

HOW TO ... insulate pipes & fittings with

Armaflex®

WORKING WITH ARMAFLEX

- Use good quality tools, in particular a sharp knife, fresh Armaflex adhesive and a good brush.
- Oval tubes should always be split on the flat side.
- Use clean Armaflex material - with no dust, dirt, oil or water on the surface, if present clean with Armaflex cleaner.
- Use the right dimensions! Never pull glued joints when sealing them, always push them together.
- Never insulate plants and systems that are in operation! Only start insulated plants after 36 hours - after this time the adhesive is fully cured.
- **Armafinish FR paint** can be applied immediately after the insulation has been installed, with a second coat of paint applied within 3 days, to provide UV protection (see page 4).

TOOLS FOR INSTALLING ARMAFLEX



Folding rule /
tape measure



T-Ruler



Chalk for
marking irregular
shapes



Template
(printed on every
Armaflex carton)



Silver ink marker
pen



Scissors



Dividers



Brushes with
short, firm
bristles



Callipers



Smooth spatula
for smoothing
down covering



Knives *



Sharpened pipe
ends for the
most common
pipe diameters



Safe edge craft
knife



Paint fabric rollers
for surface gluing
and smoothing
down covering



Sharpening
stone



Glue-master

* A three knife set plus sharpening stone are available together as a tool kit

THE CORRECT USE OF ARMAFLEX ADHESIVE

Armaflex Adhesive 520

Armaflex Adhesive 520 has been specially developed to bond Armaflex. It joins the surfaces reliably and safely at medium temperatures of up to +105°C. The bond is resistant to weathering and aging.

Armaflex Adhesive HT625

Armaflex Adhesive HT625 has been specially developed to bond HT Armaflex insulation for medium temperatures of up to +150°C*. When using HT Armaflex only Armaflex Adhesive HT625 should be used.

* For temperatures below -50°C or above +150°C, please consult our Customer Services Department.

PREPARING FOR WORK

Check condition of Armaflex Adhesive. Cans of Armaflex Adhesive should have been stored in a cool environment wherever possible. Cans must also have been kept free from frost.

Damage due to frost can be reversed by storing in warm conditions, or for immediate use by placing the can into a bucket of hot water. Shelf life approx. 1 year.

1. Where installation surfaces are soiled with dust, dirt, oil or water all of these contaminants must be removed and, where applicable, cleaned with Armaflex cleaner before starting work. In addition all surfaces to be joined must be dry before gluing begins.
2. Pay close attention to the installation instructions on the adhesive can. Use small cans during work so that the adhesive does not thicken too quickly. Refill from larger cans when necessary and keep closed when not in use to avoid thickening
3. Plants must not be in operation during the installation process!
4. Do not use adhesive under 0°C. If the adhesive is too cold it can be warmed in a bucket of hot water. At temperatures below 5°C, condensation can appear on the surfaces to be glued or the adhesive film. If this occurs the materials can be glued only with difficulty.

Check whether this has happened by applying absorbent paper. When working in areas with a high atmospheric humidity and high temperatures see "Hot Climates" page 33 of the Armaflex application guide.

5. Stir adhesive well after opening. If left to stand, heavier components in the adhesive may settle in the bottom of the can. These must be mixed thoroughly before use in order to effectively activate the adhesive.

STEEL PIPES

Check that the adhesive will adhere to any rust-inhibiting primer that has been used to protect steel pipes. Armaflex adhesive may not adhere to asphalt, bitumen, red-lead or cement surfaces.

APPLICATION

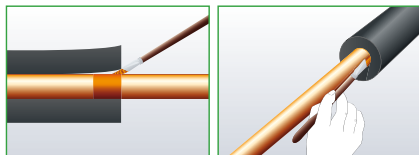
1. Use a brush with short, stiff bristles and keep clean. For larger areas a spatula or (non foam type) paint roller or the Armaflex Gluemaster may be used to speed up application.
2. Apply Armaflex adhesive thinly and evenly onto both surfaces to be glued.
3. When adhering Armaflex to other materials (e.g. metal), first apply the adhesive to the Armaflex and then to the other clean surface.
4. The tack time for Armaflex adhesives ranges between 3 and 10 min.⁽¹⁾ The time will vary according to the grade, ambient temperature and relative humidity. Avoid 'open times' ⁽²⁾ in excess of 20 min.

(1) Tack time for NH/Armaflex varies - please see special application advice for NH/Armaflex - available from www.armacell.com/uk.

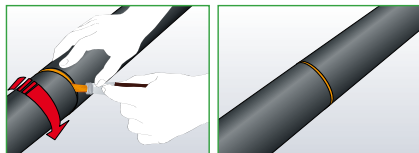
(2) The 'open time' is defined as the period between ~ first applying adhesive and finally closing together the joint, seams or surfaces.

5. Allow the adhesive to 'tack-dry'. The correct initial drying time may be determined by the 'fingernail-test': touch the surface with a fingernail, if the fingernail does not adhere to the surface and the surface itself does not feel tacky the joint may be closed. The maximum adhesive force will be obtained when two tack dry surfaces are brought together.
6. The glued surfaces should be pressed together, do not stretch. Do not leave glued seams on the top of the insulation in external locations. When working outdoors, always turn the glued seams away from the sun.
7. When gluing joints under compression, with no gaps present, the wet adhesive method should be applied. Pull the seam apart slightly and apply Armaflex adhesive thinly and evenly with the brush to both surfaces and press together. No open time is needed in this case.
8. Use Armaflex cleaner to clean your tools, contaminated metal surfaces and surfaces which have had talc applied.
9. Curing time for Adhesive 520 / 625: 36 hours.

