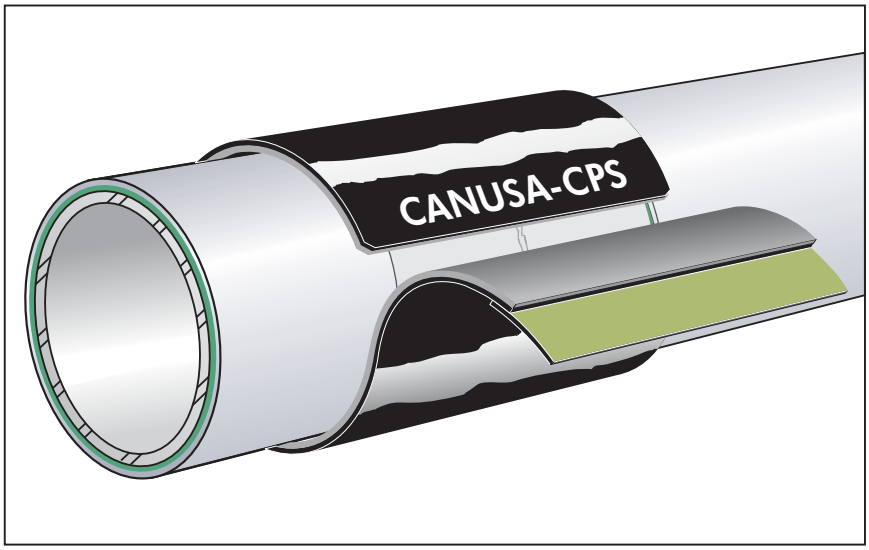
CANUSA-CPS
A SHAWCOR COMPANY

Product Data Sheet

# GTS-PP-65

## Hybrid Shrink Sleeve for Protection of Subsea Pipeline Field Joints Polypropylene Backing Layer and Mastic Adhesive Layer




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

The GTS-PP-65 hybrid shrink sleeve system provides excellent long-term adhesion and superior mechanical protection properties for subsea pipelines coated with a wide range of anti-corrosion coatings, including 3LPE, 3LPP, FBE, AE and CTE materials.

The GTS-PP-65 has been designed with a revolutionary hybrid material construction, consisting of the impressive mechanical attributes of PP based materials for the outer backing layer with the proven mastic adhesives technology that has been used on subsea pipelines for decades.

This combination of materials results in industry leading cycle times and superior mechanical resistance properties. The low preheat and St 3 surface preparation requirements allow for a consistent and easy installation procedure.

## Features & Benefits

### Unique Adhesive Technology

The inherent properties and composition of the adhesive layer allow for a consistent and high-strength bond to the mainline coating layer with low preheat temperatures. The user-friendly aspect of the material allows for consistent results in adverse conditions commonly encountered in subsea pipeline construction environments.

### Mechanical Resistance

The PP backing layer of the GTS-PP-65 is fabricated using the equivalent raw materials as used for extrusion of PP mainline coatings. As a result, the mechanical properties achieved using this system are directly comparable to those achieved by 3LPP mainline coatings, including excellent resistance to impact, indentation, abrasion and for hardness.

These properties combine for excellent resistance to offshore roller box loads, post installation impacts from rock dumping or fishing trawl resistance.

Where potentially directly exposed to offshore roller box loads, the rapid hardening features of the GTS-PP-65 (via water quenching) are of high importance for excellent resistance to damage during the offshore lay process, with only minimal time requirements for quenching.

