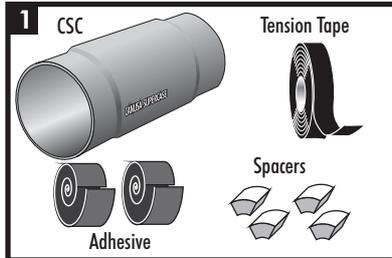


Canusa SuperCase™ CSC

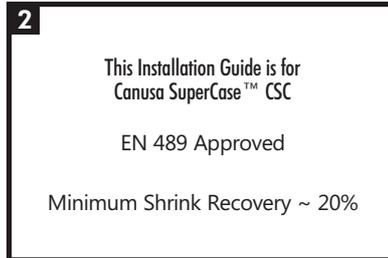
One-piece heat-shrinkable casing for foam-in-place pre-insulated pipes

Product Description



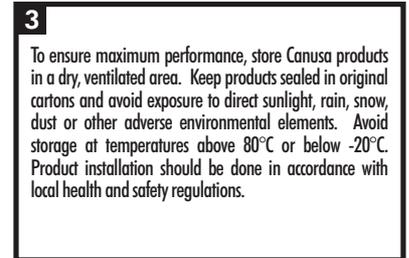
The Canusa SuperCase™ - CSC is a crosslinked, heat shrinkable casing for joint protection of pre-insulated pipe. If the packaged kit is used, it contains: adhesive, spacers and tension tape for large casings.

General Information



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

Storage & Safety Guidelines

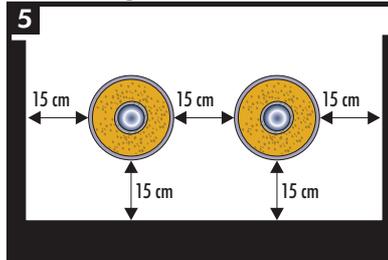


Equipment List



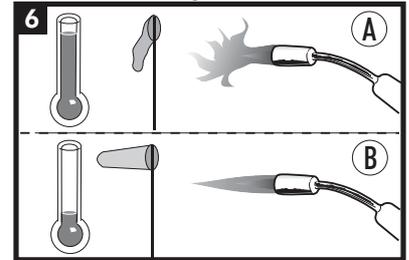
Propane tank, hose, torch & regulator
Sandpaper (40-60 grade) or wire brush
Knife, roller, rags & ethanol (min. 94%) or isopropyl alcohol
Cleanser
Temperature measuring device, triangular scraper
Marking pencil, grater, drill, CFS Rolling Tool
Standard safety equipment; gloves, goggles, hard hat, etc.

Backfilling Trench



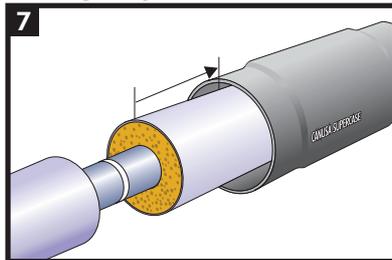
Ensure there is adequate work space area around the pipe in the backfilling trench.

Flame Intensity



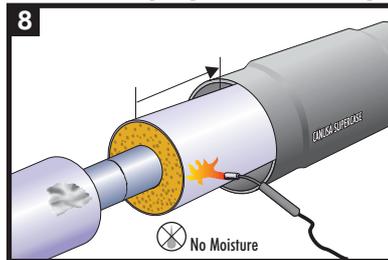
Adjust the flame according to outside conditions.
a. Use bluish-yellow flame for low wind, higher temps
b. Use blue flame for high wind, lower temperatures
Always aim the torch perpendicular to the shrink zone of the CSC and move in a circumferential direction.

