



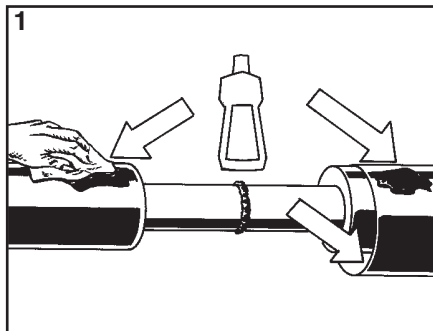
Material and Equipment

- RayJoint, S1113 sealing strips
- Propane gas bottle, regulator and gauge, hose and torch BN40
- Abrasive tape (grain 60-80)
- Marker, measurement tape, knife
- PE cleaner + dry cleaning rags

- Heat shields (EQ-HEAT-SHIELD-150x3x25M), foaming plugs, spacer for ≥ 900 mm diameter (EQ-RJ-SPACER)
- Gloves and safety goggles
- Drill of size 6 - 10 mm / 1/4" - 3/8"
- Pressure test equipment
- Standard safety equipment as prescribed by local regulations

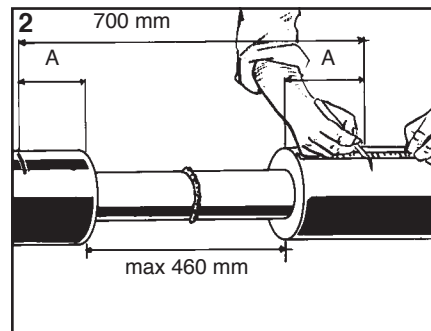
Caution

Always store sealing strips in such a way that the materials are dry when you start installing the product.



Preparation

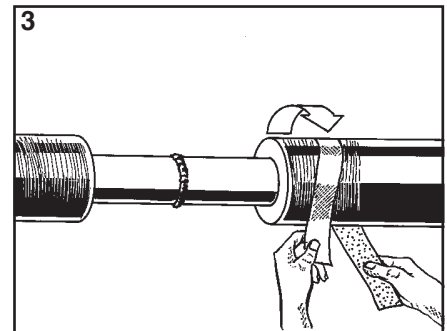
Slide the RayJoint over pipe end before welding. Remove plastic bag just before installation of the RayJoint. Keep the plastic bag as sun protection if needed. The PE jacket and RayJoint inside ends should be dry and free of foreign materials such as mud, oils and greases. If necessary, clean with PE cleaner.



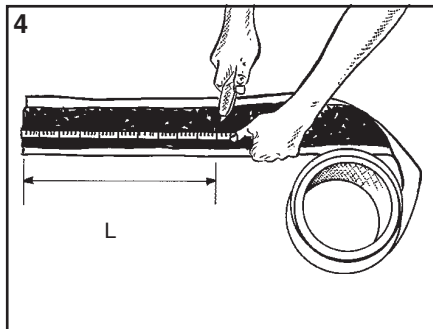
Mark the position of the RayJoint centred over the joint area. The maximum cutback should be less than 460 mm.

A = 700 mm - cutback

2



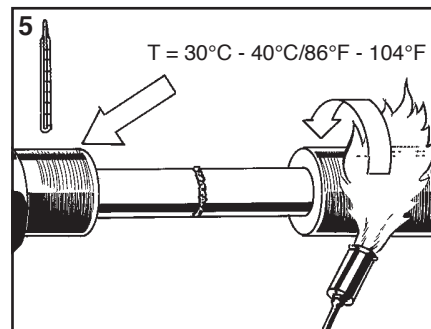
Abrade the PE jacket, that will be covered by the RayJoint, on both sides adjacent to the cutback.



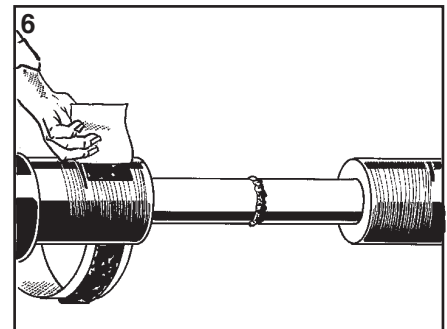
Installing sealing strip

Measure the circumference of the PE jacket and cut two sealing strips long enough to allow for overlap in accordance with the table below.

PE-pipe sizes	Sealing strip cut-lengths
90 to 200 mm OD	Pipe circumference + 25 mm
225 to 315 mm OD	Pipe circumference + 50 mm
> 315 mm OD	Pipe circumference + 75 mm

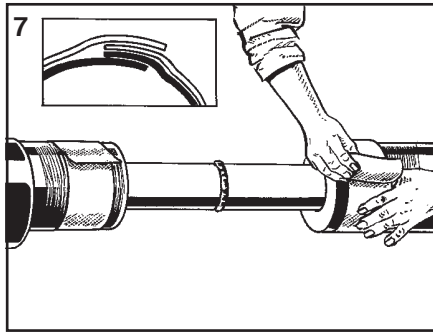


Dry the pipe ends gently with a torch. (30°C - 40°C/86°F - 104°F)
Keep the flame pointed away from the foam.

