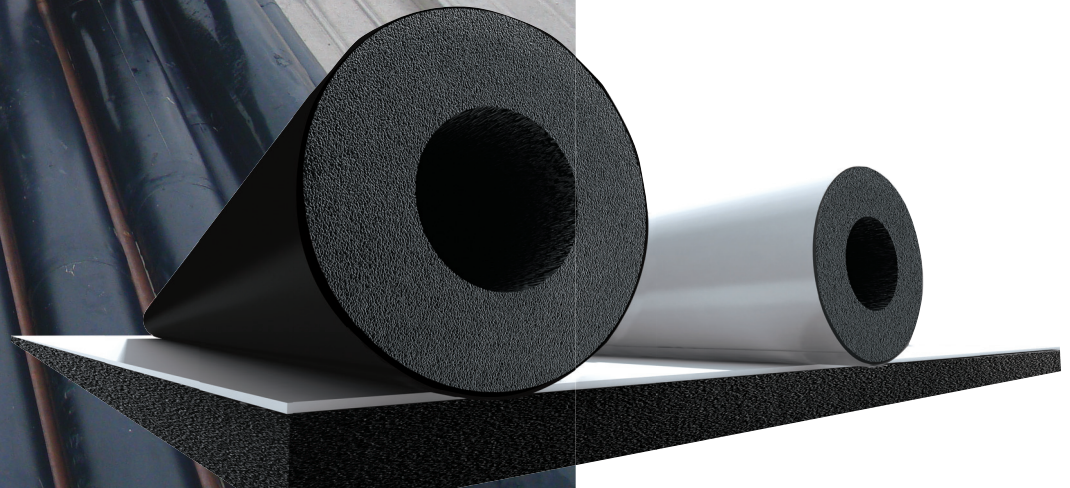


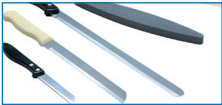


kaiflex[®] TC

General application advise and
step-by-step guides



Recommended tools to use with Kaiflex TC



Sharp knives, sharpening stone and the Kaimann cleaver.



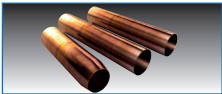
Straight edge ruler, tape measure.



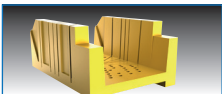
Brushes with short firm bristles.



Sharp non serrated edged scissors.



Sharpened copper pipe ends for the relevant pipe diameter.



Kaiflex Cutting Template and / or mitre box.

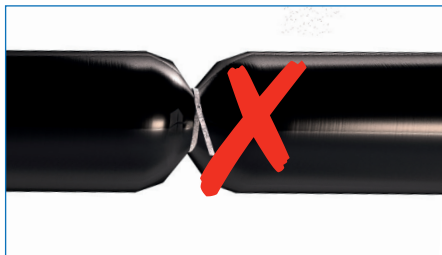


Mastic Gun.

1. Use sharp knives with flat blades. Re-sharpen knives regularly using a sharpening block. Use fresh Kaiflex Adhesive less than 12 months old.
2. Always slit oval tubes on the flatter side.
3. Always remove all dirt, dust and oil from both contacting surfaces before commencing application. Use Kaiflex cleaner where necessary.
4. Use correctly sized material. Do not stretch or pull to fit.
5. Close seams together under slight compression.
6. Never insulate pipe and ductwork connecting to an active system as this is a safety hazard and the adhesive may not set. Always allow a minimum of 36 hours for the adhesive to set before activating the system.
7. Kaiflex adhesive should develop "grab" in around 3-5 minutes. Apply the adhesive to both contacting surfaces and wait until "grab" is developed before pressing the two surfaces together. Always push contacting surfaces together – never pull.
8. Every 2 m and at every termination point it is necessary to create a "wet seal" to form a water vapour tight bond between the pipe and insulation. To achieve a "wet seal" apply adhesive between the pipe and the insulation around the entire circumference. After

around 3 minutes push firmly to seal.

9. In addition to “wet sealing”, seal all contacting Kaiflex “butt joints” to each other using Kaiflex adhesive.
10. Where possible turn adhesive seams away from view in internal locations and away from direct sunlight in external locations.
11. When applying Kaiflex TC outdoors, Kaiflex Protect Mastic should be applied over all seams and joints. Always apply Mastic in a continuous unbroken bead: Minimum thickness 3 mm and minimum width 10 mm.
12. When applying Kaiflex TC outdoors, Kaiflex Protect Mastic should be applied over all seams and joints. Always apply Mastic in a continuous unbroken bead: Minimum thickness 3 mm and minimum width 10 mm.
13. **It is NOT recommended to use cable ties.**



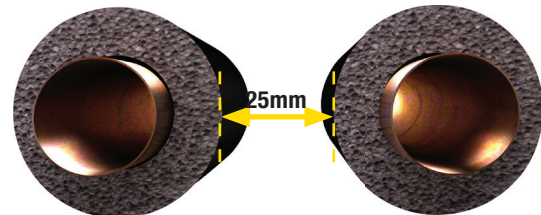
Advice for insulating refrigeration and air-conditioning equipment

Attach each end of the Kaiflex TC tube to the pipe with Kaiflex Adhesive 414, 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. Kaiflex TC 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 Kaiflex TC.