Casing Preparation



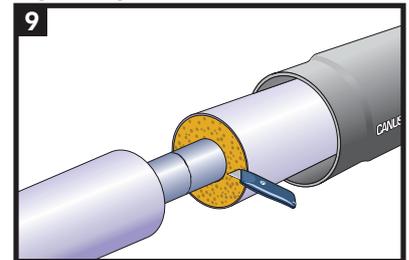
Check the CSC to ensure that it is not damaged. Before welding together the carrier pipes, slide the CSC as far away from the joint as possible.

General Drying and Cleaning



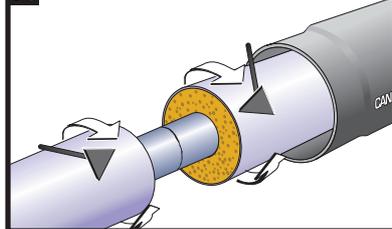
Use a propane torch with a low flame to dry the jacket pipe, carrier pipe and CSC. Use a dry, grease and lint-free rag to wipe clean the jacket pipe, carrier pipe and CSC.

Pipe Preparation



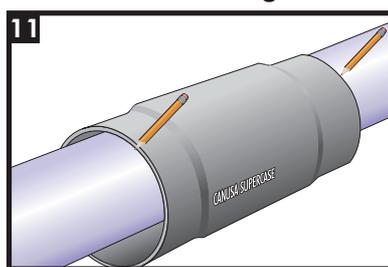
Remove any wet PUR foam from the end of the pre-insulated pipe.

10

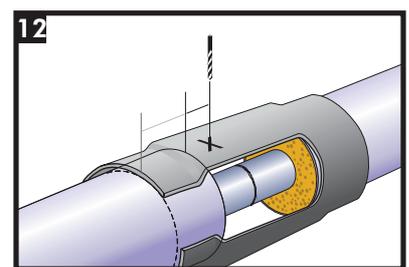


Using a triangular scraper, clean the edges of the jacket pipe to remove any burrs and dirt from the sealing area.

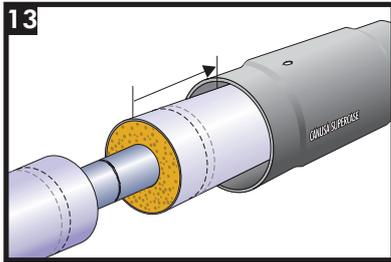
CSC Position Marking



Air Hole

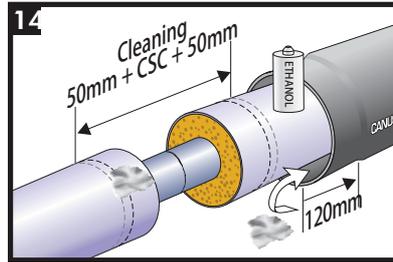


CSC Position



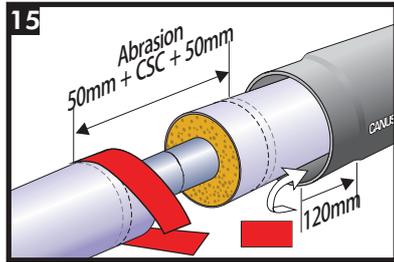
Slide the CSC away from the jacket pipe edge.

Surface Preparation



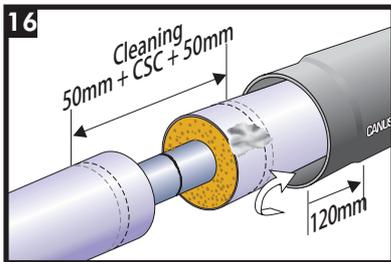
Clean the surface of the jacket pipe and the inside of the thin shrink zone of the casing with a rag to remove dirt. Degrease the surface of the jacket pipe and the inside of the CSC using a grease and lint-free rag soaked in ethanol (min. 94%) or isopropyl alcohol cleanser.

