CANUSA-CPS
A SHAWCOR COMPANY

Installation Guide

Canusa SuperCase - CSC

Installation Guide for CSC-63 through CSC-200

Product Description

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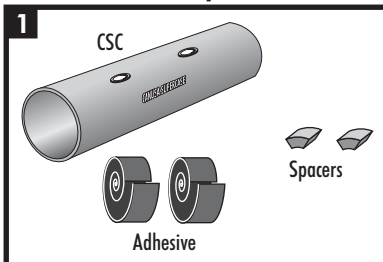

The Canusa SuperCase - CSC is a crosslinked, heat shrinkable casing for joint protection of pre-insulated pipe. The CSC requires SuperCase Adhesive (SA) and Application Spacers (S).

General Information

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This Installation Guide is for Canusa SuperCase, CSC 63-XXX BK through CSC 200-XXX BK.

EN 489 Approved (FFI 06/1997 & 10/1999)

Minimum Shrink Recovery ~ 20%

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

Storage & Safety Guidelines

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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 40°C or below -20°C . Product installation should be done in accordance with local health and safety regulations.

Equipment List

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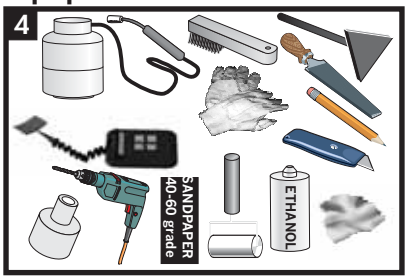

Propane tank, hose, torch & regulator
Sandpaper (40-60 grade) or wire brush
Knife, roller, rags & ethanol (min. 94%) or isopropyl alcohol cleanser
Temperature measuring device, triangular scraper
Marking pencil, grater, drill, CFS Rolling Tool
Standard safety equipment; gloves, goggles, hard hat, etc.

Backfilling Trench

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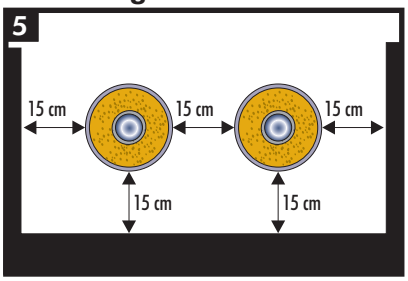

Ensure there is adequate work space area around the pipe in the backfilling trench.

Flame Intensity

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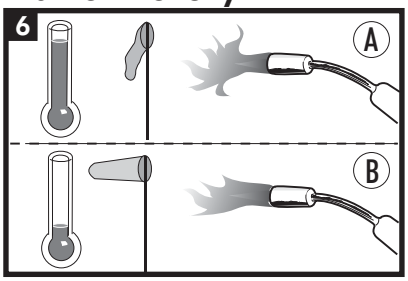

Adjust the flame according to outside conditions.
a. Use weak yellowish-orange flame for low wind, higher temps
b. Use moderate bluish-yellow flame for high wind, lower temps
Always aim the torch perpendicular to the shrink zone of the CSC and move in a circumferential direction quickly around the jacket pipe. **Do not overheat the jacket pipe as it will burn with excessive heating.**

Casing Preparation

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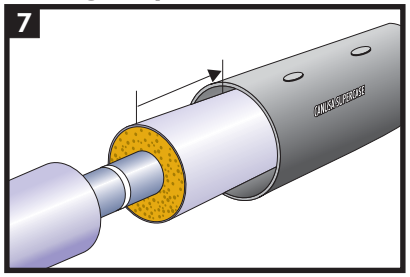
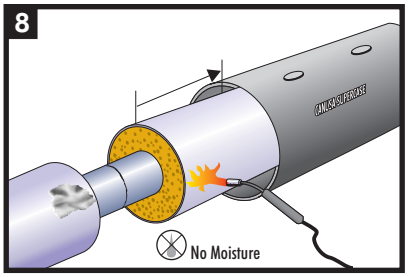


Check the CSC to ensure that it is not damaged. Before welding together the carrier pipes, slide the CSC as far away from the joint as possible.

