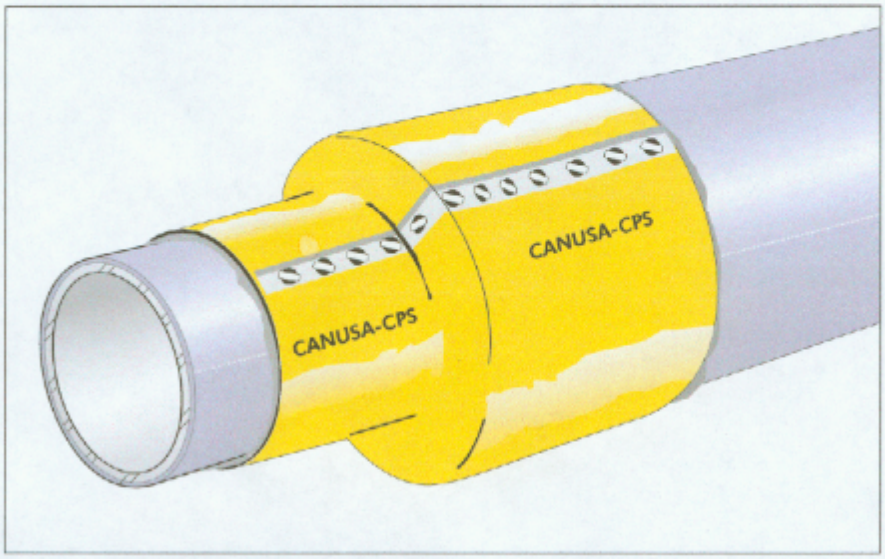
CANUSA-CPS

A SHAWCOR COMPANY

Product Data Sheet

Casing Seal Kit (CSK)

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 Casing Seal Kit (CSK) is a high expansion heat shrinkable wrap-around sleeve specifically designed to provide a waterproof seal on pipeline casings operating at constant temperatures of up to 60°C (140°F). As part of an underground system it electrically isolates pipelines from metallic casings. As well, the CSK can be used to prevent the corrosion of above ground flanges and mechanical couplers. The sleeve consists of an irradiation, crosslinked, heat shrinkable polyolefin backing, coated with an aggressive adhesive that effectively bonds to commonly used pipeline coatings including polyethylene, epoxy, tapes and coal tar. the pipe surface. Materials used in this product provide high electrical resistivity, resistance to corrosive environments, low water absorption and low moisture permeability. This combination ensures a permanent seal that is resistant to pipe deflection, vibration, soil stress, corrosive gases, and thermodynamic effects resulting from the expansion and contraction of carrier and casing pipes, flanges and mechanical couplers.

Features & Benefits

Rapid and Reliable Installation

The Canusa CSK has a one-piece construction that allows rapid and reliable field installation. The unique snap-fit closure system allows for an accurate installation every time. The kit also contains a roll of filament tape and a polypropylene support skirting to provide smooth transition between the casing and the carrier pipe, eliminating the need to apply a filler mastic which is time consuming in the field.

Long Term Sealing

Once installed, the Canusa CSK has excellent structural integrity. The system provides superior mechanical protection to the joint by maintaining a hoop-stress around the adhesive and creating a tough permanent bond. The CSK sealant remains flexible after installation and provides an excellent seal against vibration, deflection and temperature cycling while protecting from moisture, corrosion and bacterial damage.

Applications

- Oil & Gas
- Water Pipelines
- Step-Down Joints

Configurations

- Wrapid Sleeve™
- 2-Layer
- Yellow Backing
- High Shrink
- Snap Fit

Pipe Sizes

300/150 - 1200/525

Temperature Range

up to 60°C (140°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.

Casing Seal Kit (CSK)

Product Selection Guide

Available Sizes and Dimensions

Pipe DN Sizes	CSK Product	Supplied O.D. (mm)	Recovered O.D. (mm)
300, 150	CSK-320/130-860-YW	320	130
350, 175	CSK-370/150-860-YW	370	150
425, 200	CSK-450/180-860-YW	450	180
475, 225	CSK-500/200-860-YW	500	200
525, 250	CSK-550/220-860-YW	550	220
575, 250	CSK-600/240-860-YW	600	240
625, 275	CSK-650/260-860-YW	650	260
825, 350	CSK-850/340-860-YW	850	340
925, 400	CSK-950/385-860-YW	950	385
1050, 450	CSK-1100/445-860-YW	1100	445
1200, 525	CSK-1250/510-860-YW	1250	510

* Other sizes can be odered for non-standard applications. Please consult Canusa Product Management.