Surface Abrasion



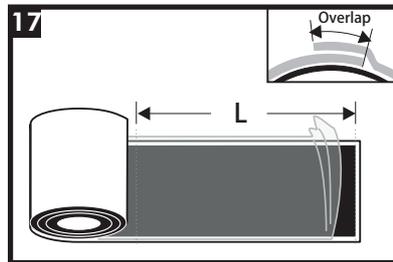
Roughen the surface of the jacket pipe on both sides of the cutback and the **inside** of the CSC (thin shrink zones) using the sandpaper (40 to 60 grade).

Final Surface Cleaning



Using a dry, grease and lint-free rag, clean the roughened surface to remove any polyethylene or sand particles.

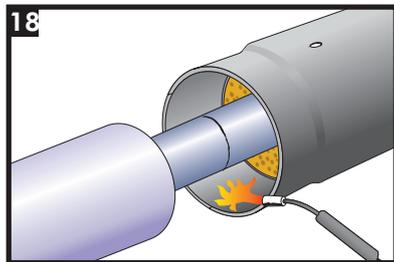
Adhesive Length (With Bulk Roll)



If not using the pre-cut adhesive from a kit, measure the circumference of the jacket pipe and cut two sealing strips long enough to allow for overlap.

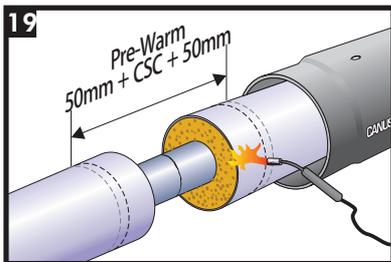
The Length (L) should be the circumference + 50mm overlap

Pre-Warming (Inside of Casing)



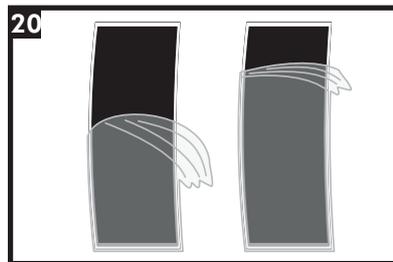
Pre-warm the inside of the casing on each end (150mm) by moving it half-way over the joint. Use low intensity flame to make sure that the casing does not start to recover.

Pre-Warming (Jacket Pipe)



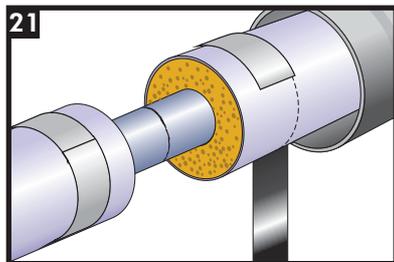
Pre-warm the pipe to 40°C-50°C. **Ensure the correct temperature with a temperature measuring device.** Do not exceed 60°C as this makes the removal of release liner difficult.

Release Liner

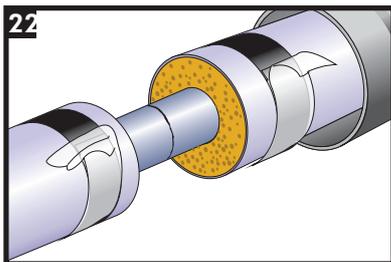


Remove the thinner release liner (opposite the mesh side) from both adhesive strips and...

Adhesive Application

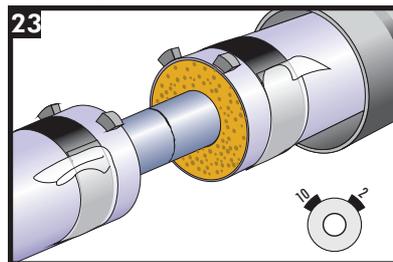


...apply the adhesive strips tightly around the jacket pipe with the mesh side facing up. The strips should be applied so that they are placed approximately 5mm inside of the marks. Make sure the adhesive is not stretched during wrapping. Partially peel-back the release liner on the under lap and wrap the strips around the jacket pipe so that they overlap.