General Drying and Cleaning

8



Use a propane torch with a very **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

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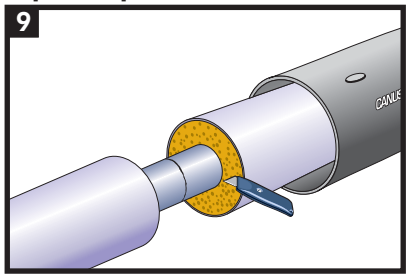

Remove any wet PUR foam from the end of the pre-insulated pipe.

Surface Preparation

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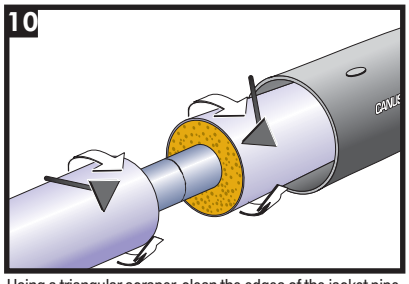
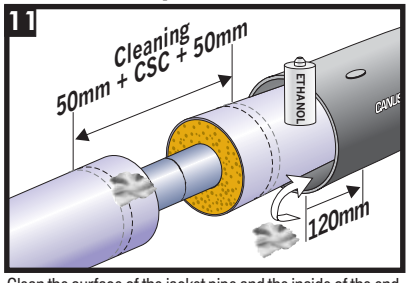


Using a triangular scraper, clean the edges of the jacket pipe to remove any burrs and dirt from the sealing area.

11



Clean the surface of the jacket pipe and the inside of the end zone of the casing with a rag to remove dirt. De-grease 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

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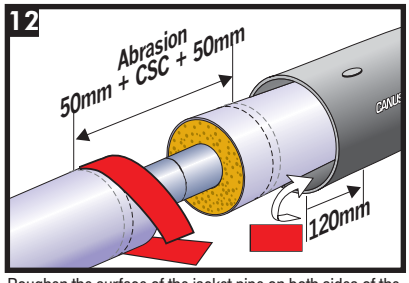

Roughen the surface of the jacket pipe on both sides of the cutback and the **inside of the CSC** using the sandpaper (40 to 60 grade).

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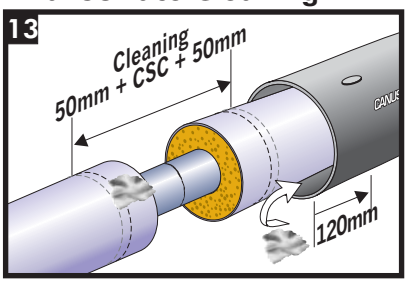
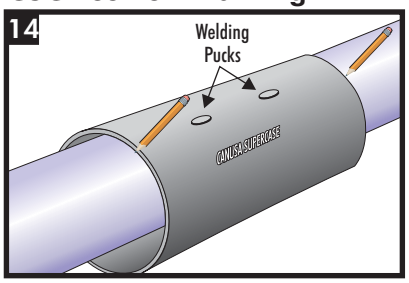
Final Surface Cleaning



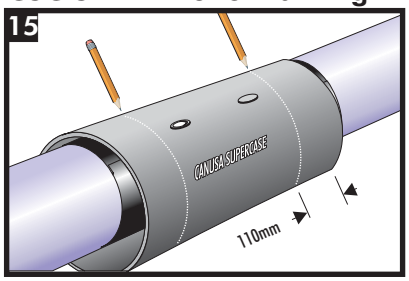
Using a dry, grease and lint-free rag, clean the roughened surface to remove any polyethylene or sand particles.

CSC Position Marking



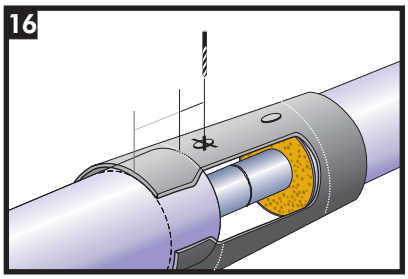
For convenience, centre the CSC over the joint and mark out two reference lines circumferentially on the jacket pipe. Ensure that the welding pucks are positioned within the cutback cavity. The welding pucks should be placed at the 12 o'clock position (pointing upward).

