



## CSC-Canusa SuperCase

One-piece heat shrinkable casing for foam-in-place pre-insulated pipes

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 SuperCase - CSC is a heat shrinkable casing for the joint protection of pre-insulated pipes (example: district heating pipes). The CSC combines a crosslinked, high density polyethylene casing with a high shear and peel strength adhesive to provide a high quality, reliable system for protection and sealing of joints. As a result of its design, the ends of the CSC casing preferentially shrink. This innovation makes it perfect for foam-in-place applications.

### Features & Benefits

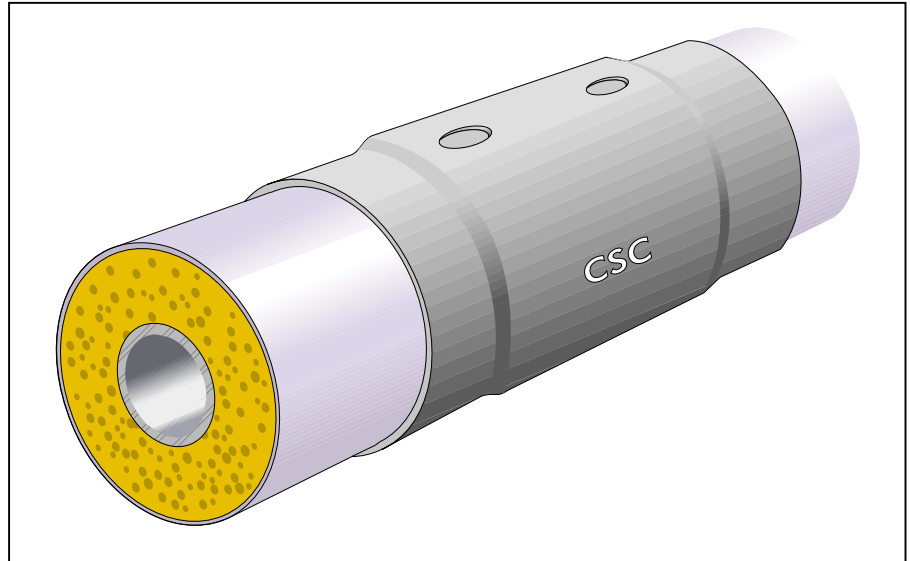
#### The Strongest Seal Available

The Canusa SuperCase - CSC has been engineered to provide an effective and reliable seal every time. This is achieved by focusing the full strength of the crosslinked shrinkable casing directly onto a high shear and peel strength adhesive. The CSC combines the structural integrity of a tubular product and performance of a hot-melt adhesive which results in excellent resistance to soil stress, chemicals, abrasion, mechanical stress, foaming pressures, temperature cycling effects and pipe movements resulting in a strong and effective long term seal. The CSC also uses special non-crosslinked polyethylene sections to aid during foam hole sealing. These innovations allow field personnel to quickly and easily use conventional equipment and standard techniques to permanently seal foaming holes with weldable or mechanical foam hole sealing plugs.

#### Easy to Install

The Canusa SuperCase - CSC can be installed using standard propane torches. As a result of its crosslinked polyethylene backing, the casing can withstand the heat involved with shrinking without suffering damage or burning. Also, the CSC can be stored and

CANUSA-CPS is registered to ISO 9002-1994.



transported without risk of damage, even at high temperatures (up to 80°C). The CSC will retain its shape over the lifetime of the pre-insulated pipe system.

#### Reduces Installation Time per Joint

The Canusa SuperCase - CSC is a crosslinked, tubular, heat-shrinkable product with unique non-crosslinked polyethylene enhancements. As a result of its unique design, the extra field step of shrinking additional sleeves on the ends of a non-crosslinked casing to ensure a proper seal is eliminated. This allows the pipe to be buried directly after foaming, resulting in greatly reduced installation times. Furthermore, the installation can be done more consistently with the assurance of a quality joint every time. To double seal the joint, if required, installation of Canusa Superseal™ heat shrink sleeves over the ends of the casing (instead of air pressure testing) is possible.

