

Quality NBR Insulation

APPLICATION MANUAL FOR CLOSED CELL TUBING AND SHEET INSULATION





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Basic Rules And Useful Tips :

- 1 Use good quality tools at all times (see next page).
- 2 Ensure cleanliness of insulation products, pipework, vessels, fittings and tools. Avoid dust, dirt, oil or water on surface and equipment.
- 3 Do not apply insulation to a system which is in operation. At least 36 hours should be allowed before equipment is used after insulating.
- 4 Never stretch Superion insulation to fit. It is better to apply slightly over length. This applies particularly when butting up to fittings.
- 5 Keep to the correct dimensions of the surface to be insulated.
- 6 For low temperature installations, Superlon adhesive must be applied both ends of the pipe section. Make sure that all adhesive joints are firmly fixed.
- **7** On steel pipework and vessels, ensure that surfaces are free from rust and apply a coat of Zinc Chromate Rust Primer, allowing 24-28 hours for such a coat to dry and harden before insulating.
- 8 When insulating low temperature equipment, ensure there is sufficient gap between insulating surfaces to allow free circulation of air. This is an extra safeguard against condensation in hot and high humidity conditions.
- 9 When using Superlon adhesive, apply a thin layer using a short stubble brush. Butt joints and seems together only when Superlon adhesive is tack-dry and remove any surplus adhesive with solvent.
- **10** Please ensure Superion foam tape is not stretched or overstretched during application.





SUPERLON[®]

Superion Tips :

Correct installation will improve the lifespan and performance of the insulation. Key factors of good insulation :

- Using correct thickness
- Installing the insulation material correctly

Before you install - Determine the thickness of the insulation material based on five factors:

- 1. Ambient temperature
- 2. Relative humidity
- 3. Pipe Szie (outer diameter of pipe)
- 4. Line temperature
- 5. Medium (gas or liquid)

| | Piping Line Surface Temperature | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------|----------------|
| | 15°C | 5°C | -18°C |
| Normal Conditions Based on the weather conditions experienced in tropical regions Maximum severity of 29 ⁰ C and RH of 78% | ½" (13 mm) | 1" (25mm) | 1 ½" (38mm) |
| Severe Conditions Confined and poorly ventilated areas with excessive moisture Maximum severity of 35°C and RH of 85% | 1" (25mm) | 1 ½" (38mm) | 2" (51mm) |
| <u>Mild Conditions</u> Well ventilated, low humidity conditions Maximum severity of 26 ^o C and RH of 70% | 3/8" (10mm) | ½" (13mm) | 1" (25mm) |

For more tips, installing methods and to determine correct thickness, please contact your Superion advisor.







Superlon foam tape is used to complement Superlon tube and Superlon sheet to fill gaps in fittings, achieve neat, tight joints at brackets, flanges and on ductwork and vessels. It is useful for quick and efficient repair to damage on existing insulated systems.

Superlon foam tape is also a solution to insulating short lengths of pipework and fitting in cramped spaces and hard to reach areas.

Upon installation, it is recommended to wrap the tape with a 50% overlap to ensure proper sealing. Use as many layers as necessary to meet the specified wall thickness.

When insulating valves, fittings and irregular shapes, cut the tape to the required length and mould to suit the particular shape of the object to be insulated. Ensure that all surface areas are fully insulated without any gap and apply further layers to meet the thickness required.

Always ensure that Superlon foam tape is never stretched during application.



Double Layering Of Pipework





When applying layers of Superion tube together (usually for applications that need more than 2", 51mm thickness) always make sure that all seams and butt joints do not correspond, so that the lower joints can be fully protected.

Sheet Insulation For Flat And Curved Surfaces



Superion sheet is suitable for all ducts, vessels and tanks. When installing, draw up a work schedule of the sizes needed to complete the job and calculate the most efficient combination of rolls needed for the job.

Always cut oversize. When applying adhesive, always apply to the inner surface of the sheet as well as the metal surfaces that need to be insulated. This ensures that there is a full bond between the surfaces.

