



## Wrapid Sleeve™

One-piece protective sleeve with pre-attached closure

Canusa-CPS is a leading manufacturer of specialty pipeline coatings which, for over 30 years, have been used for sealing and corrosion protection of pipeline joints and other substrates. Canusa high performance products are manufactured to the highest quality standards and are available in a number of configurations to accommodate your specific project applications.

### Product Description

The Canusa Wrapid Sleeve™ is a one-piece wraparound sleeve designed for corrosion protection of buried and exposed steel pipelines. Wrapid Sleeve™ consists of a crosslinked polyolefin backing, coated with a protective heat sensitive adhesive which effectively bonds to steel substrates and common pipeline coatings including polyethylene and fusion bonded epoxy.

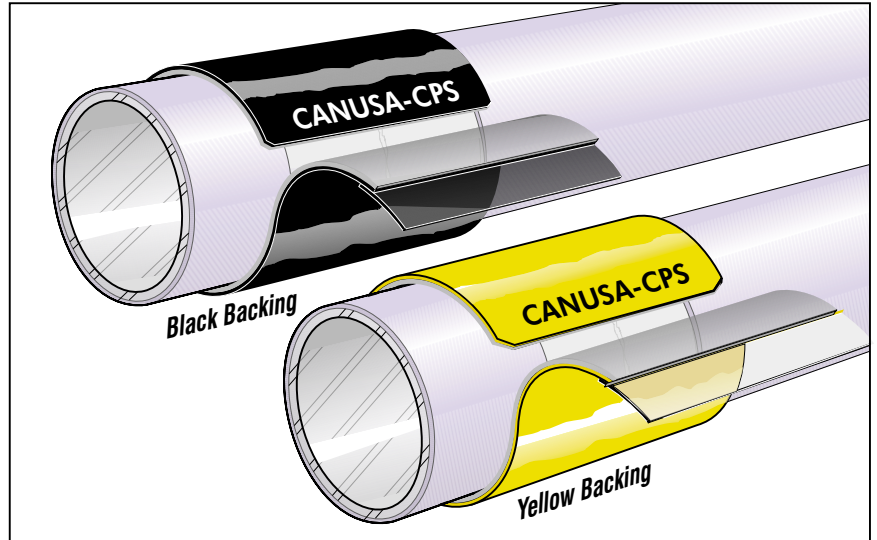
### Features & Benefits

#### Wrapid & Reliable Installation

Wrapid Sleeve™ has a patented one-piece construction that incorporates a pre-attached closure strip as part of the sleeve. Because the closure has been factory applied, quick and reliable field installation is easy to accomplish. Wrapid Sleeve™ is also available with a broad range of adhesives to accommodate various operating temperatures and soil stress conditions. To further optimize installation, Wrapid Sleeve™ products are available with a yellow polyethylene backing that incorporates a thermochromic indicator. These sleeves can be supplied with either a yellow or a patented opaque Windoweld™ closure.

#### Long-Term Corrosion Protection

Wrapid Sleeve™ provides excellent resistance to cathodic disbondment resulting in effective long term corrosion protection. The high performance crosslinked backing, in combination with a broad range of adhesives, can be engineered for regular or high stress environments. 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 construction, less time is required handling, positioning and installing separate closures. With the application of heat, this feature allows for fast, simple and complete installation of the sleeve. No additional costly primers are required. This minimizes installation time and labour costs while promoting high production rates. Wrapid Sleeve™ is also available in a high shrink ratio for high profile joint protection. Consult the High Shrink data sheet for additional information.

### Applications

-  Oil & Gas
-  Offshore Pipelines
-  Polypropylene
-  Water Pipelines
-  Pre-Insulated Pipes
-  Girth-Weld Joints

### Configurations

-  Wrapid Sleeve™
-  2-Layer
-  Standard Shrink

### Pipe Sizes

-  55 - 1520 (2" - 60")

### Temperature Range

-  Up to 80°C (176°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. The following are typical values based on Black, Heavy Duty (L) Sleeves.