Kaiflex TC application · insulating new pipework using the sleeve-on-technique



Where possible sleeve correctly dimensioned Kaiflex TC tubes straight onto pipes.



Push the Kaiflex TC tube along the pipe as far as it will go.

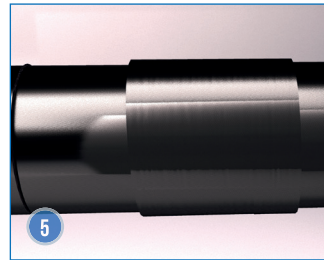


At the termination point of the tube apply a "wet seal" using adhesive. If the termination occurs at a previously applied Kaiflex TC tube then also apply adhesive to both contacting Kaiflex surfaces.

Allow the adhesive to develop grab and push one tube into the other.

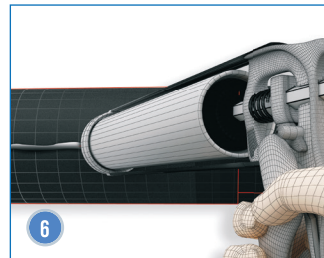


Measure a length of Kaiflex TC tape sufficient to cover around the seam and overlap by a minimum of 20 mm. Cut the tape to size using scissors, remove the backing and wrap around the seam.



Cover all exposed seams using Kaiflex TC tape as described.

Note: For outdoor applications Kaiflex Protect Mastic should be applied over all seams and joints.



For outdoor applications Kaiflex Protect Mastic should be applied over all seams and joints.

Kaiflex TC application · insulating existing pipework using the snap-on technique



Select a correctly dimensioned tube of Kaiflex TC and slit along the “flat” face of the tube using the Kaimann slitting knife as shown.



For additional protection Kaiflex TC tape can be applied to seams. If necessary cut the tape to a suitable size (min. width: 3cm).



Apply Kaiflex adhesive to both sides of the linear seam, allow to tack dry and then carefully push together.



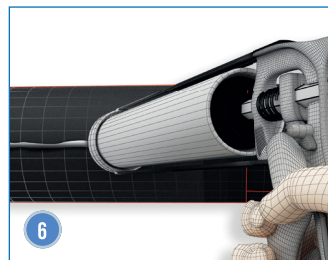
Carefully apply tape evenly along the seam and smooth out wrinkles with an open palm as the tape is applied.

Kaimann recommends allowing 36 hours for the adhesive to fully cure before operating the system.



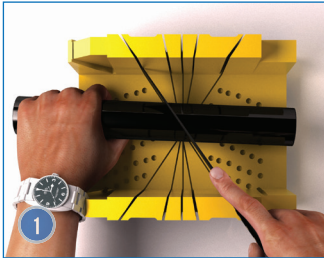
At the termination point of the tube apply a “wet seal” using adhesive. If the termination occurs at a previously applied Kaiflex TC tube then also apply adhesive to both contacting Kaiflex surfaces.

Allow the adhesive to develop grab and push one tube into the other.



For outdoor applications Kaiflex Protect Mastic should be applied over all seams and joints.

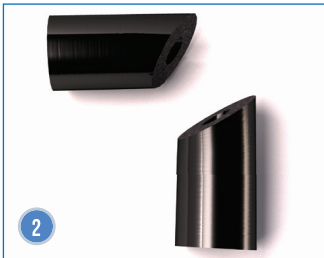
Kaiflex TC application · insulating 90° bends



Using a cutting block and a sharp knife, cut the Kaiflex TC tube at a 45° angle.



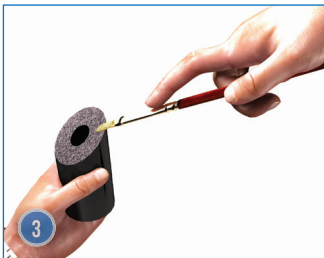
Once the adhesive is tack dry, push together the two angled faces by lining up what will become the inside edge.



Once the tube has been cut into two angled pieces, cut the non-angled sides to the correct length for the 90° bend.