Superlon sheet is also ideal for insulating irregular shapes. Chalk lines drawn on the metal surface can be directly transferred onto Superlon's sheet. Press firmly against the marked surface for an accurate image of the outline.



New Installation Pipework



1 Sleeve Superlon tube along pipework for straight runs.



2 NOTE: Superion tube must be eased along the pipework by pushing, *NEVER PULL*.



3 When brazing pipe joints or fittings, ease Superlon tube back along the pipe by 8" (20cm) on each side of the joint and retain with clamps.



4 When brazed joint has fully cooled, apply a brush coat of Superlon adhesive to each butt join. When the glue is set, press joints firmly together.



Insulating Existing Pipework Installations



1 Cut open Superlon tube. Use the printed Superlon and size as a guide to slitting a straight line.



2 Apply a thin brush coat of Superlon adhesive to each of the opened seams.



3 When the adhesive glue has set, press the seams of Superlon together at each end and work towards the centre.

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Pipe Fittings



Unions - Heavy bronze and screw fittings.



Butt Superlon tube to each side of the fittings.

Apply Superlon foam tape on the fitting to match the wall thickness of Superlon tube.

NOTE: Ensure that Superlon foam tape is not overstretched during application.



2 Use cut open Superion tube or sheet with the correct dimensions to cover the fitting.

Remember to cover at least more than 1" (25mm) into the fitting.



3 Slip the fitting cover into position and apply Superlon adhesive to the seams. Wait for the glue to rest and press seams firmly together.



90° Bends





1 Cut Superion tube at a 45° angle. Use either a mitre box or the template provided on Superion's carton box as detailed above.



2 Reverse the pieces by 180° to each other and apply Superlon adhesive to both cut faces and press firmly together when glue is set.



3 Slit open the formed 90° bend.





4 Apply brush coat of Superlon adhesive to both seams.



5 Place over bend and press seams firmly together.



6 Screw Fitting:

Butt Superion tube to both sides and apply tape fitting to match wall thickness.

Fit bend to overlap the screw fitting. (Same method for pipe fittings.)



Segmented Bends (Lobster Back)



1 Cut Superion tube out at corner angles using a mitre box or Superlon's angle template. This usually requires 4 to 6 pieces depending on the size of the bend (divided by 90 is about 22.5 or 15).



2 Reverse and alternate the sections by 180° and apply Superlon adhesive to all the cut faces. Wait for the glue to set and press firmly together.



3 Slit open the completed fitting; apply Superlon adhesive to the opened seams. When set, place the fitting in position and press seams firmly together.



Pipe Elbow



1 At start of each bend, create a 90° angle square with rulers as shown. Measure the length of (1).



2 Measure the pipe circumference (2) with a strip of Superlon sheet **DO NOT STRETCH IT**.



3 Transfer the dimension onto Superlon sheet:

Small arc: (1) Large arc: (1) + half of (2)



4 Mark out fully with the divider, making two cut outs.



5 Cut out the sections and apply Superlon adhesive to the long seams. 6 Join the two sections at one end. Press the opposite ends together 7 and work to the centre to complete the seam. Turn the elbow over and press the seam firmly together on the inside. 8 Apply Superlon adhesive to the inner joint seams.





9 Place Superion sheet section over the elbow and press the seams firmly together.



10 Trim the ends straight.

NOTES:



T Piece (Method 1)



1 Punch the correct pipe size to cut out the centre hole of the cross section.



2 Make a bevel cut in one end of the incoming section of Superlon tube.



3 Apply a brush coat of glue to both sections. When set, press firmly together.



4 Slit open the T piece section.





5 Apply Superlon adhesive to the seams. When set, slip the section into position and press all seams firmly together.

NOTES:



T Piece (Method 2)



1 Cut angles at 45° (In the middle and end of Superion tubes).



2 Apply Superion glue to all the cut faces. When set, press firmly together.



3 Slit open the completed section and fit over the T valve.



4 Screw T piece fitting

Butt Superion tube to all sides of the fitting and apply Superion foam tape to match the wall thickness of the fitted tubes.

Make an oversized T section. Apply glue to the seams, press firmly and overlap the tubes by more than 1" (25mm) on each side of the fitting.