Standard sleeve width is 860 mm (34")
Sleeves can also be made 525 mm (21") wide

Typical Product Properties

	Test Name	Test Standard	Unit	Result
Adhesive	Softening Point	ASTM E28	°C (°F)	90
	Thickness - as supplied	micrometer	mm	1.1
Backing	Tensile Strength	ASTM D638	MPa (psi)	21
	Tensile Elongation	ASTM D638	%	>550
	Hardness	ASTM D2240	Shore D	44
	Impact Resistance	ASTM D1044	Nm	>12
	Thickness - recovered	micrometer	mm	2.2
Sleeve	Peel Strength	ASTM D1000	N/cm (pli)	20
	Water Absorption	ASTM D570	%	0.05
	Low Temperature Flexibility	ASTM D2671-C	°C (°F)	-20
	Cathodic Disbondment	ASTM G8	mm radius	17
	Dielectric Strength	ASTM D-149	kV/mm	27
	Water Vapour Transmission	ASTM E-96	g/24hr/100 in^2	0.02
	Volume Resistivity	ASTM D-257	ohm-cm	$>10^{15}$
	Fully Recovered Thickness	micrometer	mm	3.2

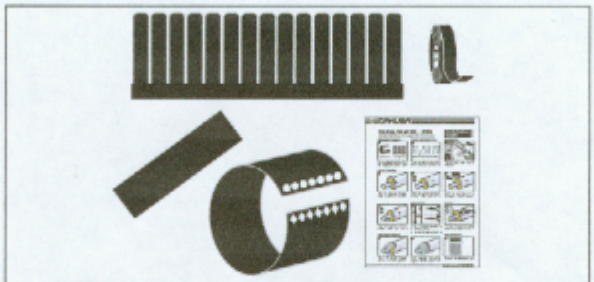
How to Order:

Dimensions & Ordering Info

CSK-320/130-860-YW

	CSK
Colour	YE-yellow
Sleeve Width	860 mm
Supplied/Recovered	320/130 mm
Adhesive (thickness as supplied)	1.1 mm
Backing (thickness as supplied)	2.0 mm
Configuration	CSK

The above represents standard ordering options.
CSK Kits are available with sleeve widths of 860 mm (34") and 500 mm (20").
Consult your Canusa representative for any unique project requirements.



Kits include polypropylene skirting, filament tape, closure seal, snap-fit high expansion sleeve, and a set of installation instructions.

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Product Data Sheet

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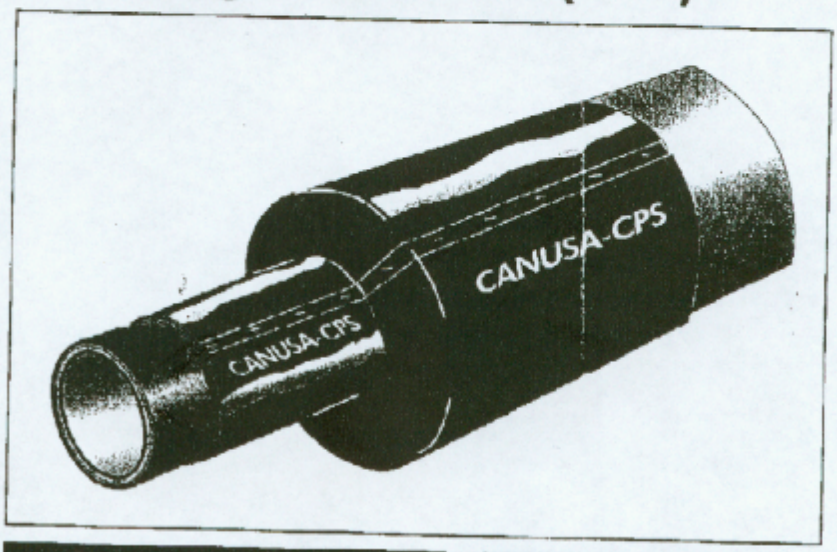