Note: Do not mix Armaflex cleaner with Armaflex adhesive to thin it out - warm it.

WET SEALING OF BUTT JOINTS

1. On all cold lines and all piping equipment in a external location, fix and secure down to the piping surface, Armaflex tube/sheet ends with Armaflex adhesive.
2. The adhesive bonding will equal the insulation thickness as a minimum.

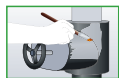


3. For the final wet sealing of the tube/sheet, pull the compressed butt joint apart with the finger and apply a thin even film of adhesive to the two butt joint edges with a small brush.
4. Apply firm and even pressure to the glued joint using the fingers and thumbs to finish.

Note: In addition all other types of Hot piping lines located externally, it is highly recommended to follow the same procedures as with cold lines.

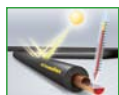
OUTDOOR USE OF AMRAFLEX

Whenever used externally Armaflex (with the exception of HT Armaflex) must be either painted, covered or clad.



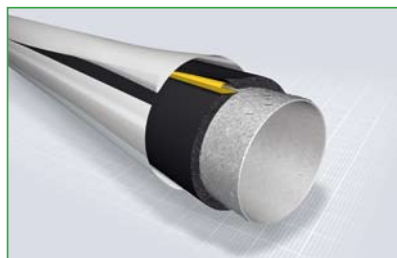
Armafinish FR paint will provide UV protection and can be applied immediately after the insulation has been installed, with a second coat of paint applied within 3 days.

Normal consumption				
	l / m ²	m ² / l	wet film mm	dry film mm
1st coat	0.275	3.6	0.275	0.13
2nd coat	0.275	3.6	0.275	0.13
Total	0.550	1.8	0.550	0.26



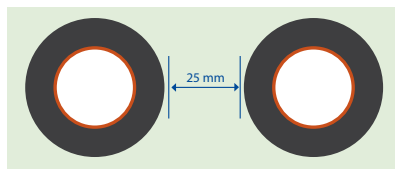
The UV-resistant **HT/Armaflex** can be used for outdoor applications without any additional UV-protection

If additional mechanical protection or protection against severe weather conditions is required **Arma-Chek covering systems** offer a non-metallic cladding option. For installation details please see the Arma-Chek installation manual.



ADVICE FOR INSULATING REFRIGERATION AND A/C EQUIPMENT

- Attach each end of the Armaflex tube to the pipe with Armaflex adhesive, and make sure the adhesive joints are firm at critical points such as flanges, T-sections, elbows, supports, etc.
- All connected items of equipment shall be insulated with equal thickness where practical.
- Never insulate chilled water lines or refrigeration equipment if the sections to be insulated are too close together. An air gap of at least 25mm should be present between the chilled water line insulated surfaces to prevent sweating.



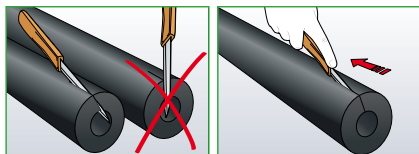
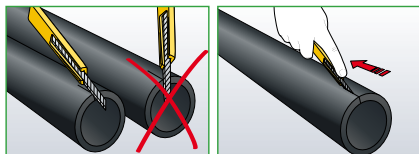
- Provide effective protection against corrosion on surface of steel pipes and vessels. Armaflex should not contribute to corrosion however, due to the presence of chloride ions in the normal building environment, it remains best practice to pre-coat the steel surface to be insulated using either aluminium foil or special paints before applying the Armaflex.

INSULATING STAINLESS STEEL PIPES

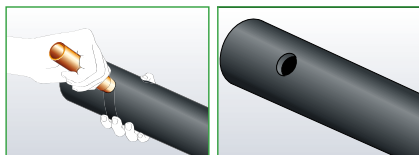
BS 5970 gives a number of specific recommendations when insulating stainless steel pipes. These installation practices greatly reduce the risk of stress corrosion cracking. All Armacell recommendations for installation on stainless steel pipework are intended to be in compliance with the procedure laid out in BS 5970.

For further information relating to the insulation of stainless steel pipes please contact our Technical Department.

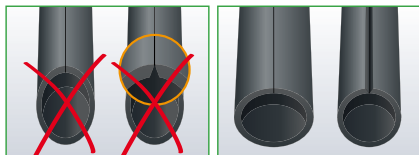
CUTTING ARMAFLEX TUBES



Use a sharp knife. Keep knife at a low angle when slitting tube



Use sharpened off-cuts of pipes to make holes.



Always cut on the flat sides of tubes.

INSULATING NEW PIPEWORK WITH SLEEVE-ON-TECHNIQUE

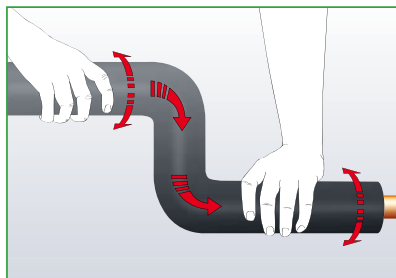
In principle, tube material can simply be slid round bends.

However, with tight bends (such as those likely to be encountered on small bore pipes) there is a risk that the insulation will kink in the throat of the bend, reducing insulation thickness.