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Gate Valves



Measure the diameter needed with the divider.



2 Mark out the circle of the diameter on Superlon sheet and cut out a pair of flanges to place in position.



3 Measure the circumference of the flanges (I), not stretching the Superlon sheet strip while measuring.





4 Measure the distance between the outer faces of flange rings (II) and the diameter of the valve neck (III).



5 Transfer dimension (I), (II) and (III) to Superlon sheet and cut out the valve body cover.



6 Apply Superion adhesive to the flange rings, inside strip and seam of valve cover, place it in position and press all joints firmly together.





7 Measure the flange length (A) if circular or length (B) if oval and transfer to Superion sheet.



8 Cut out the flange disc, using punch cut hole for valve spindle. Slit at one side to open then apply Superlon adhesive to seams and place into position.



9 Measure the flange ring circumference at the short (I) and long (II) lengths of the valve neck.





10 Transfer the measurements onto Superion sheet, marking the width out in four equal divisions.



11 Using dividers mark out the three areas and join up a continuous line.



12 Cut out the section along the line.



13 Cut out the inside edges at the highest areas.



14 Wrap the cut out sheet around the valve neck and apply Superion adhesive to all seams including the top and bottom neck seams. Press all joints firmly together. Further apply Superion adhesive between the valve neck and valve body cover to ensure all joints are properly sealed.

NOTES:

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Small Valves



 Butt Superion tube up to each side of the valve. Apply Superion foam tape to match the wall thickness of the installed tubing.



2 Make up an oversized tube (or sheet if pipe is large) to wrap around the valve. Cut out the shape of the valve neck. Apply Superion adhesive to the seams and press firmly together.

NOTES:



Strainer Valves



Insulate the pipes with Superlon sheet up to the valve flange, make up and fit two flange rings.



2 Measure the flange circumference (I) with Superlon sheet strip. DO NOT STRETCH THE STRIP.





3 Mark the dimensions onto the Superlon sheet.

4 Pack out the valve body with Superlon sheet strips.



5 Measure the width between outer face of the flange ring insulation (II) and the first flange ring to the valve neck (III).





6 Measure the bottom part of the valve, from the second flange ring to the valve neck (IV).



7 Transfer all dimensions to Superlon sheet. Mark up and cut out the valve body cover.



8 Apply Superlon adhesive to all the seams. When the glue is set, place over the valve and press firmly together.





9 Using a strip of Superlon sheet, measure the length of the sides of the cap.

DO NOT STRETCH THE STRIP.

10 Measure the distance from the top of the valve to the insulated valve body at the highest point (B).

11 Transfer the dimensions to your Superion sheet. Using dividers mark out the arcs of the radius (B) and join the top of the arcs with a continuous line.





12 Cut out the completed sections.



13 Cut out the edge of the sheet (on the lower inside part of the cover) ensuring a perfect fit.



14 Apply a coat of Superlon adhesive to both seams and wait for the glue to set. Press the seams firmly together.

Finally apply Superlon adhesive between the two insulated sections of the body cover and the seal the Superlon sheet section to the cover rim.



Flanges



 Insulate with Superlon sheet up to the edge of the flange.
Use a caliper to measure the outer diameter of the insulated pipe and the flange.



2 Mark out the flange rings with divider and cut out with a sharp knife.



3 Slit open one side and place the flange rings into position. Measure the width from the outside of both rings (A).

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4 Measure the circumference of the flanges (B) with a strip of Superlon s h e e t . DO NOT STRETCH THE STRIP.



 5 Transfer the measurements over onto Superlon sheet.
Mark out the width of (A) and the circumference dimensions of (B) then cut out the cover.



To cover, apply Superion adhesive to the flange rings on the inside and on the seam of the cover strip. Place over flange cover and press all joints firmly together.

Finally apply Superlon adhesive between the pipe insulation and the flange rings to fully seal the joints.



Sharp And Mitre Bends



 Measure the circumference of the bends (I) with Superlon sheet strip. DO NOT STRETCH THE STRIP.