Product Description

The Canusa Casing Seal Kit (CSK) is a high expansion heat shrinkable wrap-around sleeve specifically designed to provide a waterproof seal on pipeline casings operating at constant temperatures of up to 60°C (140°F). As part of an underground system it electrically isolates pipelines from metallic casings. As well, the CSK can be used to prevent the corrosion of above ground flanges and mechanical couplers. The sleeve consists of an irradiation, crosslinked, heat shrinkable polyolefin backing, coated with an aggressive adhesive that effectively bonds to commonly used pipeline coatings including polyethylene, epoxy, tapes and coal tar. the pipe surface. Materials used in this product provide high electrical resistivity, resistance to corrosive environments, low water absorption and low moisture permeability. This combination ensures a permanent seal that is resistant to pipe deflection, vibration, soil stress, corrosive gases, and thermodynamic effects resulting from the expansion and contraction of carrier and casing pipes, flanges and mechanical couplers.

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The Canusa CSK has a one-piece construction that allows rapid and reliable field installation. The unique snap-fit closure system allows for an accurate installation every time. The kit also contains a roll of filament tape and a polypropylene support skirting to provide smooth transition between the casing and the carrier pipe, eliminating the need to apply a filler mastic which is time consuming in the field.

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Applications

- Oil & Gas
- Water Pipelines
- Step-Down Joints

Configurations

- Wrapid Sleeve™
- 2-Layer
- Yellow Backing
- High Shrink
- Snap Fit

Pipe Sizes

300/150 - 1200/525

Temperature Range

up to 60°C (140°F)

CANUSA-CPS is registered to **ISO 9002-1994**.

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

Casing Seal Kit (CSK)

Product Selection Guide

Available Sizes and Dimensions

Pipe DN Sizes	CSK Product	Supplied O.D. (mm)	Recovered O.D. (mm)
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350, 175	CSK-370/150-860-YW	370	150
425, 200	CSK-450/180-860-YW	450	180
475, 225	CSK-500/200-860-YW	500	200
525, 250	CSK-550/220-860-YW	550	220
575, 250	CSK-600/240-860-YW	600	240
625, 275	CSK-650/260-860-YW	650	260
825, 350	CSK-850/340-860-YW	850	340
925, 400	CSK-950/385-860-YW	950	385
1050, 450	CSK-1100/445-860-YW	1100	445
1200, 525	CSK-1250/510-860-YW	1250	510

* Other sizes can be ordered for non-standard applications. Please consult Canusa Product Management.

Standard sleeve width is 860 mm (34")
Sleeves can also be made 525 mm (21") wide

Typical Product Properties

	Test Name	Test Standard	Unit	Result
Adhesive	Softening Point	ASTM E28	°C (°F)	90
	Thickness - as supplied	micrometer	mm	1.1
Backing	Tensile Strength	ASTM D638	MPa (psi)	21
	Tensile Elongation	ASTM D638	%	>550
	Hardness	ASTM D2240	Shore D	44
	Impact Resistance	ASTM D1004	Nm	>12
	Thickness - recovered	micrometer	mm	2.2
Sleeve	Peel Strength	ASTM D1000	N/cm (pli)	20
	Water Absorption	ASTM D570	%	0.05
	Low Temperature Flexibility	ASTM G2671-C	°C (°F)	-20
	Cathodic Disbondment	ASTM G8	mm radius	17
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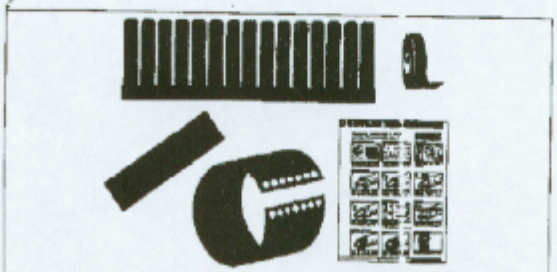
	Water Vapour Transmission	ASTM E-96	g/24hr/100 in²	0.02
	Volume Resistivity	ASTM D-257	ohm-cm	$>10^{14}$
	Fully Recovered Thickness	micrometer	mm	2.2



Kits include polypropylene skirting, filament tape, closure seal, snap-fit high expansion sleeve, and a set of installation instructions.

How to Order:

Dimensions & Ordering Info

CSK-320/130-860-YW

	CSK
Colour	YE-yellow
Sleeve Width	860 mm
Supplied/Recovered	320/130 mm
Adhesive (thickness as supplied)	1.1 mm
Backing (thickness as supplied)	2.0 mm
Configuration	CSK

The above represents standard ordering options.
CSK Kits are available with sleeve widths of 860 mm (34") and 500 mm (20").
Consult your Canusa representative for any unique project requirements.