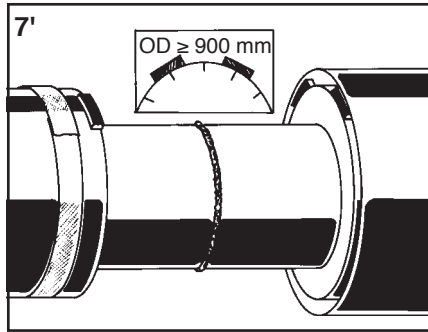


Apply the sealing strips on the pipe ends. The mastic strip edge should be next to the marks (made in picture 2). Leave the release plastic on the sealing strips.

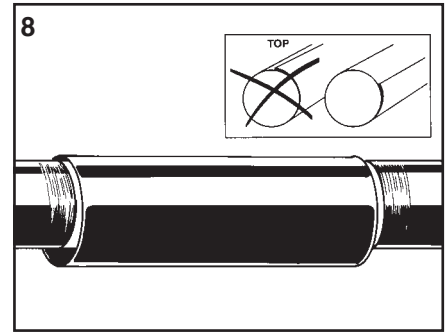
RayJoint



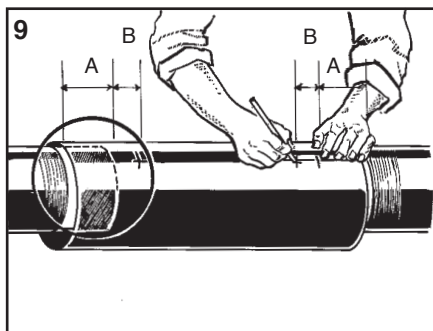
In the overlap area, remove the release plastic between the two layers and push the mastic overlap together. Reapply the release plastic over exposed mastic.



For diameter ≥ 900 mm, use spacer EQ-RJ-SPACER on the pipe. Two spacers are used per pipe end and are positioned around the circumference at 11 and 1 o'clock as close as possible to the PE pipe end. In case of wide cutback, the spacer might be positioned on the mastic but again close to the PE pipe end.

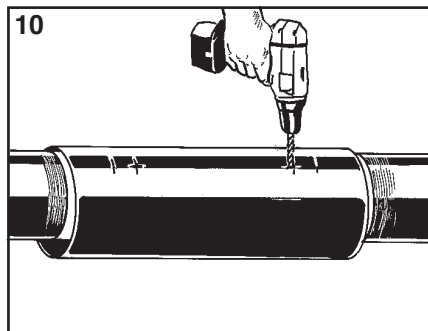


Slide the RayJoint carefully over the sealing strips and centre it over the joint. The amount of release plastic visible should be equal on both ends of the RayJoint. Take care that the RayJoint overlap is not located on top!

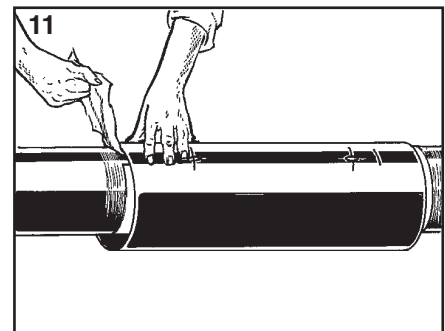


Mark the edges of the pipe ends (A) on the RayJoint.
Make additional indications for the foaming holes on distance B from the PE jacket edge.

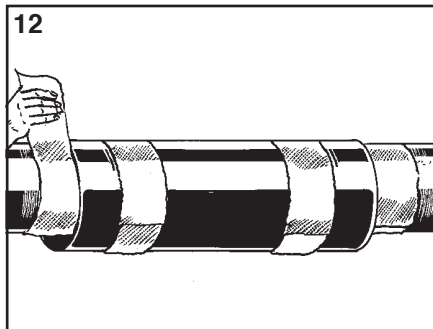
PE-pipe size	B
90 to 315 mm OD	50 mm
> 315 mm OD	75 mm



Drill one small foaming hole on the position as indicated by the marks, to allow air to escape during installation. Drill size: 6 - 10 mm / 1/4" - 3/8".
Caution: Do not drill the hole in the RayJoint overlap area.



Remove the release plastic from both sealing strips. During removal of the release plastic make sure that the foaming holes are located on top of the RayJoint. Be careful to keep the RayJoint in place, centred over the joint.