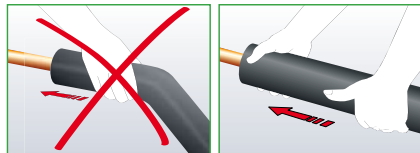
In the refrigeration/air-conditioning sector the calculated insulation thickness is then no longer achieved and condensation can occur on the surface of the insulation. When installing tubes with a self-adhesive seal there is the additional risk of compression of the adhesive lining in the bend area, which can lead to seams coming apart.

The following should be taken into account in these cases:

If the insulation kinks and the adhesive seam is compressed the bends should be cut into segments to fit (see page 7).

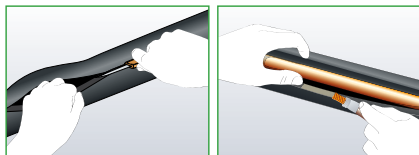


Note: Do not attempt to pull the Armaflex tube along the pipe as this may cause the insulation to tear.

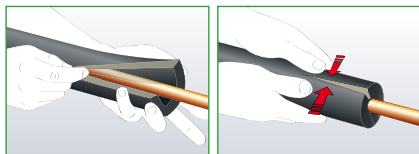


Always push the Armaflex tube over the pipe as shown.

INSULATING EXISTING PIPEWORK WITH SNAP-ON-TECHNIQUE



1. With a sharp knife, slit the flat part of the unslit tube along the entire length.
2. Place the slit tube onto the clean pipe; apply Armaflex adhesive to the two cut edges with a thin even film of adhesive using a short bristle brush. Apply the adhesive at 200mm intervals, along the tube length.



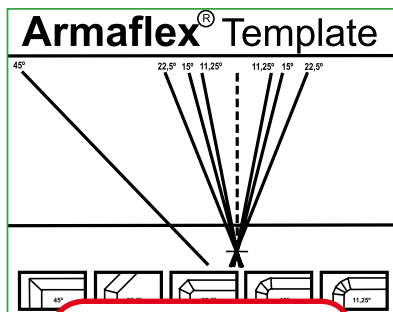
3. Allow the adhesive to touch dry, test with the fingernail.
4. Free the seams from the pipe where applicable, line the edges together and press the seam detail with firm even pressure to finish.

USING THE ARMAFLEX TEMPLATE

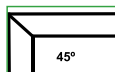
The fabrication of bends and tees using Armaflex tube requires tubes to be cut to different angles. In order to make this process easier and quicker, the Armaflex template is provided on every box of Armaflex.

1. Place a copy of the Armaflex template face up on a table or worktop.
2. Line a tube of Armaflex across the template parallel along the horizontal base line.
3. Select the required angle cut from the template and cut along this line.

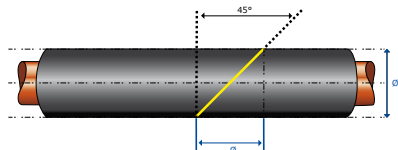
Additional copies of the Armaflex template on hard PVC sheet are available on request (contact your local Armacell representative for more information).



Template is printed on every
Armaflex tube carton



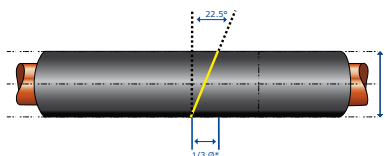
BEND WITH 90° ANGLE USING ARMAFLEX TUBE



Note: Yellow lines indicate where cuts are to be made. For correct angle measurements please use the Armaflex template located on each tube box.

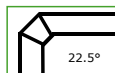


BEND WITH 45° ANGLE USING ARMAFLEX TUBE

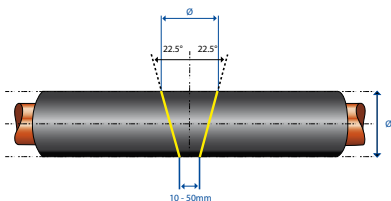


* The Ø details to achieve the 45° angle are approximate values!

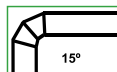
Note: Yellow lines indicate where cuts are to be made. For correct angle measurements please use the Armaflex template located on each tube box.



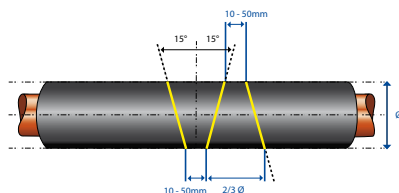
SEGMENT BEND WITH 1 MIDDLE PART - 2+1 USING ARMAFLEX TUBE



Note: Yellow lines indicate where cuts are to be made. For correct angle measurements please use the Armaflex template located on each tube box.



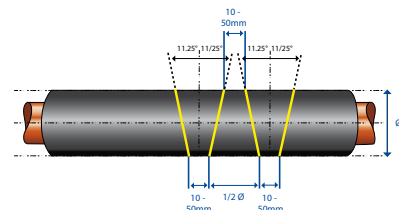
SEGMENT BEND WITH 2 MIDDLE PARTS - 2+2 USING ARMAFLEX TUBE



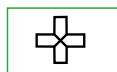
Note: Yellow lines indicate where cuts are to be made. For correct angle measurements please use the Armaflex template located on each tube box.



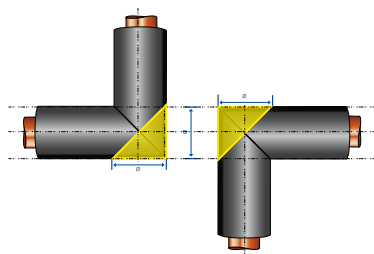
SEGMENT BEND WITH 3 MIDDLE PARTS - 2+3 USING ARMAFLEX TUBE



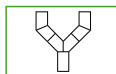
Note: Yellow lines indicate where cuts are to be made. For correct angle measurements please use the Armaflex template located on each tube box.