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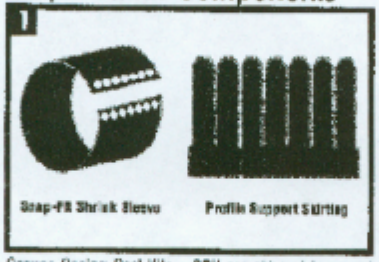
Installation Guide

Casing Seal Kit - CSK

High Expansion Sleeve for Casing/Carrier Pipe End Seal

Required Kit Components

1



Canusa Casing Seal Kits - CSK are shipped in pre-cut sizes with a snap-fit closure and a polypropylene profile support skirting. The adhesive is protected from contamination by an inner release liner.

Storage & Safety Guidelines

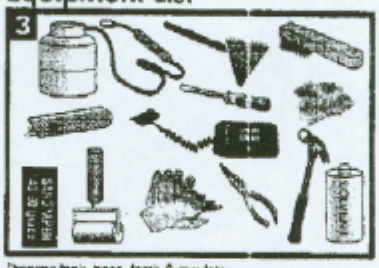
2

To ensure maximum performance, store Canusa products in a dry, ventilated area. Keep products sealed in original cartons and avoid exposure to direct sunlight, rain, snow, dust or other adverse environmental elements. Avoid storage at temperatures above 60°C (175°F) or below -20°C (-4°F). Product installation should be done in accordance with local health and safety regulations.

These installation instructions are intended as a guide for standard products. Consult your Canusa representative for specific projects or unique applications.

Equipment List

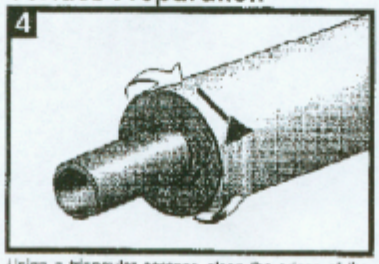
3



Propane tank, hose, torch & regulator.
Appropriate tools for surface abrasion.
Knife, roller, rags & approved solvent cleanser.
Temperature measuring device.
Hammer, small flat-head screw driver, needle-nose pliers.
Standard safety equipment; gloves, goggles, hard hat, etc.

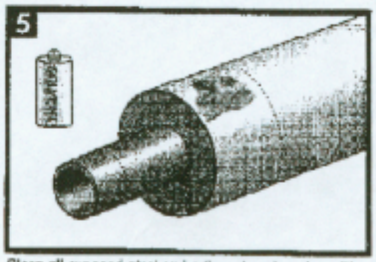
Surface Preparation

4



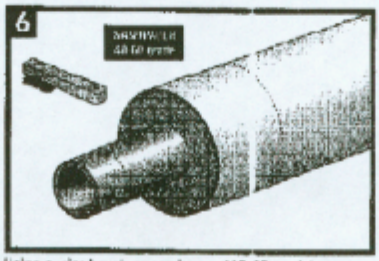
Using a triangular scraper, clean the edges of the casing pipe to remove any burrs and dirt from the sealing area.

5



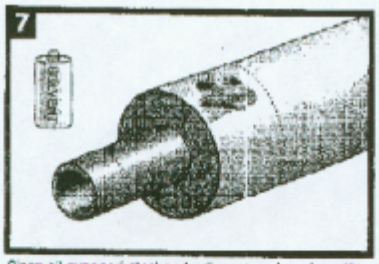
Clean all exposed steel and adjacent casing pipe with a solvent cleanser to remove the presence of oil, grease and other surface contaminants.

6



Using a wire brush or sandpaper (40-60 grade), remove all loose surface rust and dirt from the carrier and casing pipes.

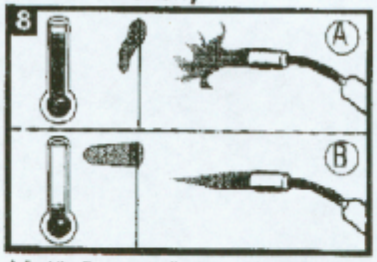
7



Clean all exposed steel and adjacent casing pipe with a solvent cleanser to remove the presence of oil, grease and other surface contaminants.