Once dry slit the insulation covering along the inside of the bend. Note: for practical reasons it may sometimes be necessary to slit alongside the outside of the bend.



Apply Kaiflex adhesive to both angled faces and allow to tack dry.



Apply Kaiflex adhesive to both sides of the seam and allow to tack dry.



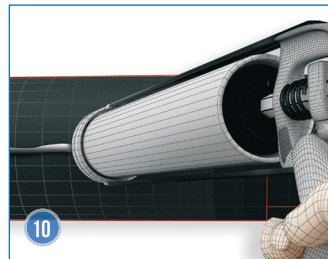
Once the adhesive is tack dry fit the insulation covering over the pipe bend. Press the adhered seams firmly together ensuring no gaps.



Carefully apply Kaiflex TC tape with a maximum width of 15 mm around all angled seams, smoothing out any wrinkles as the tape is applied. It may be necessary to cut standard width Kaiflex TC tape down to an appropriate width using a pair of scissors.



Finally apply Kaiflex TC tape with a minimum width of 30 mm along the inside seam. At the end points of the insulation cover apply a wet seal to the pipe using Kaiflex adhesive.



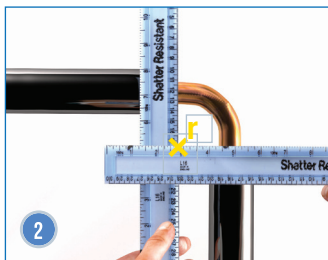
For outdoor applications Kaiflex Protect Mastic should be applied over all seams and joints.

Kaiflex TC application · making segmented bends with 2 or more middle parts

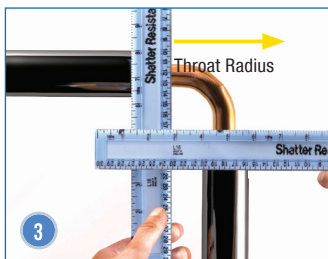
If insulating a bend that is unsuitable for the 90° or 45° bends, then use the following method to determine the throat radius and dimensions of segments for the bend.



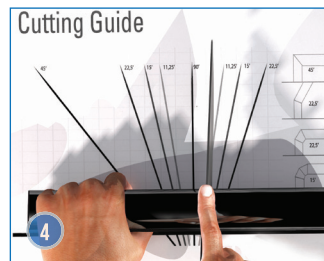
Install Kaiflex TC tube insulation up to the welds of the bend following the procedure described elsewhere in this manual. Measure the inner throat radius and the outer bend radius. This is best achieved by holding a pair of rulers together and reading values as shown above.



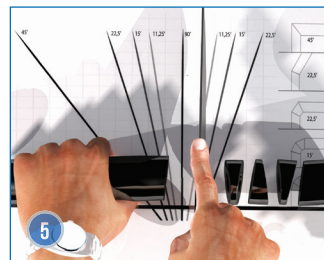
Attain the inside radius, r , by crossing two straight edges/rulers from the outside of the two welds. The point at which these two straight edges cross is the radius origin.



Measure from the pipe along the horizontal straight edge to where these two lines intersect, r . This measurement is the throat radius.



With the throat radius established take a suitable length of Kaiflex insulation and then using the Kaimann cutting template line up the insulation tube accordingly.



With a sharp knife cut the centre segments at the same angle as in the step before. The shortest edge width should be equal to the throat radius divided by the number of segments.

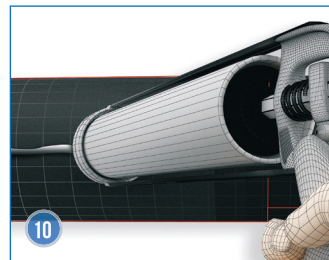


While 3 segments are used in this instance, for a rounder bend dividing the throat radius equally by a larger number to create more segments is possible.

Kaiflex TC application · making segmented bends with 2 or more middle parts



After cutting the all needed segments to complete the bend radius tube adhere all of the angled edges and once tacked dry fit the pieces together reversing the angled pieces to form the bend.



For outdoor applications Kaiflex Protect Mastic should be applied over all seams and joints.



Slit down the length of the completed bend with a sharp knife and position on the pipe.

Apply Kaiflex adhesive to both contacting faces and push the cover over the pipe bend.

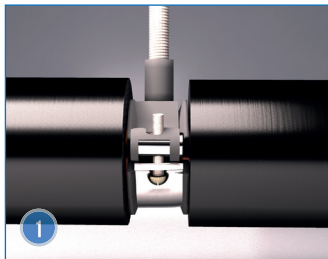


Glue along the seams to ensure a water tight vapour barrier.