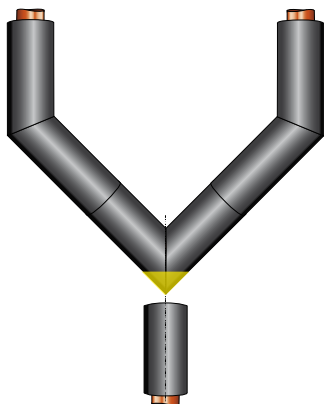
CROSSPIECE JOINT USING ARMAFLEX TUBE



Note: Yellow lines indicate where cuts are to be made. For correct angle measurements please use the Armaflex template located on each tube box.

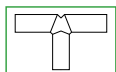


Y-TUBE USING ARMAFLEX TUBE

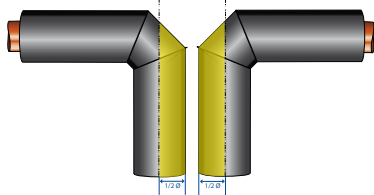


Note: Yellow lines indicate where cuts are to be made. For correct angle measurements please use the Armaflex template located on each tube box.

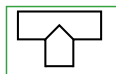
Further fabrication of the 45° bend (2 times) and the 90° bend (once).



SWEPT T-PIECE USING ARMAFLEX TUBE

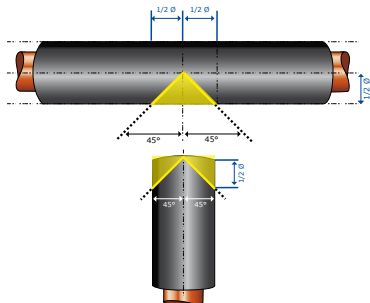


Note: Yellow lines indicate where cuts are to be made. For correct angle measurements please use the Armaflex template located on each tube box.



T-PIECE USING ARMAFLEX TUBE

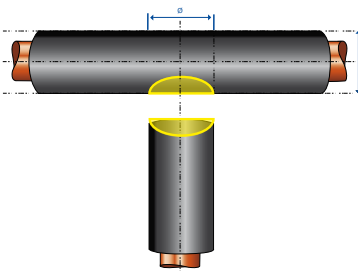
Method 1 - The "Mitre Block" T Piece



Note: Yellow lines indicate where cuts are to be made. For correct angle measurements please use the Armaflex template located on each tube box.

1. Join pre-cuts parts with adhesive to form a "T"
2. Slit open the "T", it can then be slid over the pipes

Method 2 - The "Punched Hole" T Piece



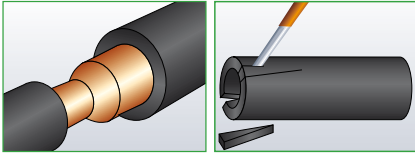
Note: Yellow lines indicate where cuts are to be made.

1. Punch a hole in the tube - with a sharpened section of a copper pipe of the right diameter - forming the crossbar of the "T"

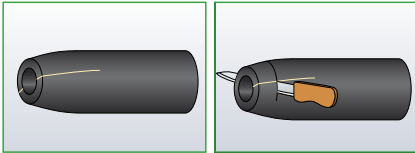
Note: For larger hole cut-outs use a pair of dividers to "mark out" and cut using a small sharp knife.

2. Slit this section of the tube open (half through the hole) and slid it over the pipe
3. Cut a semi-circular recess in the end of the branch section of tube. It is better to have a cut which is a little to deep rather than to shallow.
4. Attach the branch section to the pipe and join the two halves of the "T". Adhere all seams with Armaflex adhesive

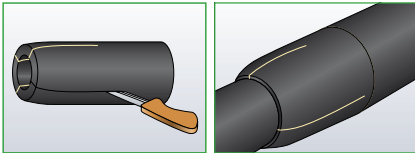
PIPE REDUCER USING ARMAFLEX TUBE



1. Insulate straight pipework
2. Cut out segments of the tube which fits the bigger pipe



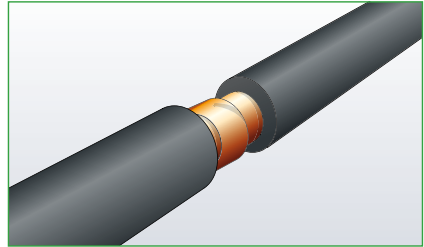
3. Glue seams with Armaflex Adhesive
4. Cut reducer to size - allow compression of 5mm at each end.



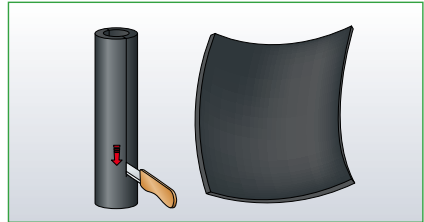
5. Slit fitting on the flat side
6. Install and glue seam and butt joints

INSULATING PIPE UNIONS USING ARMAFLEX TUBE

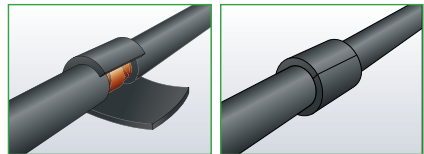
Pipe unions can be insulated in several ways using Armaflex tube. This method does not require a separate "oversized" tube and can be implemented using Armaflex tube of the same dimensions as used on the linear pipe run.