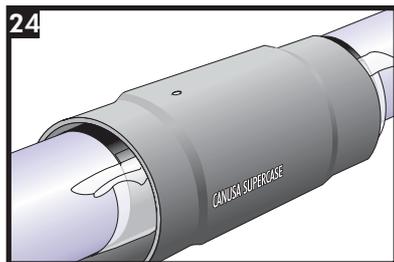
Fold the release liner outwards to allow for easy removal after positioning the casing.

Spacing Placement



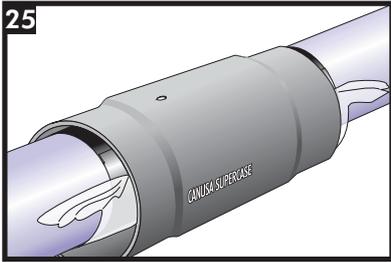
Remove the paper backing and place the spacers at the 10 and 2 o'clock positions of the jacket pipe, right at the edge of the cutback.

CSC Placement

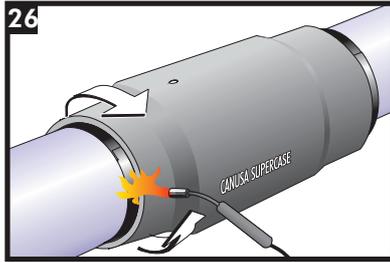


Carefully slide the CSC over the joint, so that the edges are centered over the edge of the adhesive strips.

CSC Installation

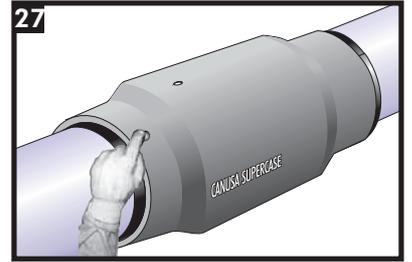


Completely remove the release liners from the adhesive strips.



Using broad strokes and a medium flame, begin shrinking one end of the CSC evenly all around. Keep the torch moving to avoid overheating any spots; ensure sufficient heat is applied at the bottom.

Quality Check (Finger Probe Test)



With a gloved finger, press down on the shrunken area to ensure the backing and adhesive are soft. If there are cool spots, the shrink zone should be reworked with additional heat.



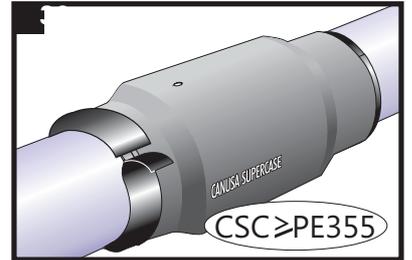
Continue heating the edge until it is fully recovered around the entire circumference of the jacket pipe. **Shrinking has been completed when the shrink zone of the CSC has conformed to the entire pipe jacket.**

Quality Check (Finger Tip Test)



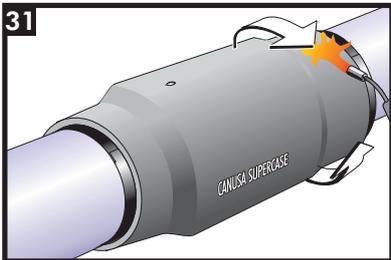
As a final check, ensure that the shrink zone of the CSC conforms intimately with the entire pipe surface. This can be checked by feeling the edges all around the circumference of the casing. If there is edge lifting, the edge should be reworked with additional heat.

Tension Tape Application



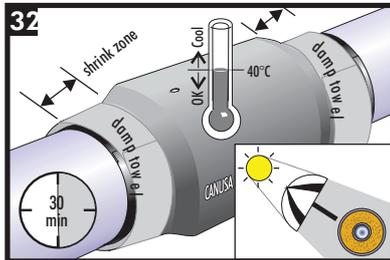
For casing sizes PE355 and above, wrap the supplied tension tape around the edge immediately after shrinking, while the casing is still soft (if the casing has cooled down; reheat it). **This ensures even cooling and conformance of the edges.**

CSC Installation - other side



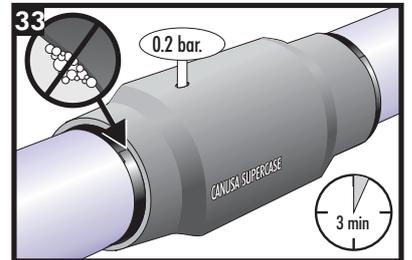
Repeat Steps 25 to 29 on the other shrink zone.