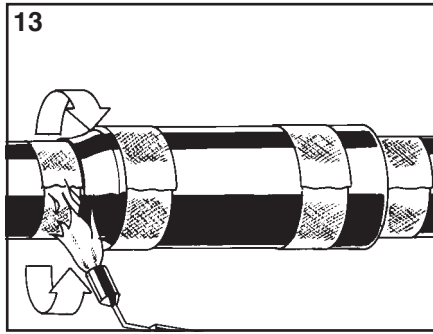
Wrap the heat shields tightly around the PE jacket next to the RayJoint. Check that they will not be covered by the RayJoint when it shrinks onto the pipe. Wrap a second pair of heat shields tightly around the RayJoint. These should be located next to the pipe end marks.

For RayJoint diameter 90 - 315 mm, go to picture 13.

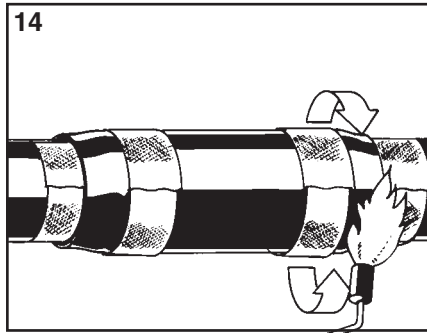
For RayJoint diameter > 315 mm, go to picture 13'.

RayJoint

RayJoint diameter 90 - 315 mm (13 - 14).

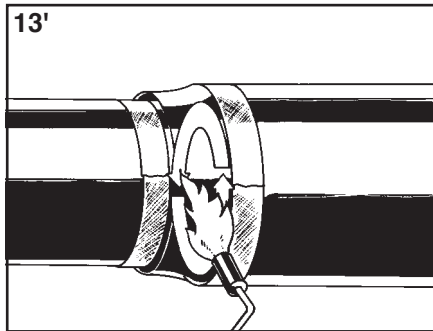


Use a soft flame to give the heat sufficient time to penetrate the PE jacket. Start heating on one end of the RayJoint, moving the flame continuously around the circumference. Continue for about 1-2 minutes, making sure not to burn the surface.

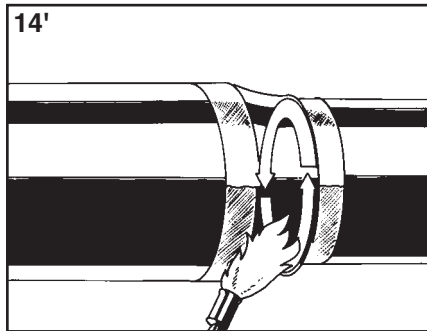


Move over to the other end, carry out the same procedure and then return to the first end. Alternate repeatedly until a shrink reaction is visible. Continue shrinking until the RayJoint ends are in complete contact with the PE jacket. Postheat the RayJoint ends to complete the installation. Installation is complete when no upstanding ends are visible. Remove the heatshields. **Go to picture 18 for the next instruction.**

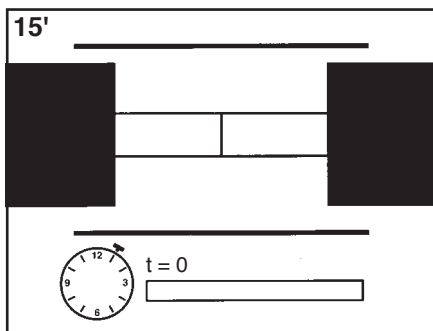
RayJoint diameter > 315 mm (13' - 17')



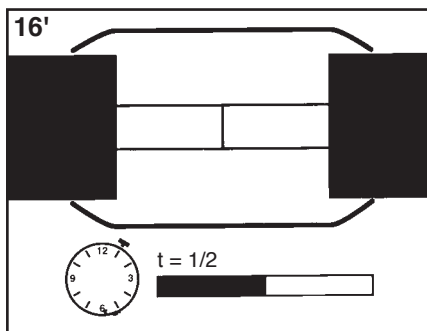
Use a soft flame to give the heat sufficient time to penetrate the PE jacket. Move the flame around the circumference in close proximity to the heat shields. For shrink time indication, refer to pictures 15' - 16' - 17'. Carry on for about two minutes, making sure not to burn the surface. Note: For diameter ≥ 400 mm, two installers are required.