1. Install the Armaflex as close to the union as possible. Seal the ends of the tube to the pipe with Armaflex Adhesive.



2. Slit a large off-cut of Armaflex tube (minimum length at least 5 times the pipe diameter) with a small sharp knife along the flat face of the tube and open the tube into a cover.



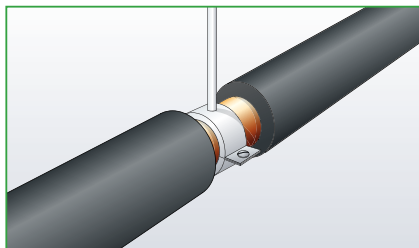
3. Place the Armaflex cover over the union, mark and cut the true circumference of the cover.

Fix and vapour seal all seams and joints in and around the attached insulation using Armaflex adhesive.

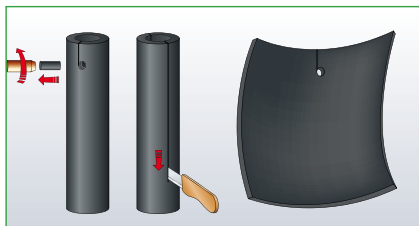
INSULATING "OVER" (ENCAPSULATING) PIPE SUPPORTS

On cold lines pipe supports must be insulated to prevent condensation. If no insulated pipe supports have been specified the following approach should be followed as a minimum precaution.

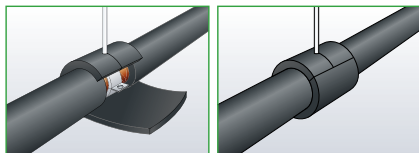
Note: It is best practice to always have an insulated pipe support such as Armafix or Armaload installed.



1. Install the Armaflex as close to the fixing bracket as possible. Seal the ends of the tube to the pipe with Armaflex adhesive.



2. With a large off-cut of Armaflex tube, core out a small hole to allow for the oil thread support of the bracket and slit with a small sharp knife along the flat face of the tube.



3. Place the Armaflex cover over the support area, mark and cut the true circumference of the cover.

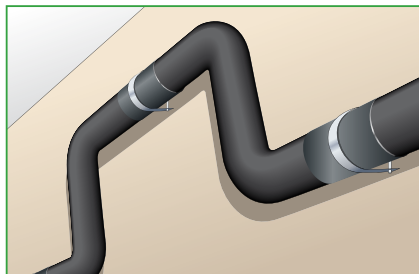
Fix and vapour seal all seams and joints in and around the attached insulation using Armaflex adhesive.

Note: Armaflex 3mm Insulating self adhesive tape can be applied 50-100mm along the attached oil thread support.

INSULATING THROUGH MOUNTED "SADDLE" SUPPORTS

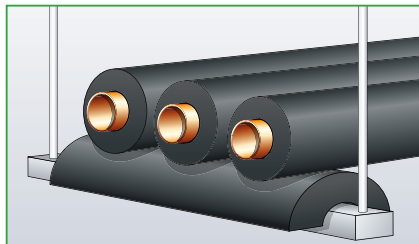
Insulate throughout continuously using Armaflex tube / sheet. Where the mounted "saddles" are located as shown, install two half (galvanized) metal sleeves around the insulated pipe.

Note: 1 - 1.5mm thick galvanized sheet will be suitable. If using metal sheet with a highly reflective, low emissivity, surface the insulation thickness may no longer be sufficient to prevent condensation.



INSTALLING ARMALOAD PIPE SUPPORT SECTIONS

Armaload is a high density load bearing grade of Armaflex in the form of a one metre long, half round section. It is designed to be used as a load bearing insert between overhead support systems, such as unistruts, and banks of small bore copper pipes insulated with Armaflex.



Use only with copper pipes up to 54mm O.D.

Suggested hanger spacing:

Outer pipe - Ø mm	Distance of hangers
≥ 35	3 m
42	2 m
54	1.5

Some compression will occur on both the Armaload and the Armaflex, but this is acceptable and has been allowed for in the design principal.

INSULATING PIPES WITH ARMAFLEX SHEET

Armaflex tubes are available for pipe with outer diameters up to 114mm. Larger pipes, ducts and tanks must be insulated using Armaflex sheet.

It is often advantageous to insulate smaller pipes using Armaflex sheet, even when correctly dimensioned tubes are available. Care should be taken to ensure that the stresses in the seams, caused by the bending in the sheet, do not become too great.

These stresses rise as the insulation thickness increases and as the pipe diameter decreases. Please consult the table below to gauge the applicability of different thicknesses of Armaflex sheet (recommendations may vary for HT/Armaflex and NH/Armaflex).

The ambient temperature during installation will also impact on the levels of stress likely to be encountered.

For advice on installation Armaflex sheet in ambient temperatures $\geq 5^{\circ}\text{C}$ please see table below.

Sheet Thickness	Pipe Outer Diameter / mm			
	≥ 88.9	≥ 114	≥ 139	≥ 406
9 mm	•	•	•	•
13 mm	•	•	•	•
19 mm	•	•	•	•
25 mm		•	•	•
32 mm			•	•
50 mm				•

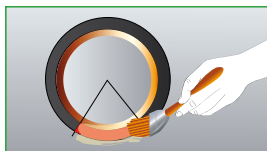
(Recommendations may vary for HT/Armaflex and NH/Armaflex. please see special application advice - available on www.armacell.com/uk)

ARMAFLEX ADHESIVE AND ITS USE ON PIPEWORK > 88.9 MM O.D.