CSC Shrink Zone Marking



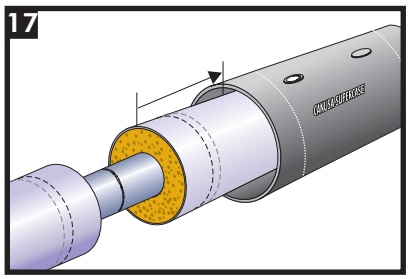
At a distance of 110mm from each edge, mark lines around the entire circumference of the CSC. **This will be the shrink zone limit.**

Air Hole



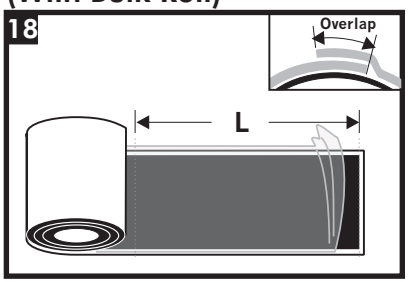
Drill a hole for air pressure relief through the centre of one of the foam hole welding pucks to allow air to escape during installation.
Ensure no damage is done to the jacket pipe.

CSC Position



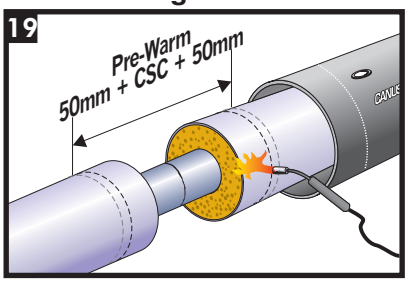
Slide the CSC away from the jacket pipe edge.

Adhesive Length (With Bulk Roll)



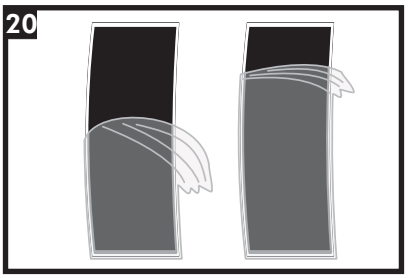
If not using the pre-cut adhesive from a kit, measure the circumference of the jacket pipe and cut two sealing strips long enough to allow for overlap.
The Length (L) should be the circumference + 35mm overlap.

Pre-warming



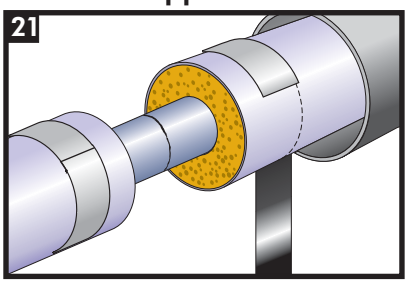
Pre-warm the jacket pipe to 40°C-50°C.
Ensure the correct temperature with a temperature measuring device. Do not exceed 60°C as this makes the removal of release liner difficult.

Release Liner

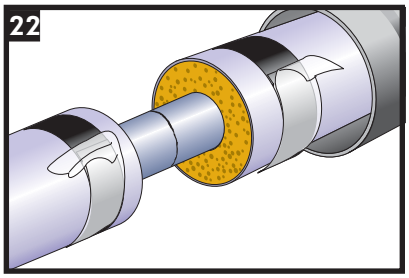


Remove the thinner release liner (opposite the mesh side) from both adhesive strips and...

Adhesive Application

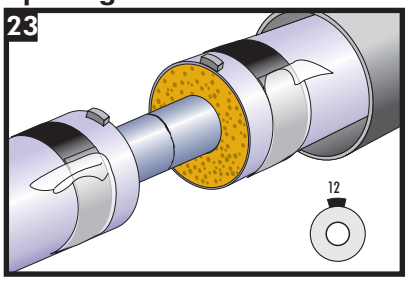


…apply the adhesive strips tightly around the jacket pipe with the mesh side facing up. The strips should be applied so that the adhesive is lined up with the marks. Partially peel-back the release liner on the underlap and wrap the strips around the jacket pipe so that it overlaps.



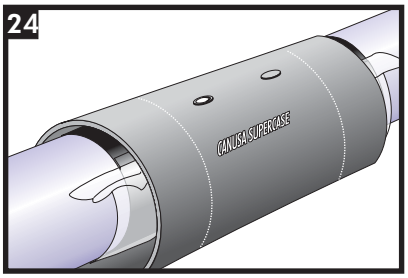
Fold the release liner outwards to allow for easy removal after positioning the casing.

