

## Offshore Wrapid Sleeve™ KLON & KLNN

### One-piece protective sleeve with pre-attached closure

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.

#### Offshore Applications

Canusa-CPS is the industry leader in field joint coating technology for the protection of subsea pipelines where the demands for quality, reliability and proven procedures are of the highest importance. With the unique ability to provide field joint coating solutions that are tailored to match offshore construction methods, pipeline design parameters and service conditions, Canusa-CPS is trusted and relied upon by the world's leading offshore pipelay contractors. Canusa-CPS has a complete range of heat-shrinkable sleeve products for offshore pipelines that includes polyethylene (PE), polypropylene (PP) and polypropylene hybrid systems that have been proven to meet the challenges of the offshore pipelay environment.

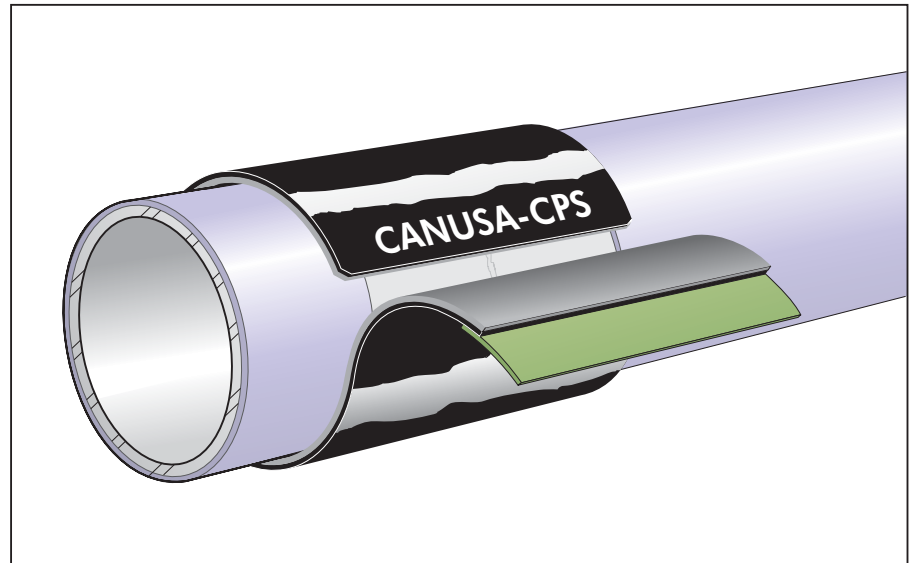
#### Product Description

The Canusa Wrapid Sleeve™ KLON and KLNN are one piece wraparound sleeves designed for corrosion protection of offshore steel pipelines. Wrapid Sleeve™ consists of a cross-linked polyolefin backing, coated with a high-shear mastic heat-activated adhesive which effectively bonds to steel substrates and common pipeline coatings, including polyethylene and polypropylene.

#### Features & Benefits

##### Rapid & Reliable Installation

Wrapid Sleeve™ offshore products have been engineered for the specific needs of offshore construction. Adhesives suitable



for minimum St3 surface preparation, HDPE backing for rapid recovery, a patented pre-attached closure and the ability to immediately water quench the sleeve after shrinking all lead toward quick installation time prior to the sleeve reaching the first stinger rollers.






##### Long Term Corrosion Protection

Wrapid Sleeve™ provides effective resistance to cathodic disbondment resulting in effective long term corrosion protection. The high performance HDPE cross-linked backing, in combination with application specific adhesives, are engineered for long-term offshore performance. Once installed, Wrapid Sleeve™ provides the structural integrity of a seamless tube, and provides the substrate with durable protection against abrasion and chemical attack.




##### Saves Time & Money

With Wrapid Sleeve's™ unique one-piece construction, HDPE backing and field-friendly adhesives, less time is required for surface preparation, handling, positioning, heat-shrinking and cooling of the sleeve. These features allow for simple and complete installation of the sleeve with low cycle times thus promoting high offshore production rates.

#### Applications

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

#### Configurations

-  Wrapid Sleeve™
-  2-Layer
-  Water Quenching

#### Pipe Sizes

-  55 - 1520 (2" - 60")

#### Temperature Range

-  Up to 100°C (212°F)

#### Approvals

-  DNV RP-F102

## Product Selection Guide

Choose your sleeve based on Operating Temperature and Characteristics listed below.

Sleeve Operating Characteristics	Celsius	Fahrenheit	KLON	KLNN
	Offshore Pipeline Operating Temperature	65	149	100
Minimum Installation Temperature	75	167	90	195
Resistance to Circumferential Forces	good		good	
Resistance to Axial Pipe Movement	good		good	
Main Line Coating Compatibility	PE, PP, FBE, PU, Coal Tar, Asphalt Enamel		PE, PP, FBE, CTE, AE, BE, Tape	

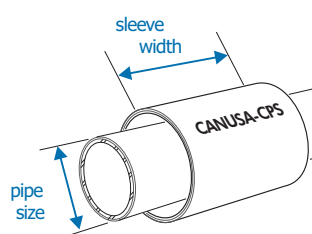
\* For 3-layer design, refer to Canusa GTS product line.

## Typical Product Properties

Category	Property	Test Standard	Unit	KLON	KLNN
Adhesive	Softening Point	ASTM E28	°C (°F)	102 (216)	124 (255)
	Lap Shear	EN 12068	N/cm <sup>2</sup> (psi)	40 (58)	52 (75)
Backing	Specific Gravity	ASTM D792		.95	.95
	Tensile Strength	ASTM D638	MPa (psi)	24 (3480)	24 (3480)
	Elongation	ASTM D638	%	700	700
	Hardness	ASTM D2240	Shore D	52	52
	Abrasion Resistance	ASTM D1044	mg	30	30
	Volume Resistivity	ASTM D257	ohm-cm	10 <sup>18</sup>	10 <sup>18</sup>
	Dielectric Voltage Brkdn.	ASTM D149	kV/mm	20	20
Sleeve	Impact	EN 12068	class C	pass	pass
	Indentation	EN 12068	class C	pass	pass
	Peel	ASTM D1000	N/cm (pli)	80 (46)	115 (66)
	Peel	EN 12068	N/cm (pli)	65 (37)	90 (51)
	Cathodic Disbondment	ASTM G8	mm rad	7	7
	Water Absorption	ASTM D570	%	0.05	0.05
	Hot Water Immersion Resistance	ASTM D870	50°C (122°F)	pass	pass
	Low Temp. Flexibility	ASTM D2671C	°C (°F)	-14 (7)	-15 (5)
DIN Approval	EN 12068	class	C30	-	
	Fully Recovered L Sleeve Thickness		mm (mils)	3.3 (131)	2.8 (111)

## How To Order:

Dimensions & Ordering Info	KLON 230-450 BK	Standard Ordering Options	
		KLON	KLNN
Colour		BK-Black	
Sleeve Width		300mm, 450mm, 600mm, 900mm * (12", 18", 24", 36")	
Pipe Size		55 - 1520mm (2" - 60")	
Adhesive (thickness as supplied)		1.7 mm (65 mils)	1.1 mm (45 mils)
Backing (thickness as supplied)		0.9 mm (36 mils)	0.9 mm (36 mils)
Configuration		K - Wrapid Sleeve	



**Min. Sleeve Width =**  
Bare Steel Dimension + 75 mm (3") min.  
on each side of the pipe joint before shrinking.

The above represents standard ordering options. Consult your Canusa representative for any unique project requirements.



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