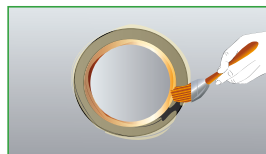
Armaflex adhesive must be applied to all seams and joints on tube and sheet fabrications up to 500 mm O.D pipe size, at each tube and sheet end Armaflex shall be adhered to the pipe.

In addition

- **when insulating horizontal pipework** with an O.D. > 500 mm adhesive should also be applied to $\frac{1}{4}$ of the pipe surface and the facing Armaflex sheet surface in order to prevent "bellowing". The picture below illustrates the area which should be covered using adhesive.

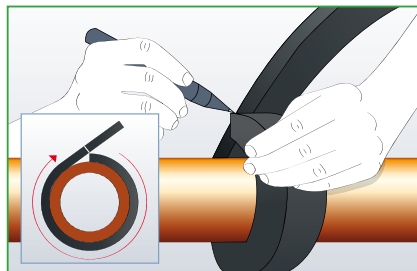


- **When insulating vertical pipework**, all-over adhesive coverage must be applied to both to the pipework and the facing Armaflex sheet regardless of pipe outer diameter.



For temperatures lower than -50°C please refer to special application advice " Insulating low temperature lines".

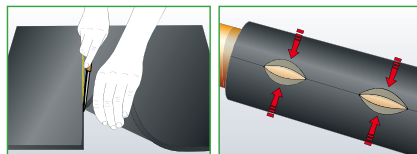
INSULATING LARGE PIPES WITH ARMAFLEX SHEET



1. Determine the circumference of the pipe.

Important: Always measure with a strip of Armaflex of the thickness to be used for the insulation.

Warning: Do not stretch the strip.

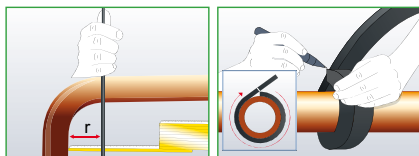


2. Cut Armaflex sheet to the required size - apply Armaflex adhesive to the cut surfaces in a thin layer, allow to touch dry.
3. Press together at the ends and then in the middle. Close the entire seam starting from the middle.

Note: In order to prevent the seam re-opening ensure the adhesive has been fully applied to the edges of the fixing seam and ensure the correct amount of adhesive has been applied.

Check the open time of adhesive to ensure it is still fit for use.

TWO-PART-BEND WITH ARMAFLEX SHEET

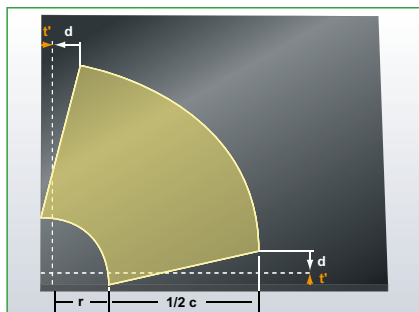


Establish the inside radius, r , by dropping a perpendicular line to meet a horizontal line from the outside of the two welds. The point where these two lines intersect gives the origin for the radius, r . This is the throat radius.

Measure in a trimming allowance equal to the thickness of insulation being used along both vertical and horizontal edges then transfer r to the sheet as indicated.

Determine the circumference of the pipe using a strip of Armaflex of the thickness to be installed.

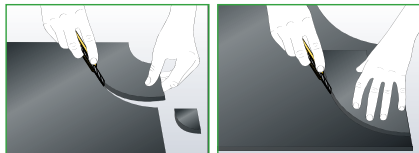
Note: Do not stretch



Halve the pipe circumference and transfer this dimension to the Armaflex sheet.

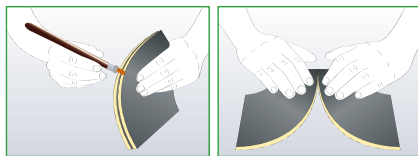
Mark out the two arcs from the intersection of the trim lines.

- r = inside radius of bend
- $\frac{1}{2} c$ = half of pipe circumference
- t = insulation thickness (in mm)
- d = $\frac{1}{4}$ pipe diameter



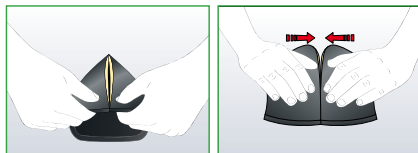
Cut out the first half-section of the elbow.

Use the first half-section as a template to cut out the second half-section of the elbow.



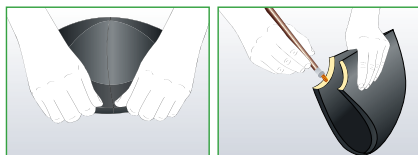
Place the sections together with the rough surfaces inwards. Apply Armaflex adhesive to the outer edges.

Allow the adhesive to tack dry (fingernail test) then press the two sections together at one side to make a short seam.



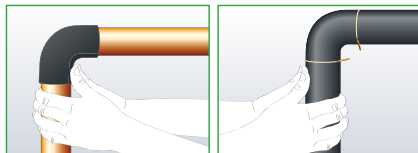
Next, press the opposite sides together, also making a short seam. Repeat alternately closing 50-75mm at a time on each side, working towards the centre.

Press the remainder of the joint firmly together.