Spacing Placement



Remove the paper backing and place the spacer at the 12 o'clock position of the jacket pipe, right at the edge of the cutbacks. Note: The use of spacers is optional, but recommended.

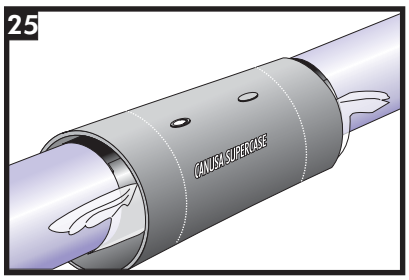
CSC Placement



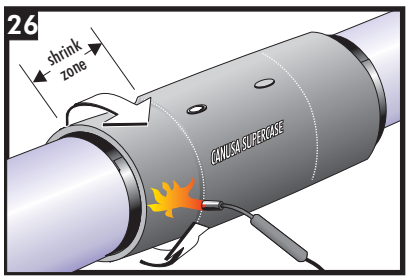
Carefully slide the CSC over the joint, so that the edges are centered over the edge of the adhesive strips.

Canusa SuperCase CSC - Small (sizes 63-200)

CSC Installation

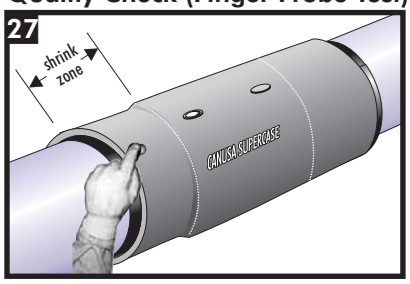


Completely remove the release liners from the adhesive strips.

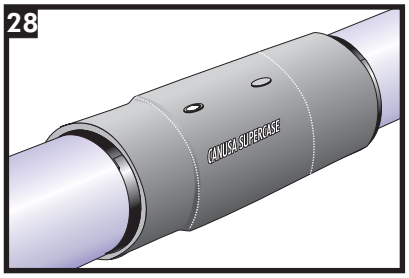


Using broad strokes and the appropriate flame, begin shrinking one end of the CSC evenly all around. Keep the torch moving to avoid overheating any spots; ensure sufficient heat is applied at the bottom. **Ensure the flame remains in the shrink zone and the torch is never pointed at the CSC middle or jacket pipe.**

Quality Check (Finger Probe Test)

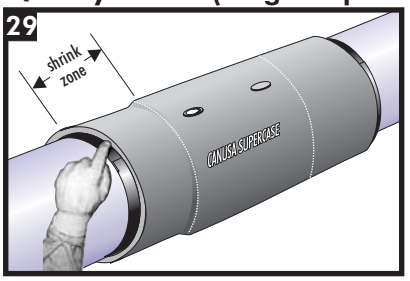


With a gloved finger, press down on the shrunk area to ensure the backing and adhesive are soft. If there are cool spots, the shrink zone should be reworked with additional heat.



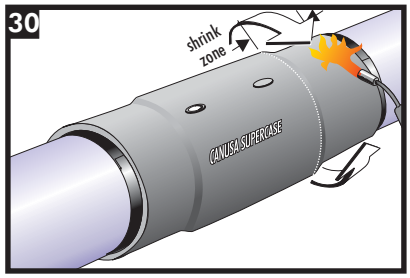
Continue heating the edge until it is fully recovered around the entire circumference of the jacket pipe.
Shrinking has been completed when the shrink zone of the CSC has conformed to the entire pipe jacket.

Quality Check (Finger Tip Test)



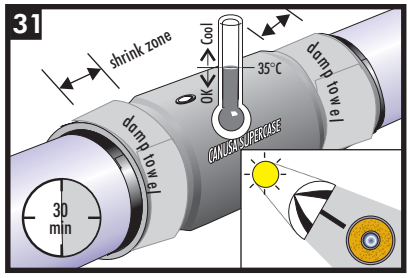
As a final check, ensure that the shrink zone of the CSC conforms intimately with the entire pipe surface. This can be checked by feeling the edges all around the circumference of the casing. If there is edge lifting, the edge should be reworked with additional heat.