Flame Intensity

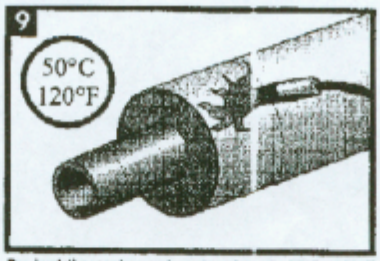
8



Adjust the flame according to outside conditions.
a. Use bluish-yellow flame for low wind, higher temps.
b. Use blue flame for high wind, lower temperatures
Always aim the torch perpendicular to the pipe and move in a circumferential direction.

Pre-Heat

9



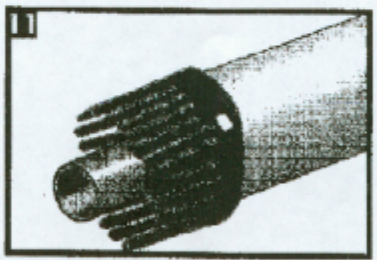
Pre-heat the casing and carrier pipes to 50°C (120°F) using an appropriate heating device to remove any surface moisture. Use a temperature measuring device to ensure the correct temperature has been reached.

Profile Support Skirting

10

Place the profile support skirting on the casing pipe with the fingers pointing towards the carrier pipe. Using the tape provide, attach the profile support skirting to the casing pipe. Wrap the profile support skirting tightly around the pipe.

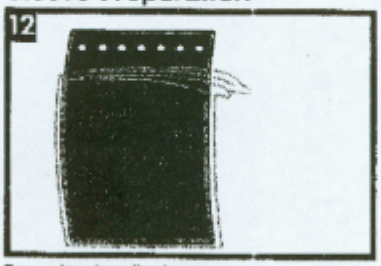
11



Finish wrapping the profile support skirting around the casing pipe. Use the supplied tape to firmly attach it to the casing pipe.

Sleeve Preparation

12

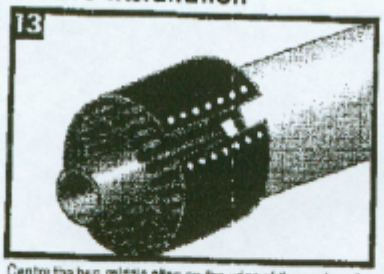


Remove the release liner from the sleeve.

CSK-Casing Seal Kit

Sleeve Installation

13

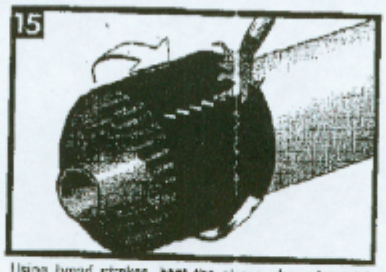


Centre the two middle clips on the edge of the casing pipe and wrap the sleeve around the joint to match the insert holes over the clips

14

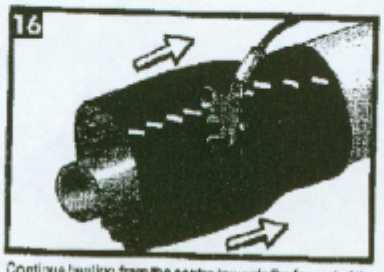
Insert the clips through the holes, push down the closure area to conform to the joint profile. Insert the flat-head screwdriver into the clips and flatten clips with gentle blows from a hammer (use needle-nose pliers if clips become bent or irregularly shaped).

15



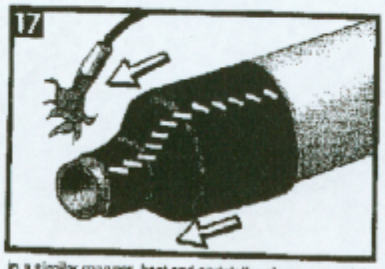
Using broad strokes, heat the sleeve circumferentially around the pipe starting with the end of the casing pipe.

16



Continue heating from the centre towards the far end of the casing pipe until sleeve recovery is complete and adhesive has oozed out from the side of the sleeve.

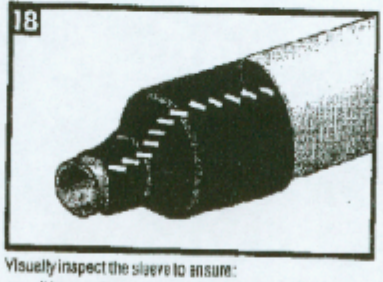
17



In a similar manner, heat and shrink the sleeve around the carrier pipe until sleeve recovery is complete.

Inspection

18



Visually inspect the sleeve to ensure:

- It has conformed to the casing profile
- It is not damaged
- adhesive has oozed out from all sides.