Turn the assembly over and press the seam firmly together from the inside, so that a good adhesive joint is achieved across the entire wall thickness.

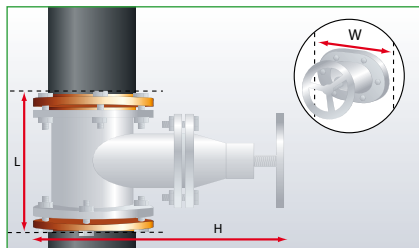
Apply Armaflex adhesive to the inner joint edges.



Place the insulation cover over the pipe bend. Allow the adhesive to tack dry then press the joint faces firmly together.

Wet seal jointing details with adhesive, fitted under slight compression, to complete the bend.

INSULATING VALVES WITH D-BOX MADE OF ARMAFLEX SHEET

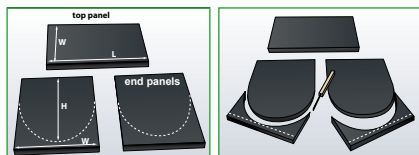


Establish the following measurements:

L = length of valve + 2 x thickness of insulation

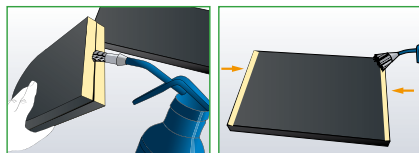
H = height of valve + 2 x thickness of insulation

$W = \varnothing$ (diameter) + 10mm



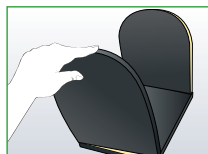
Mark out and fabricate 2x end panels and 1x top panel using the measurements made in the previous step.

Cut cleanly using a small sharp knife.



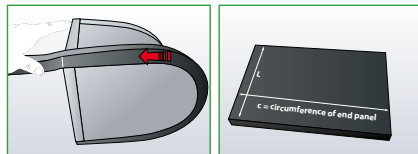
Apply Armaflex adhesive along the edges as indicated.

Note: The glue line must be as wide as the thickness of the Armaflex in use.



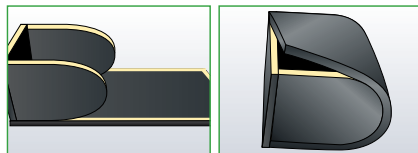
Glue the top edges of the end panels and the top panel edge.

Fix down the end panels to the top panel making sure the edge's are in-line



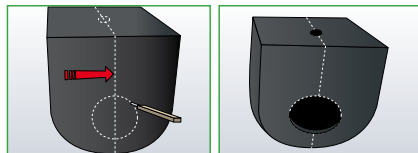
Use a strip of Armaflex (used thickness) to determine the circumference around one end panel (including the top panel).

Mark measurement L and circumference out and cut the body panel to size. Apply Armaflex Adhesive to the body panel end and the body panel edges as shown.



Gently roll the body panel edges around the end panels until the cover panel resembles a box.

Fix down the square 90° edge as shown. Ensure the edge is in-line and neat. Continue to fix all edges in this way.



Cut holes for the insulated piping connections on each of the end panels and a final cut-out for the valve spindle connection at the top.

Split the box into two halves and fit around the valve.

If required the fitting cover can be slit through three quarters of the way round the fabrication cover and snapped over the fitting - with adhesive applied to all fixing seam details as stated.

To finish, apply Armaflex adhesive to the fixing seams, allow to touch dry and fix the seams together.

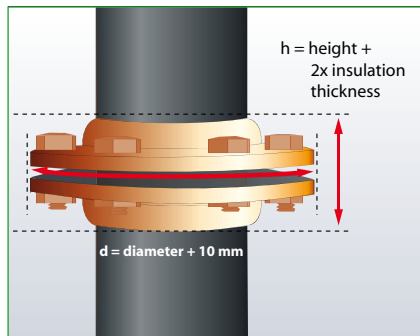
Vapour seal the connections (joints) to the linear insulated pipes using Armaflex adhesive.

Note: For external installations, weather-seal around the valve spindle connection cut using Arma-Chek black mastic.

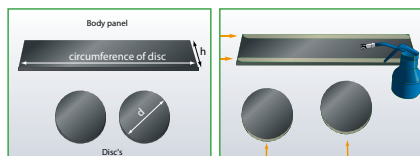
FLANGE BOXES

The following section gives the installation techniques for insulating flanges.

On chilled water or refrigeration applications it is advisable to pack the gaps between the nuts with strips of Armaflex insulation.

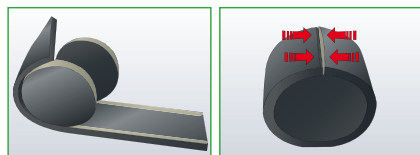


Using a pair of callipers, determine the diameter of the flange face. Please add 10mm to this measurement. Measure the length of the flange (incl. Bolts) and add 2x the insulation thickness of the used sheet. Where applicable allow for bolt removal.



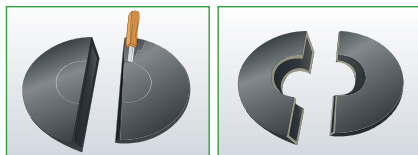
Transfer these measurements to a piece of Armaflex sheet. Mark out two concentric circles with dividers. Repeat on a second piece of sheet. Cut out two Armaflex rings.

Determine the circumference of the disc.



Roll the body panel up and around the end disc's, do not stretch during application. Check alignment throughout.