2 Measure the outer height of the bend (II).



3 And also measure the inner height of the bend (III).



4 Transfer the dimensions on to Superlon sheet and mark the centre line.





SUPERLON

5 Use divider to mark the three areas.

6 Join up the three areas drawn and cut along the line to form the two sections of the bend.



Apply Superion adhesive to the butt of the joints, when the glue is set, press firmly together to form the bend.



8 Apply Superion adhesive to the seams and wait for the glue to set. Cover Superion sheet over the bend and press the seams firmly together.

Superion Sizes Charts

Insulation Pipe (pieces per carton box)

| Inte | rnal | Insulation Wall Thickness | | | | | | | |
|--------|-------|---------------------------|------|------|------|----|--------|--------|----|
| Dian | neter | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |
| Inches | mm | 6 | 10 | 13 | 19 | 25 | 32 | 38 | 51 |
| 1/4" | 6 | 265 | 156 | 110 | 49 | 32 | | | |
| 3/8" | 10 | 205 | 120 | 90 | 42 | 30 | 15 | | |
| 1/2" | 13 | 156 | 105 | 72 | 36 | 25 | 12 | 10 | 6 |
| 5/8" | 16 | 123 | 90 | 63 | 36 | 23 | 12 | 9 | 6 |
| 3/4" | 19 | 100 | 72 | 56 | 30 | 20 | 12 | 9 | 6 |
| 7/8" | 22 | 90 | 67 | 48 | 27 | 18 | 11 | 9 | 6 |
| 1" | 25 | 80 | 56 | 42 | 24 | 17 | 11 | 9 | 6 |
| 1 1/8" | 28 | 72 | 49 | 36 | 24 | 16 | 9 | 9 | 6 |
| 1 1/4" | 32 | 56 | 42 | 30 | 20 | 16 | 9 | 9 | 4 |
| 1 3/8" | 35 | 48 | 36 | 30 | 16 | 12 | 9 | 9 | 4 |
| 1 1/2" | 38 | 42 | 34 | 26 | 16 | 12 | 9 | 8 | 4 |
| 1 5/8" | 42 | | 30 | 25 | 16 | 12 | 9 | 8 | 4 |
| 1 7/8" | 48 | | 28 | 20 | 15 | 10 | 8 | 6 | 4 |
| 2" | 51 | | 24 | 20 | 12 | 9 | 8 | 6 | 4 |
| 2 1/8" | 54 | | 22 | 20 | 12 | 9 | 8 | 6 | 4 |
| 2 1/4" | 57 | | 21 | 20 | 12 | 9 | 6 | 6 | 4 |
| 2 3/8" | 60 | | 20 | 18 | 12 | 9 | 6 | 6 | 3 |
| 2 1/2" | 64 | | 20 | 15 | 9 | 8 | 6 | 6 | 3 |
| 2 5/8" | 67 | | 18 | 15 | 9 | 8 | 6 | 6 | 3 |
| 2 7/8" | 73 | | 18 | 14 | 9 | 8 | 4 | 4 | 3 |
| 3" | 76 | | 18 | 14 | 8 | 8 | 4 | 4 | 3 |
| 3 1/8" | 79 | | 16 | 12 | 8 | 6 | 4 | 4 | 3 |
| 3 1/2" | 89 | | 16 | 12 | 8 | 6 | 4 | 4 | 3 |
| 4" | 102 | | 14 | 12 | 6 | 6 | 4 | 3 | 2 |
| 4 1/8" | 105 | | 14 | 12 | 6 | 5 | 4 | 3 | 2 |
| 4 1/4" | 108 | | 14 | 12 | 6 | 5 | 4 | 3 | 2 |
| 4 1/2" | 114 | | 14 | 12 | 6 | 4 | 4 | 3 | 2 |
| 5" | 127 | | 12 | 9 | 6 | 4 | 3 | 3 | 2 |
| 5 1/8" | 130 | | 10 | 9 | 6 | 3 | 3 | 3 | |
| 5 1/4" | 133 | | 10 | 9 | 6 | 3 | 3 | 3 | |
| 5 1/2" | 140 | | 10 | 8 | 6 | 3 | 3 | 3 | |
| 6" | 152 | | 10 | 8 | 6 | 3 | 3 | 3 | |
| 6 1/4" | 159 | | 9 | 8 | 6 | 3 | 3 | | |
| 6 1/2" | 165 | | 9 | 8 | 6 | 3 | 3 | | |