Cover all seams and joints using Kaiflex TC tape.

Kaiflex TC application · encapsulating pipe supports with Kaiflex TC tube

On cold lines it is essential that all pipe supports are insulated to prevent energy loss and condensation. If provision for insulated pipe supports is not specified, the following steps should be taken as a minimum requirement.



Install insulation up to the fixing bracket ensuring it is as close as possible. Use Kaiflex Adhesive 414 to seal the ends of the tube to the pipe.



Slit with a sharp non-serrated knife along the flat face of the tube. Up to the hole made in step 3.



Take an offcut of standard Kaiflex ST slit tube and wrap around one of the insulated pipes and mark the point where the two ends meet.



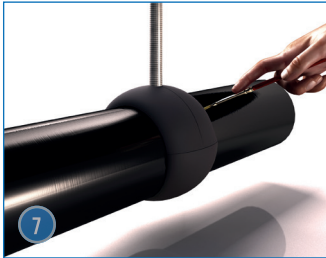
Using a brush apply Kaiflex adhesive 414 to along all 4 sheared edges.



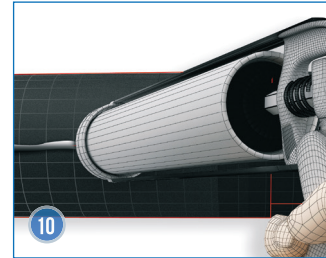
Cut the insulation to size and then use a sharpened length of copper pipe to core out a hole for the oil thread.



Fit the insulation around the pipe support, as shown.



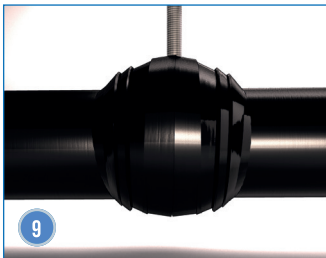
Apply adhesive between the straight insulated pipe and the insulated pipe support.



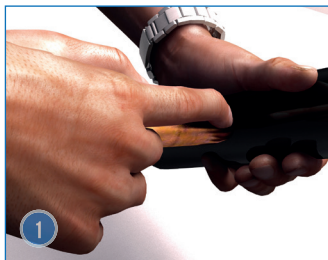
For outdoor applications Kaiflex Protect Mastic should be applied over all seams and joints.



To ensure additional protection and UV-resistance wrap Kaiflex TC Tape around the pipe support starting a few mm in from the end of the straight pipe.



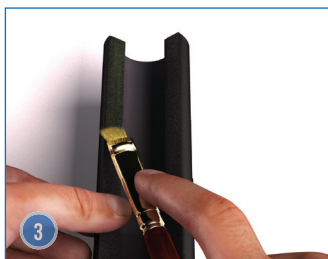
This completes the application of pipe supports with Kaiflex ST and Kaiflex TC tape.



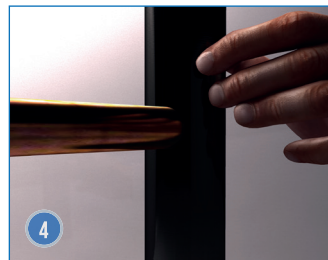
Take an appropriate slit length of Kaiflex TC and using a sharpened piece of copper pipe the same bore size as the pipe being insulated, punch a hole in the flat side of the insulation.



If needed tidy up the punched hole with a short sharp flat edged knife.



Apply glue to the two open seams and allow to tack dry.



Once the glue has tacked dry position on the tube around the pipe and then push together the two sides lining up around the t-piece by moving outward.



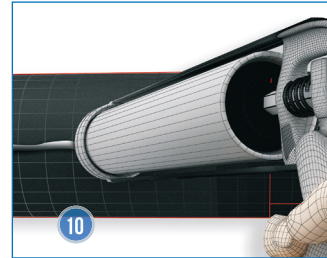
For additional protection Kaiflex TC tape should be applied to seams.



Cut a semi-circular recess in the end of the branch section of tube. Please note: it is better to have a cut which is a little deeper rather than to shallow.



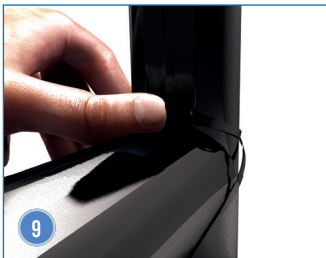
Apply glue evenly to the newly cut half moon shaped end and allow to tack dry.



For outdoor applications Kaiflex Protect Mastic should be applied over all seams and joints.



Apply glue to the area where the two insulation sections meet and once tacked dry, fit the two together.



Finally apply Kaiflex TC tape along the seams.



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