Place the edge to the a joining seam's edge opposite.

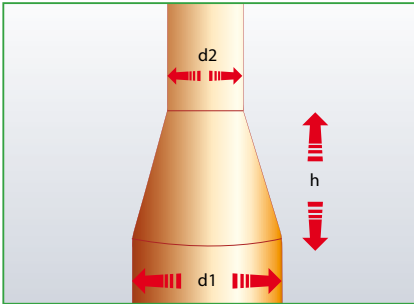


Using a small sharp knife cut out for the insulated pipe diameter.

To finish fit the two half's of the flange box around the flange and wet seal all seams and joints to the insulated pipe branch.

If required the fitting cover can be snapped over the fitting, by only cutting the insulation cover half way through.

CONCENTRIC REDUCERS

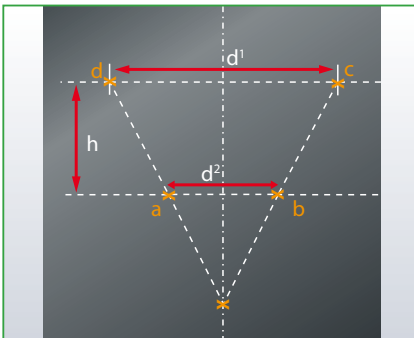


Determine the following measurements

h = height of the reducer, incl. both welds

$d1$ = diameter of larger pipe + 2 x insulation thickness

$d2$ = diameter of smaller pipe + 2 x insulation thickness

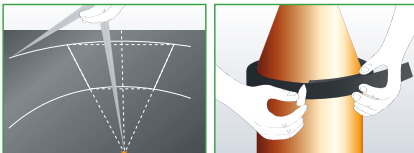


Mark out the Armaflex sheet with a centre line .

$d1$ and $d2$ are marked off at each end, as shown, to give points a,b,c and d (yellow markings show meeting points).

Distance between the lines $d1$ and $d2$ is height h .

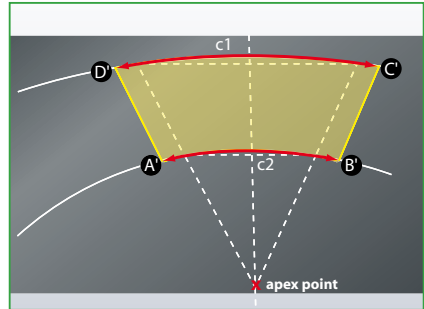
Extend the lines d-a and c-b to meet at the apex point which is on the extension of the centre line.



From the apex point strike two arches through a-b and d-c. Determine the circumference of the $c1$ (large pipe) and $c2$ (small pipe) .

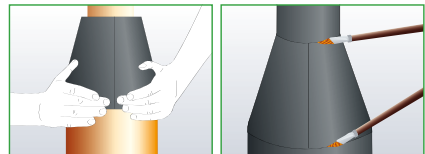
Important: Always measure with a strip of Armaflex of the thickness to be used for the insulation.

Warning: Do not stretch the strip.



Transfer the two circumferences by using the two strips used to measure the circumferences and mark the final dimension of the insulation of the reducer.

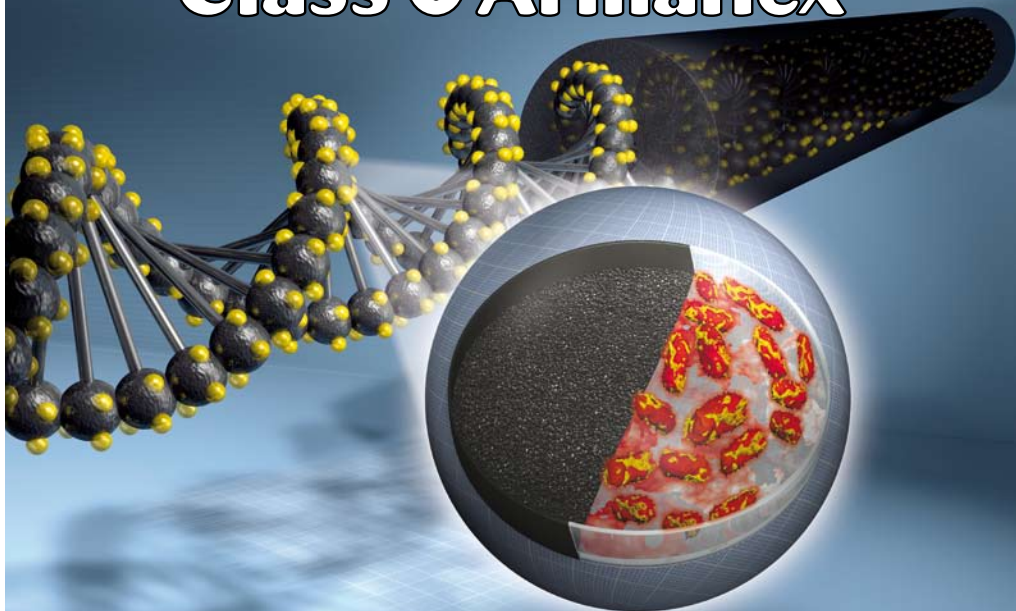
Cut out the reducer piece with a sharp knife (yellow area indicates the cutting lines)



Apply a thin coat of adhesive to the edges to be joined, allow to tack dry. Press together firmly at one end, then at the other end and complete the joint.

Complete insulation by insulating the pipes on either side of the reducer and wet seal both butt joints.

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