#### Assured Performance

The Canusa SuperCase - CSC meets and exceeds the stringent requirements of the European Standard, EN489 for District Heating products. The CSC withstands stringent soil box tests (over 1000 cycles) and high pressure and temperature water impermeability tests. The CSC has been fully EN489 tested and approved by FFI (Fernwärme-Forschungs Institut in Hannover, Germany).

### Applications



Pre-Insulated Pipes



Foam-In-Place

### Configurations



Tubular

### Pipe Sizes



63-1000mm

### Approvals



EN 489

# Features & Benefits for CSC 63 - CSC 160

## Foam-In-Place

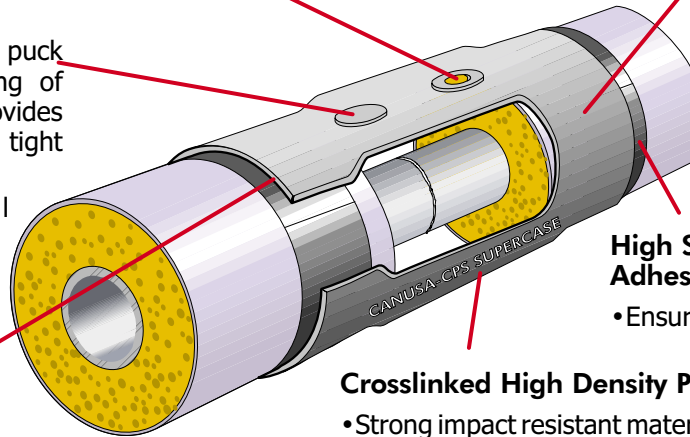
- Specially designed to allow complete foam fill

## One-Piece Shrinkable Casing

- Eliminates the need to install additional shrink sleeves
- Saves on installation time
- Reduces inventory

## Weldable Puck

- Non-crosslinked PE welding puck allows for excellent welding of weldable foam plugs and provides a flat surface that ensures a tight mechanical plug seal
- Together with optional Canusa Foam Seals (CFS), assures watertight seal



## High Shear and Peel Strength Adhesive

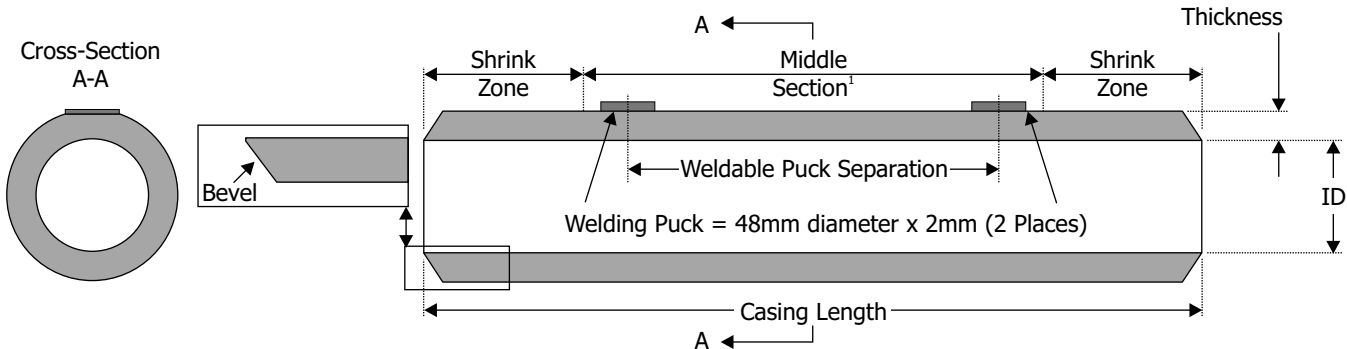
- Ensures strong, watertight seal

## Crosslinked High Density Polyethylene Material

- Strong impact resistant material
- Retains its shape and high stress over the lifetime of the pipe system
- Excellent heat resistance to sunlight, results in better field handling and does not pre-shrink
- Does not burn during shrinking