Cool CSC to < 40°C



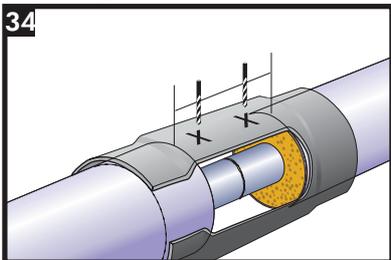
Allow the CSC to cool for 30 minutes. After 30 minutes measure the surface temperature of the CSC shrink zones. If the surface temperature of the shrink zones are still above 40°C, use shading and/or damp towels to quicken CSC shrink zone cooling time.

Quality Check (Air Pressure Test)



Ensure the CSC shrink zones have cooled to below 40°C. Perform the pressure test using the previously drilled pressure hole. The CSC should be checked with an air pressure test for 3 minutes at 0.2 bar. In case of a leak, the CSC shrink zones should be reworked with additional heat at the leaking area. The pressure test should then be repeated.

Foaming Holes

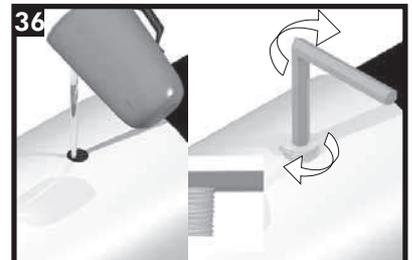


Drill one foaming hole over the pressure testing hole. Drill the other foaming hole, if required (as close to the shrinkable end as possible while remaining in the cutback area).

Foaming Straps

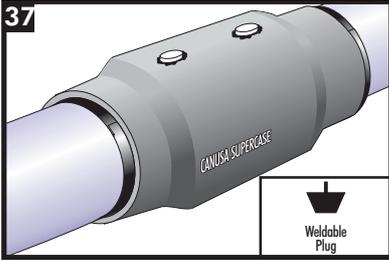


Foaming



Ensure the CSC shrink zones have cooled to at least 40°C. If they have not, follow the cooling instructions as described in step 31 (for CSC 560 and greater, follow steps 31 and 34). **Do not foam if the surface temperature is above 40°C.** Foam the joint according to the manufacturer's guideline. Use standard ventilation plugs while foaming. After the foam has cured, remove the foaming straps (if used).

Foam Hole Sealing



After the foam has hardened, remove the ventilation plugs and drill any holes necessary for sealing. When using Canusa approved weldable plugs and welding machine, it is required to match the conical geometry with all pieces of equipment (i.e. weldable plug, drill bit, welding machine heating cups). **Cylindrical tools for plug welding are not recommended.** Note: Using an approved welding tool, (at 250°C) the recommended times for plug welding are:
 1) pre-warm the sealing hole for 45 sec.
 2) At the same time as step 1), pre-warm the welding plug for 30sec.
 3) Insert plug into sealing hole and hold for 30sec.
 Total Installation Time = 105 sec.

CSC Completed Installation



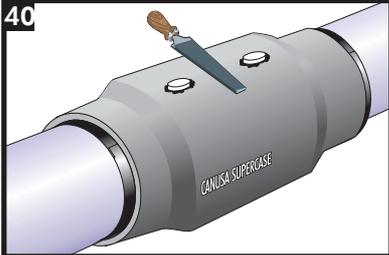
Visually inspect the completed casing. **Ensure that the ends of the CSC are completely shrunk down.** To double seal the foaming hole use a Canusa Foam Seal - CFS.