CSC Installation - other side



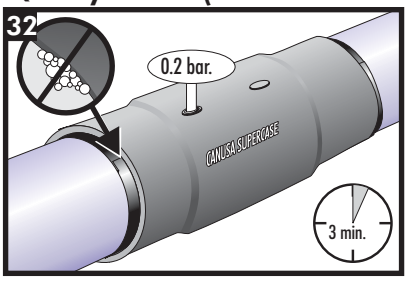
Repeat Steps 26 to 29 on the other shrink zone.

Cool CSC to < 40°C



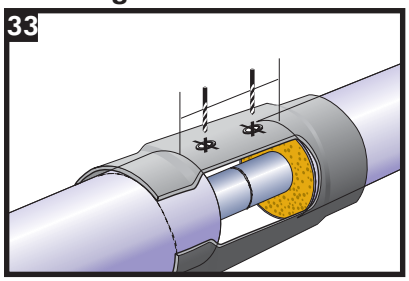
Allow the CSC to cool for 30 minutes. After 30 minutes measure the surface temperature of the CSC shrink zones. If the surface temperature of the shrink zones are still above 40°C, use shading and/or damp towels to quicken CSC shrink zone cooling time.

Quality Check (Air Pressure Test)



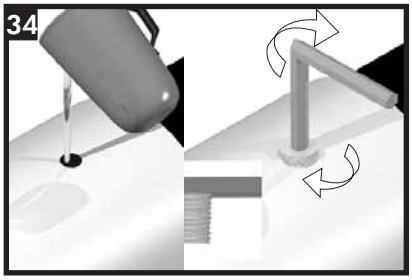
Ensure the CSC shrink zones have cooled to below 40oC. Perform the pressure test using the previously drilled pressure hole. The CSC should be checked with an air pressure test for 3 minutes at 0.2 bar. In case of a leak, the CSC shrink zones should be reworked with additional heat at the leaking area.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

Foaming Holes



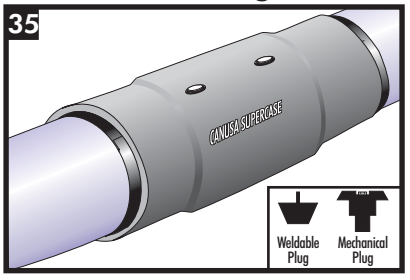
Drill one foaming hole over the pressure testing hole. Drill the other foaming hole, if required through the centre of the other foam hole welding puck.

Foaming



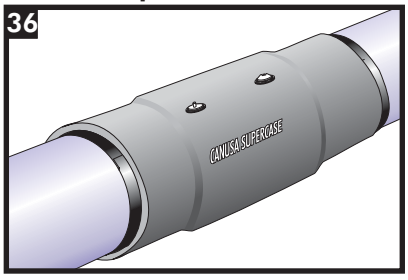
The temperature of the CSC shrink zones should not be more than 40°C when foaming. If necessary, follow the cooling instructions as described in step 31 to ensure the CSC shrink zones are below 40°C. Foam the joint according to the manufacturer's guideline. Use standard ventilation plugs while foaming.

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.

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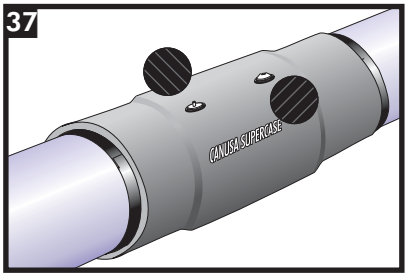

Continue with step 38 when the foaming hole is to be double sealed with a weldable plug and a Canusa Foam Seal - CFS. Skip to step 39, when double sealing a mechanical plug with a CFS.

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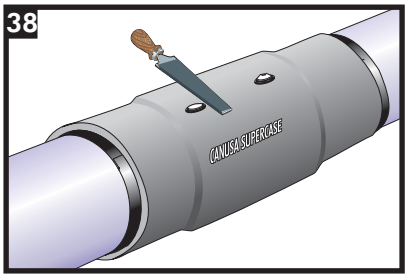

For Weldable Plugs:
Using a grater, sand down the plugs bringing them flush to the surface of the CSC.