Insulation Rolls

| Thickness | | Size |
|-----------|-----|-------------|
| Inches | mm | Metres |
| 1/4" | 6 | 1.22 x 24.0 |
| 3/8" | 10 | 1.22 x 21.0 |
| 1/2" | 13 | 1.22 x 15.0 |
| 5/8" | 16 | 1.22 x 14.0 |
| 3/4" | 19 | 1.22 x 9.0 |
| 1" | 25 | 1.22 x 8.0 |
| 1 1/4" | 32 | 1.22 x 6.0 |
| 1 1/2" | 38 | 1.22 x 5.0 |
| 2" | 51 | 1.22 x 4.0 |
| S Skin | All | 1.22 x 9.14 |

Insulation Sheets

| Thickne | kness Size | | Pcs Per | |
|---------|------------|--------------|---------|--------|
| Inches | mm | Metres | Feet | Carton |
| 1/8" | 3 | 1.22 x 0.914 | 4' x 3' | 80 |
| 1/4" | 6 | 1.22 x 0.914 | 4' x 3' | 40 |
| 3/8" | 10 | 1.22 x 0.914 | 4' x 3' | 26 |
| 1/2" | 13 | 1.22 x 0.914 | 4' x 3' | 20 |
| 5/8" | 16 | 1.22 x 0.914 | 4' x 3' | 16 |
| 3/4" | 19 | 1.22 x 0.914 | 4' x 3' | 14 |
| 1" | 25 | 1.22 x 0.914 | 4' x 3' | 10 |
| 1 1/4" | 32 | 1.22 x 0.914 | 4' x 3' | 8 |
| 1 1/2" | 38 | 1.22 x 0.914 | 4' x 3' | 7 |
| 2" | 51 | 1.22 x 0.914 | 4' x 3' | 5 |

APPLICATION MANUAL

Superion Accessories :



| Size | Packing |
|------------|---------------|
| 1 Litre | 15 cans / ctn |
| 3.36 Litre | 6 cans / ctn |

2

Superion Adhesive

Available in 1 liter tins and 3.36 liter tins. Superlon adhesive is specifically formulated for the best adhesion for our rubber foam. It is best used for joining sheets and tubes together. For enhanced performance, please apply foam tape on to joining area when glue dries.



Tape SizePackingFoam Tape
3mm x 48mm x 30ft24 pcs / ctnGasket Tape
5mm x 15mm x 10M72 pcs / ctn

Superion Foam / Gasket Tape

Superion Foam and gasket tapes can be used in a wide array of applications. From vibration dampening to cushioning to reduce impact. It is most commonly used for joining areas where glue was used for adhesion of our insulation materials.



3

4



Superlon Paint

Available in 5 liter tins. Black in colour, the paint is best used for prolonging the lifespan of the insulation under normal atmospheric conditions. Should intense heat and continuous harsh UV conditions be present in the application area, we recommend the use of UV resistant jacketing such as UV resistant aluminium.

(Available upon request)

| Size | Packing |
|----------|---------|
| 5 Litres | 4 cans |



Adhesive Sheets

For your installation convenience adhesive backing with release paper is available. Adhesive sheets offer the ease of installation with the performance of specifically formulated adhesive lamination without the mess and hassle of glue saving you both time and money.

(Aluminium sheets also available upon request)

Distributor

Superion application manual is a basic guide to assist the installer to use the recommended techniques for correct application of Superlon insulation tubes and sheets.

It is intended as a reminder of the basic rules and procedures for the experienced installer and also as a step by step guide for beginners.

Please be aware that tools used for installation are very sharp. Installers must be experienced in handling the listed tools. Please install safely.

All diagrams are for illustration purposes only and should only be used as a guide.

For more information, please contact us below:

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thickness, please contact your Superion advisor



Get our Superion Thickness Calculation App For more tips, installing methods and to determine correct

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