Control Step

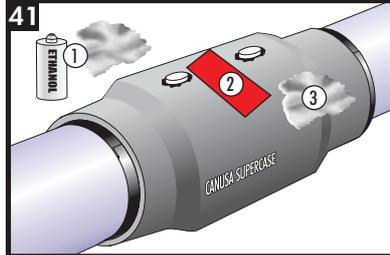


Continue with step 39 when the foaming hole is to be double sealed with a weldable plug and Canusa Foam Seal - CFS.

Surface Preparation

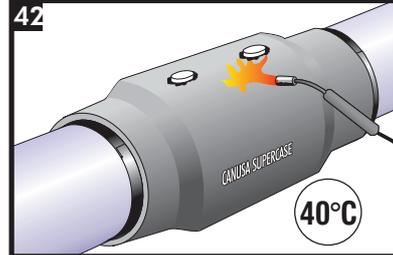


Using a grater, sand down the plugs bringing them flush to the surface of the CSC.

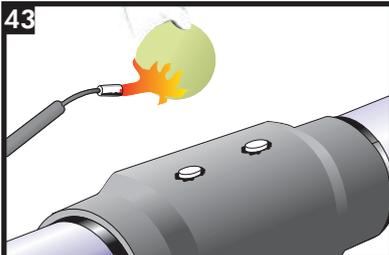


1. De-grease the surface around the plug using a grease and lint-free rag soaked in ethanol.
2. Roughen the surface with sandpaper (40 to 60 grade).
3. Use a grease and lint-free rag to remove any polyethylene or sand particles caused by roughening the surface.

CFS Installation



Pre-warm the casing surface around the foaming hole to 40°C. **Do not overheat the surface as the foam will gas.** Check the temperature using a temperature measuring device.



Heat the adhesive side of the CFS with a medium intensity flame until the adhesive becomes glossy (Adhesive will melt).



Place the CFS onto the pre-cleaned and pre-warmed section of casing directly over the centre of the foaming hole.



Using a weak medium flame, heat the backside of the CFS until the adhesive oozes from the edge and the thermochromic ink print disappears. **Do not overheat the surface as the foam will gas.**

Weldable Plug CFS Rolling



Using a roller, gloved hand or the side of the larger end of the CFS Rolling Tool: smooth out the CFS surface. Ensure adhesive has oozed from all sides of the CFS.

CFS Completed Installation



The CFS has been fully installed when adhesive can be seen around the entire circumference and is in full contact with the casing.

Backfilling Guidelines

48 After shrinking is complete, the CSC should be left for as much time as possible prior to backfilling (1 hour). This ensures that the adhesive has cooled enough and that sealing is achieved. To prevent damage to the CSC, use selected backfill material (no sharp stones or large particles).

Follow the above backfilling guidelines.



Canada
 CANUSA-CPS
 a division of SHAWCOR LTD.
 25 Bethridge Road
 Rexdale, Ontario
 M9W 1M7,
 Canada
 Tel: +1 (416) 743-7111
 Fax: +1 (416) 743-5927

U.S.A./Latin America
 CANUSA-CPS
 a division of SHAWCOR INC.
 2408 Timberloch Place
 Building C-8
 The Woodlands, Texas
 77380, U.S.A.
 Tel: +1 (281) 367-8866
 Fax: +1 (281) 367-4304

Europe/Middle East
 CANUSA-SYSTEMS
 a division of SHAWCOR UK LIMITED
 Unit 3, Sterling Park
 Gatwick Road
 Crawley, West Sussex
 England RH10 9QT
 Tel: +44 (1293) 541254
 Fax: +44 (1293) 541777

www.canusacps.com

Asia/Pacific
 CANUSA-CPS
 a division of SHAWCOR LTD.
 #05-31, Blk 52, Frontier
 Ubi Avenue 3
 Singapore
 408867
 Tel: +65-6749-8918
 Fax: +65-6749-8919