

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.

## 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.
- High impact and penetration resistance**  
 Tough, but flexible even at low temperatures!
- Available as all-in-one unit or roll form**  
 Saves money by keeping inventory and logistics costs low.
- Sealing adhesive automatically flows and repairs minor mechanical damages**  
 Self-healing effect. Saves extra intervention steps.
- No special equipment or skills required**  
 Makes installation fast and easy. Keeps installation costs low.

## Product selection guide

|                                     | WPC  |
|-------------------------------------|--|
| <b>Max operating temperature</b>    | 40°C (104°F) **  |
| <b>Compatible line coatings</b>     | PE, FBE, Coal Tar, Tape & Asphalt  |
| <b>Min preheat temperature</b>      | 60°C (140°F)   |
| <b>Recommended pipe preparation</b> | ST 2 <sup>1/2</sup> - ST3 or SA 2 <sup>1/2</sup>                                       |
| <b>Soil stress restrictions</b>     | moderate   |
| <b>Performance</b>                  | EN12068<br>Class B30 for T and /B construction<br>Class C30 for /C and /D construction |

\*\* For pipe diameters ≤ 16" (DN400): 45°C (113°F)

## Product thickness

|                                | WPCT                | WPC/B               | WPC/C              | WPC/D              |
|--------------------------------|---------------------|---------------------|--------------------|--------------------|
| Backing (as supplied)          | 0.022 in. (0.55 mm) | 0.030 in. (0.76 mm) | 0.040 in. (1.0 mm) | 0.060 in. (1.5 mm) |
| Backing (fully free recovered) | 0.030 in. (0.76 mm) | 0.040 in. (1.0 mm)  | 0.055 in. (1.4 mm) | 0.080 in. (2.0 mm) |
| Adhesive (as supplied)         | 0.055 in. (1.4 mm)  | 0.060 in. (1.5 mm)  | 0.060 in. (1.5 mm) | 0.040 in. (1.0 mm) |

## Product properties: WPC (1)

| Property            | Test Method                                   | Typical Value                  |
|---------------------|---|--------------------------------|
| <b>Backing</b>      |   |                                |
| 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<br>150°C (302°F)                   | 40 psi                         |
| Dielectric strength | ASTM D-149                                    | 900 volts/mil (35 KV/mm)       |
| Water absorption    | ISO 62  | 0.05%                          |
| <b>Adhesive</b>     |   |                                |
| Softening point     | ASTM E-28                                     | 90°C (194°F)                   |
| Lap shear           | ASTM D-1002<br>EN12068 @<br>10 mm (0.4")/min. | 35 psi<br>22 N/cm <sup>2</sup> |

## Product properties: WPC (2)

| Property               | Test Method                                    | Typical Value   |
|------------------------|--|---|
| <b>Sleeve</b>          |  |   |
| Peel to Steel          | ASTM D-1000<br>EN12068 @ 10 mm (0.4")/min.     | 14 lbs/in.width<br>1.6 N/mm   |
| Cathodic disbondment   | EN12068, 30 days                               | 8 mm radius   |
| Impact resistance      | ASTM G-14<br>EN12068                           | 35 in-lbs<br>T&B : > 8 Nm<br>/C & /D : > 15Nm   |
| Penetration resistance | ASTM G-17<br>EN12068<br>class B30<br>class C30 | no holiday with 10 kV detector<br><br>T&B : > 1 N/mm <sup>2</sup><br>/C & /D : > 10 N/mm <sup>2</sup> |

## Ordering information

### WPC type products are available:

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



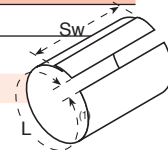
Select sleeve width that will overlap onto the mill-applied coating by 2 inches (50 mm) minimum on each side of the weld joint. When calculating the minimum sleeve width take for WPC/B a 10% shrinkage during installation of sleeve width into account and for WPC/C & WPC/D take a 18% shrinkage during installation of sleeve width into account.

### \* Cut piece / Uni-sleeve

#### Example: WPC-10750x17/D/UNI

<sup>(2)</sup> Nominal width

| WPC   | Product type                          | Standard Ordering options   |
|-------|---------------------------------------|---|
| 10750 | Outside pipe diameter in mils         | WPCT, WPC/B, WPC/C, WPC/D<br>2.375" – 68.000" (DN50 – DN 1700)  |
| 17    | Sleeve width in inches                | 11" (11.25 or 285 mm) , 17" (17.75 or 450 mm) <sup>(1)</sup><br>24" (23.5 or 600 mm) , 34" (34.25 or 870 mm) <sup>(1)</sup> |
| /D    | Product construction                  | T, /B, /C, /D   |
| /UNI  | Designates pre-attached closure patch | optional  |

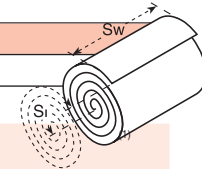


\* Roll form (closure patches to be ordered separately)

#### Example: WPCT-17x100-RL

<sup>(2)</sup> Nominal width

| WPC... | Product type         | Standard Ordering options  |
|--------|----------------------|--|
| 17     | Roll width in inches | WPCT, WPC/B, WPC/C, WPC/D<br>11" (11.25 or 285 mm) , 17" (17.75 or 450 mm) <sup>(1)</sup><br>24" (23.5 or 600 mm) , 34" (34.25 or 870 mm) <sup>(1)</sup> |
| 100    | Roll length in feet  | 100 ft (= 30 m), 66 ft (= 20 m, for /C and /D width 34" (870 mm) only)   |

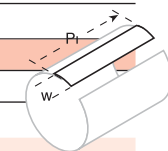


### \* Closure patch

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

<sup>(2)</sup> Nominal width

|    |                                | Standard Ordering options   |
|----|--------------------------------|---|
| 4  | Closure patch length in inches | 4" (100 mm), 6" (150 mm), 8" (200 mm)   |
| 17 | Closure patch width in inches  | 11" (11.25 or 285 mm) <sup>(1)</sup> , 17" (17.75 or 450 mm) <sup>(1)</sup><br>24" (23.5 or 600 mm) <sup>(1)</sup> , 34" (34.25 or 870 mm) <sup>(1)</sup> |



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

Berry Plastics 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 Berry Plastics written instructions. Since many installation factors are beyond the control of Berry Plastics, the user shall determine the suitability of the products for the intended use and assume all risks and liabilities in connection herewith. Berry Plastics liability is stated in the standard terms and conditions of sale. Berry Plastics makes no other warranty either expressed or implied. All information contained in this technical data sheet 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.



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