## Bevelled Ends

- Reduces profile, providing excellent soil stress resistance



## Typical Values (CSC 63-YYY BK through CSC 160-YYY BK)

PE Pipe Sizes (mm)	ID CSC (mm)	ID Shrink Zone fully recovered (mm)	Length Casing (mm)	Length Middle Section (mm)	Length Shrink Zone (mm)	Thickness Middle Section (mm)	Thickness Shrink Zone as supplied (mm)	Thickness Shrink Zone fully recovered (mm)	Length* Sealant Strip required (mm)	Separation Weldable Pucks (mm)	Cutback Maximum (mm)
63	78	56	500	300	100	2.0	2.0	3.2	2 x 225	150	250
75	90	66	500	300	100	2.0	2.0	3.1	2 x 265	150	250
90	108	81	500	300	100	2.0	2.0	3.2	2 x 315	150	250
110	127	99	500	300	100	2.0	2.0	3.3	2 x 380	150	250
125	145	114	500	300	100	2.0	2.0	3.4	2 x 430	150	250
140	159	125	500	300	100	2.0	2.0	3.5	2 x 480	150	250
160	181	140	500	300	100	2.0	2.0	3.6	2 x 550	150	250
63	78	56	<b>600</b>	400	100	2.0	2.0	3.2	2 x 225	250	350
75	90	66	<b>600</b>	400	100	2.0	2.0	3.1	2 x 265	250	350
90	108	81	<b>600</b>	400	100	2.0	2.0	3.2	2 x 315	250	350
110	127	99	<b>600</b>	400	100	2.0	2.0	3.3	2 x 380	250	350
125	145	114	<b>600</b>	400	100	2.0	2.0	3.4	2 x 430	250	350
140	159	125	<b>600</b>	400	100	2.0	2.0	3.5	2 x 480	250	350
160	181	140	<b>600</b>	400	100	2.0	2.0	3.6	2 x 550	250	350
63	78	56	<b>700</b>	500	100	2.0	2.0	3.2	2 x 225	350	450
75	90	66	<b>700</b>	500	100	2.0	2.0	3.1	2 x 265	350	450
90	108	81	<b>700</b>	500	100	2.0	2.0	3.2	2 x 315	350	450
110	127	99	<b>700</b>	500	100	2.0	2.0	3.3	2 x 380	350	450
125	145	114	<b>700</b>	500	100	2.0	2.0	3.4	2 x 430	350	450
140	159	125	<b>700</b>	500	100	2.0	2.0	3.5	2 x 480	350	450
160	181	140	<b>700</b>	500	100	2.0	2.0	3.6	2 x 550	350	450

<sup>1</sup> Middle section for CSC 63-YYY BK through CSC 160-YYY BK is fully shrinkable

\* Bulk dimension of Canusa SuperCase Adhesive (SA-B 100-15 BK) is 100mm wide in 15m lengths

Standard casing lengths for CSC 63 - CSC 160 are 600 and 700mm.

# Features & Benefits for CSC 180 - CSC 1000

## 2-Layer PE Design

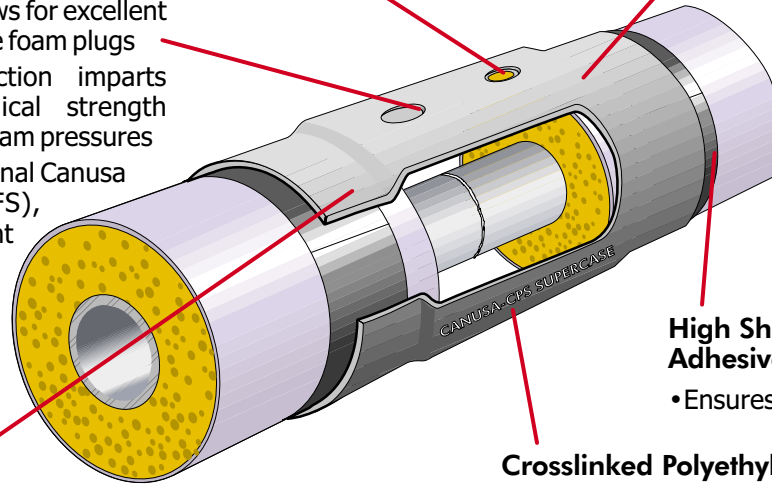
- Non-crosslinked inner sheet in the middle section allows for excellent welding of weldable foam plugs
- Thick middle section imparts excellent mechanical strength and resistance to foam pressures
- Together with optional Canusa Foam Seals (CFS), assures watertight seal

