

GTS-PP II

Fused 3LPP Field Applied Coating System

For more than 35 years, Canusa-CPS has been a leading developer and manufacturer of specialty pipeline coatings for the sealing and corrosion protection of pipeline joints and other substrates. Canusa-CPS high performance products are manufactured to the highest quality standards and are available in a number of configurations to accommodate many specific project applications.

Product Description

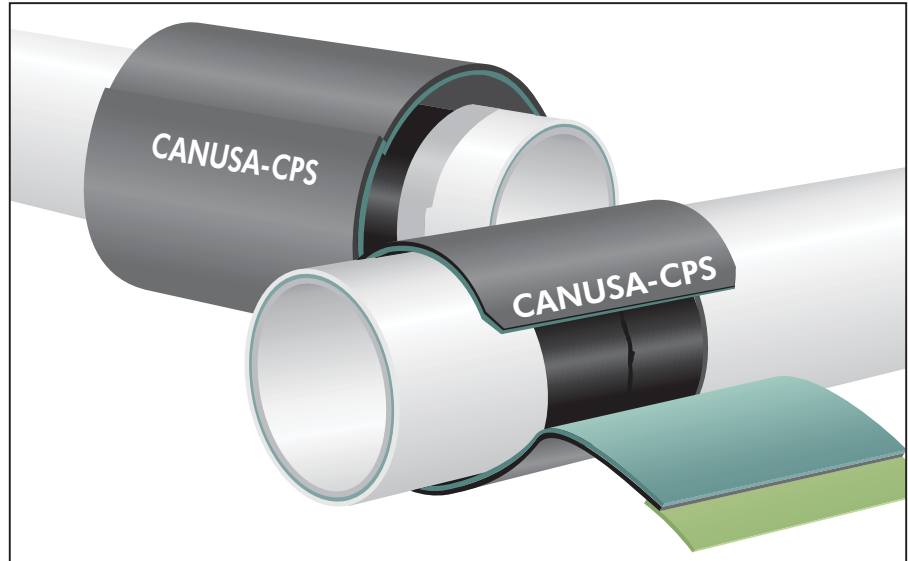
A key offering within the GTS-PP product family, GTS-PP II uses ShawCor's unique, and patented, cross-linked polypropylene outer layer, along with a proprietary rapid-activation polypropylene copolymer adhesive and advanced liquid epoxy layer to deliver protection that far exceeds minimum industry standards, such as ISO, while offering significant installation advantages over the highest performing PP systems, that require higher installation temperatures.

Features & Benefits

Lower Temperature 3LPP Coating Technology

GTS-PP II provides 3LPP protection with the following components:

- **Polypropylene Top Coat** offering the hardness, mechanical protection and resistance to moisture absorption typically required for pipelines utilizing polypropylene coatings
- **High Temperature Epoxy on the Steel** providing proven resistance to corrosion and to cathodic disbondment while allowing for relatively low installation temperatures when compared to other systems.
- **Rapid-Activation PP Copolymer Adhesive** bonding the polypropylene top coat to the epoxy layer and fusing to the 3LPP factory-applied coating where the joint coating overlaps with the lowest possible installation temperatures.



Fuses with the Lowest Installation Temperatures

GTS-PP II fuses to the 3LPP factory-applied coating while requiring the lowest installation temperatures in the industry. The system can be installed directly and very efficiently by pipeline contractors in an efficient and controlled manner, using uniform induction heating technology. GTS-PP II is also available in elevated thickness and with engineered features, such as the *Patented Reduced Edge Thickness Design*, which promotes a completely uniform and fused system and which further minimizes installation time by reducing unneeded extra coating thickness at the overlap area.






Available with Full Automation

This advanced coating technology is also fully compatible with Canusa-CPS' patented innovation, the IntelliCOAT system, which automates the installation of heat shrinkable pre-extruded coating systems, such as GTS-PP II. When combined, these technologies deliver consistent in-field application and full repeatability with improved safety and can even offer significant productivity and cycle time improvements.




Patented Technology

GTS-PP II's cross-linked PP technology and *Reduced Edge Thickness Design* are patented in North America and throughout Europe and the rest of the world.