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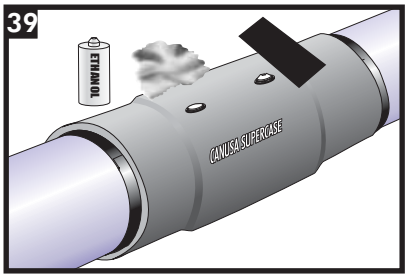

De-grease and roughen the surface around the plug using a grease and lint-free rag soaked in ethanol and sandpaper (40 to 60 grade).

CFS Installation

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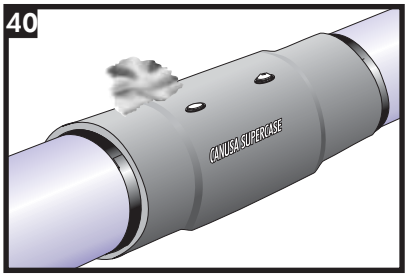
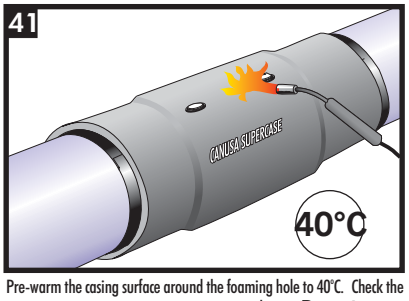


Use a grease and lint-free rag to remove any polyethylene or sand particles caused by roughening the surface.

41



Pre-warm the casing surface around the foaming hole to 40°C. Check the temperature using a temperature measuring device. **Do not over-warm the casing surface.**

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

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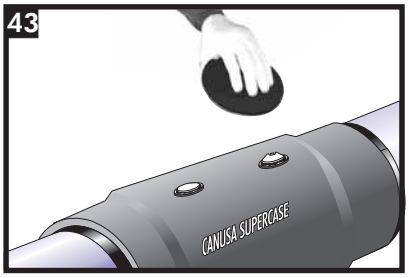

Place the CFS onto the pre-cleaned and pre-warmed section of casing directly over the centre of the foaming hole plug.

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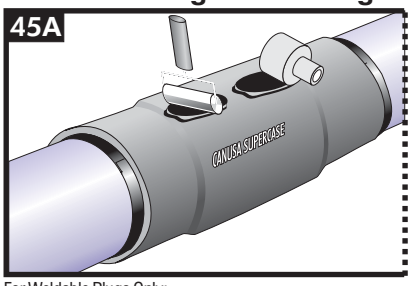
Using a weak medium flame, heat the backside of the CFS until the adhesive oozes from the edge and the thermochromic ink print disappears.

Weldable Plug CFS Rolling

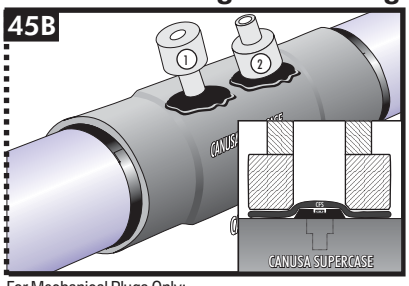
45A



For Weldable Plugs Only:
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.**

Mechanical Plug CFS Rolling

45B



For Mechanical Plugs Only:
1.Use the smaller end of the CFS Rolling Tool to conform the CFS around the mechanical plug head.
2. Use the larger end of the CFS Rolling Tool to smooth out the entire CFS surface. **Ensure adhesive has oozed from all sides of the CFS.**

CFS Completed Installation

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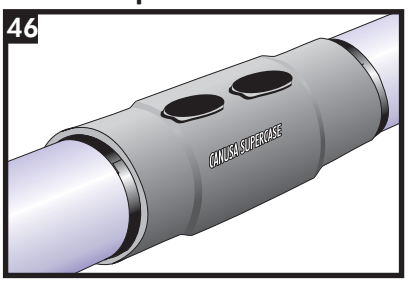

The CFS has been fully installed when adhesive can be seen around the entire circumference and is in full contact with the casing.

Backfilling Guidelines

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After shrinking is complete, the CSC should be left for as much time as possible prior to backfilling (minimum 30 minutes to 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.

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