## Foam-In-Place

- Specially designed to allow complete foam fill

## One-Piece Casing with Shrinkable Ends

- Eliminates the need to install additional shrink sleeves
- Saves on installation time
- Reduces inventory



## High Shear and Peel Strength Adhesive

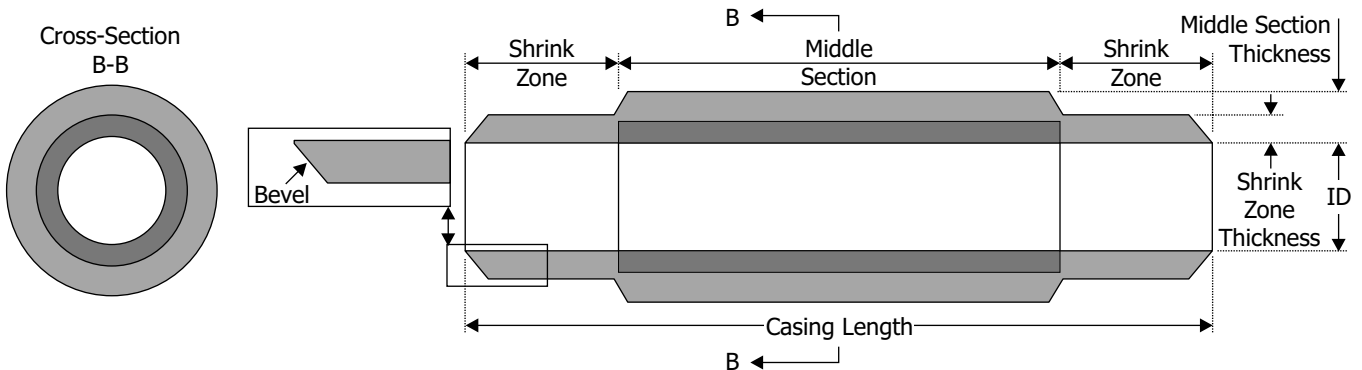
- Ensures strong, watertight seal

## Tapered Ends

- Fast and uniform shrinking
- Preferential shrinkage at casing shrink zones
- Reduces profile, providing excellent soil stress resistance
- Optimizes heat transfer to sealing adhesive
- Reduces installation time and pre-heat requirements
- Reduces cooling down time for air-pressure test and foaming

## Crosslinked Polyethylene Material

- Strong impact resistant material
- Retains its shape and high stress over the lifetime of the pipe system
- Excellent heat resistance to sunlight, results in better field handling and does not pre-shrink
- Does not burn during shrinking