Applications

-  Oil & Gas
-  Offshore Pipelines
-  High Temp
-  Girth-Weld Joints
-  Polypropylene

Configurations

-  Wrapid Sleeve™
-  CanusaTube™
-  3-Layer

Pipe Sizes

-  115 - 1220 (4" - 48")

Temperature Range

-  up to 120°C (248°F)*

Product Selection Guide

The product selection chart shown here is intended as a guide for standard products. Consult your Canusa representative for specific projects or unique applications. Below are typical values based on Heavy Duty (L-thickness) Sleeves.

| Sleeve Operating Characteristics | Celsius | Fahrenheit | GTS-PP II |
|--------------------------------------|---|------------|-----------|
| | Offshore / Onshore Pipeline Operating Temp. | 175° | |
| Minimum Installation Temp. | 150° | 302° | 170 |
| Resistance to Circumferential Forces | 125° | 257° | excellent |
| Resistance to Soil Stress | 100° | 212° | excellent |
| Resistance to Axial Pipe Movement | 75° | 167° | excellent |
| Main Line Coating Compatibility | 50° | 122° | PP, FBE |

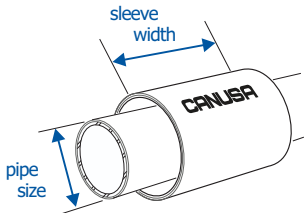
Typical Product Properties

| | Test Standard | Unit | GTS-PP II | |
|---|--|------------|-------------------|----------------------|
| Adhesive | Density | ASTM D792 | g/cm ³ | 0.93 |
| | Melting Point | ASTM D3418 | °C | > 140 |
| | Lap Shear @ 23°C (73°F) | EN 12068 | N/cm ² | > 500 |
| | Lap Shear @ 100°C (212°F) | EN 12068 | N/cm ² | > 100 |
| Backing | Density | ASTM D792 | g/cm ³ | 0.93 |
| | Tensile Strength @ 23°C (73°F) | ASTM D638 | Mpa | 28 |
| | Elongation at Break @ 23°C (73°F) | ASTM D638 | % | 425 |
| | Hardness | ASTM D2240 | Shore D | 65 |
| | Water Absorption @ 23°C (73°F), 24 hours | ASTM D570 | % | 0.2 |
| | Volume Resistivity | ASTM D257 | ohm.cm | 2 x 10 ¹⁷ |
| | Low Temperature Brittleness @ -40°C (-40°F) | ASTM D746 | - | pass |
| Sleeve | Peel Strength @ 23°C (73°F) | NFA 49-711 | N/cm | > 150 |
| | Peel Strength @ 100°C (212°F) | NFA 49-711 | N/cm | > 70 |
| | Peel Strength @ 120°C (248°F) | NFA 49-711 | N/cm | > 25 |
| | Impact | NFA 49-711 | J/mm | 10 |
| | Holiday Detection | NFA 49-711 | kV | 25 |
| | Indentation @ 110°C (230°F) | DIN 30678 | mm | 0.4 |
| | Cathodic Disbondment @ 23°C (73°F), 28 days | ASTM G8 | mm | < 3 |
| | Cathodic Disbondment @ 120°C (248°F) 28 days | ASTM G42* | mm | < 3 |
| Hot Water Immersion @ 95°C (203°F), 28 days | CSA | Rating | 1 | |

* ASTM G42 Test Method modified to suit testing @ 120°C (248°F)

How To Order:

| Dimensions & Ordering Info | GTS-PP II 915-450 WS BK | | Ordering Options - GTS-PP II | |
|----------------------------|---|--|------------------------------|--|
| | | Colour ▶ | BK - Black | |
| | Configuration ▶ | CT - CanusaTube™, WS - Wrapid Sleeve™ | | |
| | Sleeve Width ▶ | 450, 600mm (18", 24") & Project Specific widths available | | |
| | Pipe Size ▶ | 115 - 1220 mm (4" - 48") | | |
| | Primer ▶ | Canusa P Primer (Ordered Separately) | | |
| | Adhesive (min. thickness as supplied) ▶ | 1.5 mm (60 mils) | | |
| | Backing (min. thickness as supplied) ▶ | 1.0 mm (40mils) | | |
| | Product Name ▶ | GTS-PP II - Low Preheat Global Transmission Sleeve for Polypropylene Pipelines | | |



Min. Sleeve Width =
Bare Steel Dimension + 50 mm (2")
on each side of the pipe joint.