### Rapid & Reliable Installation

The GTS-PP-65 is designed specifically for use in offshore environments, where a reliable installation procedure achieved in the most aggressive cycle time is critical. The following features contribute to this key benefit:

- Low preheat temperature
- St 3 surface preparation
- One-piece pre-fabricated design
- Rapid recovery PP backing layer (designed for excellent heat resistance to allow for up to 4 torch operators for installation on large diameters)

## Applications

- Oil & Gas
- Offshore Pipelines
- Girth-Weld Joints
- Polypropylene
- S-Lay, J-Lay, Reel Lay

## Configurations

- Wrapid Sleeve™
- 2-Layer PP Backing & Mastic Adhesive

## Temperature Range

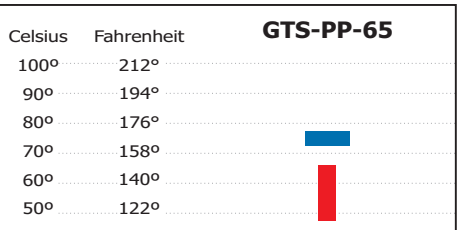
- up to 65°C *(149°F)*

The product selection chart shown here is intended as a guide for standard products.
Consult your Canusa representative for specific projects or unique applications.

# GTS-PP-65

## Product Selection Guide

**Sleeve Operating Characteristics**




| | GTS-PP-65 |
|---|---|
| Offshore Pipeline Operating Temperature °C (°F) | 65 (149) |
| Minimum Installation Temperature °C (°F) | 75 (167) |
| Resistance to Impact | excellent |
| Resistance to Circumferential Forces | excellent |
| Resistance to Pipe Laying Shear Forces | excellent |
| Resistance to Axial Pipe Movement | excellent |
| Rapid Quenching Ability | excellent |
| Main Line Coating Compatibility | PE, PP, FBE, AE & CTE |

## Typical Product Properties

| | | Test Standard | Unit | GTS-PP-65 |
|---|---|---|---|---|
| Adhesive | Softening Point | ASTM E28 | °C (°F) | 102 (216) |
| | Lap Shear | EN 12068 | N/cm² (psi) | 40 (58) |
| 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) | ASTM D570 | % | < 0.2 |
| | Volume Resistivity | ASTM D257 | ohm.cm | 2 x 10$^{17}$ |
| | Low Temperature Brittleness @ -40°C (-40°F) | ASTM D746 | -- | pass |
| | Di-electric Breakdown Voltage | ASTM D149 | kV/mm | > 25 |
| Sleeve | Impact | EN 12068 | J | >20 |
| | Indentation | EN 12068 | class C | pass |
| | Peel | ASTM D1000 | N/cm (pli) | 80 (46) |
| | Peel | EN 12068 | N/cm (pli) | 65 (37) |
| | Cathodic Disbondment | ASTM G8 | mm rad | <5 |
| | Water Absorption | ASTM D570 | % | 0.05 |
| | Low Temp. Flexibility | ASTM D2671 | °C (°F) | -14 (7) |
| | Hot Water Immersion @ 60°C | GBE/CW6 | pass/fail | pass - no disbondment |
| | Indentation @ 60°C | EN 12068 | pass/fail | pass |
| | Bending Resistance | GBE/CW6 | pass/fail | pass |

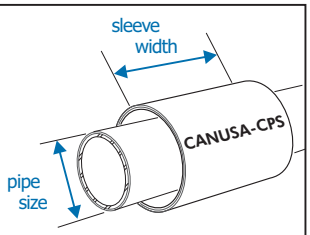
## How To Order:

**Dimensions & Ordering Info**

**GTS-PP-65 915-450 BK/L**

- **Thickness**
- **Colour**
- **Sleeve Width**
- **Pipe Size**
- **Adhesive** (min. thickness as supplied)
- **Backing** (min. thickness as supplied)
- **Product Name**

| Standard Ordering Options - GTS-PP-65 | | |
|---|---|---|
| | L Thickness | S Thickness |
| **Thickness** | **L, S** | |
| **Colour** | **BK -** Black | |
| **Sleeve Width** | **450, 600 mm** (18", 24") | |
| **Pipe Size** | **115 - 1220 mm** (4" - 48") | |
| **Adhesive** (min. thickness as supplied) | **1.4 mm** (0.055") | **1.5 mm** (0.060") |
| **Backing** (min. thickness as supplied) | **0.9 mm** (0.035") | **1.1 mm** (0.045") |
| **Product Name** | **GTS-PP-65** | |




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

* Non-standard sleeve widths are available from 250mm up to 900mm

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