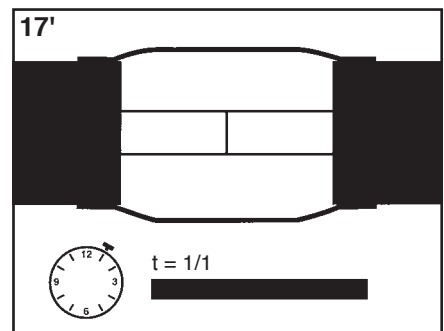
Move over to the other end, carry out the same procedure and then return to the first end. Alternate the shrink action repeatedly between both RayJoint ends until shrink reaction of the RayJoint is visible. Postheat the RayJoint ends to complete the installation. To prevent upstanding edges due to insufficient postheating, refer to picture 15' - 16' - 17'. Remove the heatshields. **Go to picture 18 for the next instruction.**



Start position
Start chrono and time how long it takes to shrink until step 16'.

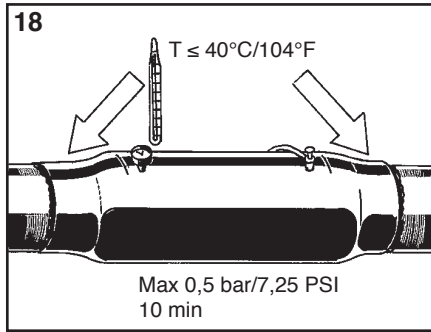


Half way shrinking
When the RayJoint ends touch the pipe over the complete circumference, the shrinkage is half way. Stop the chrono and check the time it took to shrink half way.



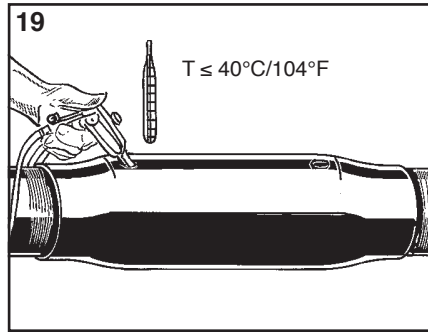
End position
Continue to shrink for the same amount of time to shrink the RayJoint completely. The shrinkage is completed.

RayJoint



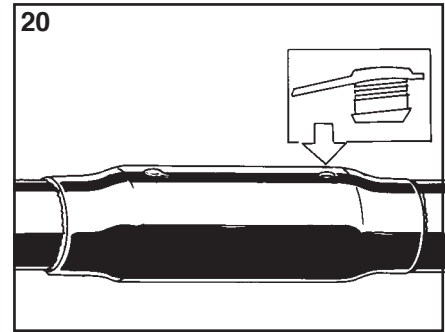
Pressure test

Drill foaming holes to accept foaming plugs. Pressure test the installation at max 0.5 bar/7.25 PSI for 10 minutes. Only carry out the pressure test when the temperature of the RayJoint is constantly below +40°C/104°F. Soap water can be used to ensure that there is no leakage. Protect the RayJoint with the RayJoint plastic packaging bag from sunlight if necessary.

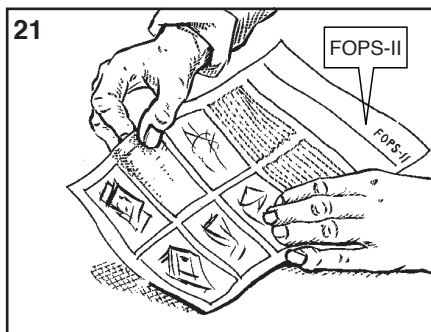


Foaming (for foam quantity, see foam table)

RayJoint and sealant strip temperature should be below 40°C/104°F. Warning: Only use approved foam. If questions regarding foam, please contact your local Sales Engineer for further information.

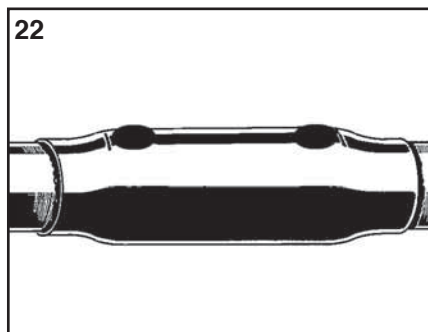


Close the foaming holes with the foaming plugs. When the foam is cured, the plugs can be removed. After removal of the plugs close the holes with the permanent foaming hole closure system, FOPS-II.



FOPS-II installation

Follow the installation instructions for FOPS-II to seal the foaming holes.



Complete installation

A good installation is defined by:

- no foam leakage out of sealant area
- full circumferential contact of shrunken edges of RayJoint with the PE jacket.

Berry Plastics warrants that the product conforms to its chemical and physical description and is appropriate for the use stated on the technical data sheet when used in compliance with Berry Plastics written instructions. Since many installation factors are beyond the control of Berry Plastics, the user shall determine the suitability of the products for the intended use and assume all risks and liabilities in connection herewith. Berry Plastics liability is stated in the standard terms and conditions of sale. Berry Plastics makes no other warranty either expressed or implied. All information contained in this technical data sheet is to be used as a guide and is subject to change without notice. This technical data sheet supersedes all previous data sheets on this product.

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