## Typical Values (CSC 180-YYY BK through CSC 1000-YYY BK)

PE Pipe Sizes (mm)	CSC (mm) as supplied	ID (mm) fully recovered	Length Casing (mm)	Length Middle Section (mm)	Length Shrink Zone (mm)	Thickness Middle Section (mm)	Thickness Shrink Zone (mm) as supplied	Thickness Shrink Zone (mm) fully recovered	Length* Sealant Strip (mm) required	CSC's per Roll Tension Tape** (#)	Cutback Maximum (mm)
180	198	173	700	505	100	4.0	2.0	2.5	2 x 610	--	450
200	218	186	700	505	100	4.0	2.0	2.5	2 x 675	--	450
225	244	212	700	505	100	4.0	2.0	2.5	2 x 755	--	450
250	270	230	700	505	100	4.0	2.0	2.5	2 x 835	--	450
280	300	256	700	505	100	4.0	2.0	2.5	2 x 930	--	450
315	335	285	700	505	100	4.0	2.0	2.5	2 x 1045	--	450
355	378	327	800	535	125	6.0	2.0	2.5	2 x 1190	28	500
400	425	366	800	535	125	6.0	4.0	5.0	2 x 1330	25	500
450	478	413	800	535	125	6.0	4.0	5.0	2 x 1490	22	500
500	530	460	800	535	125	6.0	4.0	5.0	2 x 1650	20	500
520	551	471	800	535	125	6.0	4.0	5.0	2 x 1715	19	500
560	592	510	800	535	125	6.0	4.0	5.0	2 x 1835	18	500
630	672	592	800	535	125	8.0	4.0	5.0	2 x 2080	16	500
710	755	665	800	535	125	8.0	4.0	5.0	2 x 2330	14	500
800	845	753	800	535	125	10.0	4.0	5.0	2 x 2610	12	500
900	944	851	800	535	125	12.0	4.0	5.0	2 x 2930	11	500
1000	1048	949	800	535	125	12.0	4.0	5.0	2 x 3240	10	500

Consult Canusa for any Jacket PE pipe O.D. not mentioned above.

\* Bulk dimension of Canusa SuperCase Adhesive (SA-B 100-15 BK) is 100mm wide in 15m lengths

\*\* Bulk dimension of Canusa Tension Tape (TT-B 60-66) is 60mm wide in 66m lengths [assumes 15° of PE Pipe Size overlap]

# Canusa SuperCase

## Product Selection Guide

PE Pipe Size (mm)	Canusa SuperCase - CSC CSC PE Size-Length Colour	Casings per Adhesive Bulk Roll #
63	CSC 63-YYY BK	31
75	CSC 75-YYY BK	26
90	CSC 90-YYY BK	22
110	CSC 110-YYY BK	18
125	CSC 125-YYY BK	16
140	CSC 140-YYY BK	14
160	CSC 160-YYY BK	12
180	CSC 180-700 BK	11
200	CSC 200-700 BK	10
225	CSC 225-700 BK	9
250	CSC 250-700 BK	8
280	CSC 280-700 BK	7
315	CSC 315-700 BK	6
355	CSC 355-800 BK	6
400	CSC 400-800 BK	5
450	CSC 450-800 BK	4
500	CSC 500-800 BK	4
520	CSC 520-800 BK	4
560	CSC 560-800 BK	3
630	CSC 630-800 BK	3
710	CSC 710-800 BK	3
800	CSC 800-800 BK	2
900	CSC 900-800 BK	2
1000	CSC 1000-800 BK	2
>1000	Special Inquiry	

Choose your casing size based on the PE Pipe Size and casing length (YYY) based on Total Cutback Length

## Typical Product Properties

Property	Test Standard	Unit	Typical Result
Adhesive	Softening Point	ASTM E28	80 (176) °C (°F)
	Low Temperature Flexibility	ASTM D2671	-15 (5) °C (°F)
	Lap Shear	DIN 30672	90 (130) N/cm <sup>2</sup> (psi)
Backing	Specific Gravity	ASTM D792	0.94
	Tensile Strength	ASTM D638	27 (3915) MPa (psi)
	Elongation	ASTM D638	700 %
	Hardness	ASTM D2240	61 Shore D
Casing	Peel	DIN 30672	85 (49) N/cm (pli)
	Soil Stress Resistance	EN 489	pass/fail
	External Pressure Tightness	EN 489	pass/fail
	Heat Aging (@ 150°C, 7 days)		
	1) Tensile Strength	ASTM D638	25 (3625) MPa (psi)
	2) Tensile Elongation	ASTM D638	600 %