# Wrapid Sleeve™

## Product Selection Guide

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

Sleeve Operating Characteristics	Celsius Fahrenheit		Mastic Adhesives						Hot Melt Adhesives	
			KLK KTG	KLC KTC	KLS KTS	KLO KTO	KLON KTON	KLNN KTNN	KLA	KLAS
Pipeline Operating Temperature	110°	230°								
	90°	194°								
	70°	158°								
	50°	122°								
	30°	86°								
Minimum Installation Temperature	°C (°F)		50 (122)	60 (140)	65 (150)	75 (167)	75 (167)	90 (195)	60 (140)	90 (195)
Resistance to Circumferential Forces			fair	fair	good	good	good	good	v. good	excl
Resistance to Soil Stress			fair	fair	good	good	good	good	v. good	excl
Resistance to Axial Pipe Movement			fair	fair	good	good	good	good	v. good	excl
Main Line Coating Compatibility			← PE, PP, FBE, PU, Coal tar, Bitumen, →						PE, PP, FBE	

\* For higher temperature requirements refer to Canusa GTS product line.

## Typical Product Properties

Adhesive	Test Standard	Unit								
Softening Point	ASTM E28	°C (°F)	100 (212)	90 (194)	77 (171)	102 (216)	102 (216)	124 (255)	72 (162)	90 (194)
Lap Shear	DIN 30 672 M	N/cm <sup>2</sup> (psi)	8 (12)	30 (44)	40 (58)	40 (58)	40 (58)	52 (75)	60 (87)	117 (170)
Backing	Test Standard	Unit								
Specific Gravity	ASTM D792		.93	.93	.93	.93	.95	.95	.93	.93
Tensile Strength	ASTM D638	MPa (psi)	20 (2900)	20 (2900)	20 (2900)	24 (3480)	24 (3480)	24 (3480)	20 (2900)	24 (3480)
Elongation	ASTM D638	%	600	600	600	700	700	700	600	700
Hardness	ASTM D2240	Shore D	46	46	46	48	52	52	46	48
Abrasion Resistance	ASTM D1044	mg	45	45	45	35	30	30	45	35
Volume Resistivity	ASTM D257	ohm-cm	10 <sup>17</sup>	10 <sup>17</sup>	10 <sup>17</sup>	10 <sup>17</sup>	10 <sup>18</sup>	10 <sup>18</sup>	10 <sup>17</sup>	10 <sup>17</sup>
Dielectric Voltage Brkdwn.	ASTM D149	kV/mm	27	20	20	27	20	20	20	27
Sleeve	Test Standard	Unit								
Impact *	DIN 30 672	class C	--	pass	pass	pass	pass	pass	pass	pass
Indentation *	DIN 30 672	class C	--	pass	pass	pass	pass	pass	pass	pass
Peel	ASTM D1000	N/cm (pli)	15 (9)	55 (31)	79 (45)	80 (46)	80 (46)	115 (66)	50 (29)	120 (70)
Peel	DIN 30 672	N/cm (pli)	8 (5)	50 (29)	70 (40)	65 (37)	65 (37)	90 (51)	35 (20)	86 (50)**
Cathodic Disbondment	ASTM G8	mm rad	6	6	8	8	8	10	13	11
Water Absorption	ASTM D570	%	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Low Temp. Flexibility	ASTM D2671C	°C (°F)	-40 (-40)	5 (23)	-20 (-4)	-14 (7)	-14 (7)	-15 (5)	-32 (-26)	-28 (-18)
DIN Approval *	DIN 30 672	class	--	--	--	C30	C30	--	C50	C50
Fully Recovered T Sleeve Thickness		mm (mils)	←----- 2.5 (99) -----→			←----- 2.3 (90) -----→			--	--
Fully Recovered L Sleeve Thickness		mm (mils)	←----- 3.3 (131) -----→			←----- 2.8 (111) -----→			←----- 3.3 (131) -----→	

\*\* backing elongation during peeling due to superior bond strength \* Denotes L sleeve thickness

## How To Order:

Dimensions & Ordering Info	Standard Ordering Options		Diagram
	Heavy Duty Thickness (L)	Regular Thickness (T)	
<b>KLO 230-450 BK</b>			
<sup>2</sup> Colour	BK-Black, YE-Yellow, WW-Clear Closure		
Sleeve Width	300mm, 450mm, 600mm, 900mm (12", 18", 24", 36")		
Pipe Size	55 - 1520mm (2" - 60")	55 - 500mm (2" - 20")	
Adhesive (thickness as supplied)	1.7 mm (65 mils) <sup>1</sup>	1.25 mm (50 mils) <sup>1</sup>	
Backing (thickness as supplied)	L - 0.9 mm (36 mils)	T - 0.6 mm (25 mils)	
Configuration	K - Wrapid Sleeve		

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

<sup>1</sup> NN has an adhesive thickness of 1.1mm (45 mils) The above represents standard ordering options. Consult your Canusa representative for any unique project requirements.

<sup>2</sup> KLON, KTON, KTNN & KLNN are available in black only.

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