Backfilling Guidelines

19

After shrinking is complete, allow the sleeve to cool to below the intended operating temperature of the pipeline before backfilling. To prevent damage to the sleeve, use selected backfill material, (no sharp stones or large particles) otherwise an extruded polyethylene mesh or other suitable shield should be used.

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.

Available Sizes and Dimensions

Casing DN Size	CSK Sleeve*	Size Range (mm) supplied/recovered	Layflat Length mm
63	CSK-90/40-525-BK	90/40	280
90, 110	CSK-125/50-525-BK	125/50	400
125, 140	CSK-165/65-525-BK	165/65	520
160, 180	CSK-200/80-525-BK	200/80	640
200, 225	CSK-250/100-860-BK	250/100	925
250, 280	CSK-320/130-860-BK	320/130	1010
315, 355	CSK-370/150-860-BK	370/150	1155
400	CSK-450/180-860-BK	450/180	1400
450	CSK-500/200-860-BK	500/200	1555

* 525 and 860 mm sleeve widths are available.

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CSF – (Sleeve only)

Canusa Casing End Seal — CSK

Features:

- Fast, reliable installation
- No special tools or training required
- Broad range of product sizes

Description:

The Canusa Casing End Seal Kit (CSK) is a high expansion heat shrinkable wraparound sleeve specifically designed to provide a waterproof seal on pipeline casings. The sleeve consists of an irradiation cross-linked high expansion polyolefin backing coated with an aggressive adhesive.

Canusa CSK adhesive is compatible with commonly used pipeline coatings including polyethylene, epoxy, tape, and coal tar coatings.

Application:

The Canusa CSK product is designed from backing materials which provide high electrical resistivity, resistance to corrosive environments, low water absorption, low moisture permeability. The special adhesive is engineered to provide an effective bond to steel as well as to common pipeline coatings.

Advantages:

- Canusa CSK sleeves can be quickly and safety applied with minimal training required for field personnel.
- Available in sizes to fit numerous combinations of carrier pipe and casing sizes.
- High-expansion stretch and recovery characteristics of sleeve permit use of CSK product on carrier pipe products which are not centered in the casing.
- Snap-fit closure mechanism allows for simple and fast assembly without special tools.
- Built-in temperature indicator dispersed throughout backing changes from yellow to orange as the proper temperature is reached, thereby simplifying the installation and eliminates guess-work by the installer.

CANUSA

A SHAW INDUSTRIES COMPANY

Canusa Sizing Chart

CSK Product Designation*	Expanded Sleeve I.D. (In.)	Recommended for Casing/Carrier Sizes
320/130-860	12.6	10x8; 10x6; 8x6
370/150-860	14.5	12x10; 12x8; 12x6
450/180-860	17.5	16x12; 16x10; 16x8
500/200-860	19.5	18x16; 18x14; 18x12
550/220-860	21.5	20x18; 20x16; 20x14
600/240-860	23.6	22x20; 22x18; 22x16
650/260-860	25.5	24x22; 24x20; 24x18
850/340-860	33.5	32x30; 32x28; 32x26
950/385-860	38.0	36x34; 36x32; 36x30
1100/445-860	43.8	42x40; 42x38; 42x36
1250/510-860	50.0	48x42; 48x36; 48x32

*Other sizes can be ordered for non-standard applications.

Standard sleeve width is 34" (860 cm)
Sleeves can be made in 21" (550 cm)

Product Property Data:	Test Method	Unit	Value
Tensile Strength	ASTM D-638	PSI	2600 min.
Tensile Elongation	ASTM D-638	%	500 min.
Hardness	ASTM D-2240	Shore D	44
Impact Resistance	ASTM G-14	Nm	12 min.
Water Vapor Transmission	ASTM E-96	g/24hr/100 sq. in.	0.02
Water Absorption	ASTM D-570	%	0.1 max.
Volume Resistivity	ASTM D-257	ohm-cm	10^{15} min.
Dielectric Strength	ASTM D-149	KV/mm	20 min.
Low Temperature Flexibility	ASTM D-2671-C	Degrees C	-20°

The following Canusa distributor can assist with application, size selection and installation:

Notice: "All the above information, including illustrations, is believed to be reliable and correct. Our liability is stated in our standard terms and conditions of sale. The users of this product must make their own evaluation to determine the suitability of the product for its intended application."

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