## EN 489 Approval Test Results

Casing Size	EN 489 Test Property	Test Conditions*	FFI Result**
CSC 160	Soil Stress Resistance	1000 cycles (no sand re-packing)	pass
	Internal Pressure Resistance / Water Ingress	50°C, 50 kPa, 24 h	pass
CSC 250	Soil Stress Resistance	1000 cycles (no sand re-packing)	pass
	Internal Pressure Resistance / Water Ingress	50°C, 50 kPa, 24 h	pass
CSC 1000	Soil Stress Resistance	1000 cycles (sand re-packed after every 100 cycles)	pass
	Internal Pressure Resistance / Water Ingress	Test 1: 40°C, 50 kPa, 336 h	pass
		Test 2: 45°C, 80 kPa, 96 h	pass
		Test 3: 50°C, 80 kPa, 24 h	pass

\* Standard EN489 Test Conditions are 100 cycles (no sand re-packing), 30°C, 30 kPa, 24h.

\*\* Soil Stress Resistance Pass = No Visual Damage

Internal Pressure Resistance / Water Ingress Pass = No Moisture Penetration.

## How To Order (Dimensions & Ordering Information):

Casing	CSC XXX-YYY BK	PE 63-160 = CSC XXX-YYY BK	PE 180-315 = CSC XXX-700 BK	PE 355-1000 = CSC XXX-800 BK
		Seamless	Welded	Welded
		BK - Black	BK - Black	BK - Black
		YYY - 500, 600, or 700 mm	YYY - 700 mm	YYY - 800 mm
	PE Pipe Size	XXX - 63 - 160 mm	XXX - 180 - 315 mm	XXX - 355 - 1000 mm
	Configuration	CSC - Canusa SuperCase	CSC - Canusa SuperCase	CSC - Canusa SuperCase

Standard Ordering Options include: Canusa SuperCase - CSC with an SuperCase Application Kit - SK (Items may be packaged in a sock and carton)

SuperCase Application Kit - SK includes: 2 rolls of cut-to-length SuperCase Adhesive [SA], 2 or 4 Application Spacers [S] and Tension Tape [TT] (if required)

Accessory	SuperCase Sizes	Product Designation	Configuration
SuperCase Kit	All	SK-XXX (25pcs) where XXX = CSC Size	XXX sized application kit - 25 pieces
Adhesive Roll	All	SA-B 100-15 BK (1pc)	100 mm x 1.25 mm x 15 m
Spacers (2 or 4 pieces required per casing size depending on PE Pipe Size)	CSC 63 - CSC 160 (2 pcs)	S-R 25-13-6 S (100pcs)	25 x 13 x 6 mm - 100 pcs
	CSC 180 - CSC 355 (4 pcs)	S-R 38-19-10 M (100pcs)	38 x 19 x 10 mm - 100 pieces
	CSC 400 - CSC 560 (4 pcs)	S-R 50-25-15 L (100pcs)	50 x 25 x 15 mm - 100 pieces
	CSC 630 - CSC 1000 (4 pcs)		
Tension Tape 66m Roll	> 315	TT-B 60-66 (10pcs)	60 mm x 66 m - 10 pieces
Tension Tape 5m Roll	> 315	TT-B 60-5 (25pcs)	60 mm x 5 m - 25 pieces
Foam Seals	All	CFS (50pcs)	93 mm diameter - 50 pieces
Foam Hole Ventilation Plug	All	FHP-Vent 17 (50pcs)	ø17 mm - 50 pieces
Foam Hole Ventilation Plug	All	FHP-Vent 20 (50pcs)	ø20 mm - 50 pieces
Foam Hole Weldable Plug	All	FHP-Weld 22 (50pcs)	ø22 mm - 50 pieces
Foam Hole Weldable Plug	All	FHP-Weld 35 (50pcs)	ø35 mm - 50 pieces
Foam Hole Mechanical Plug	All	FHP-Mech 19 (50pcs)	ø19 mm - 50 pieces

Number of spacers required per casing in parenthesis.

Order Accessories using the "Product Designation" column.

Canusa also offers equipment and tools for installing ventilation and welding plugs.

Please consult Canusa for further information.

[www.canusacps.com](http://www.canusacps.com)



A SHAWCOR COMPANY

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