

INSUL-TUBE®

Fitting instructions



we will succeed together



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INSUL-TUBE®

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Introduction

These INSUL-TUBE® fitting instructions have been written specially for professionals. They are designed to serve as instructions on how to apply professional insulation material.

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General fitting instructions

- INSUL-TUBE® should be used only when the heating, air-conditioning or cooling equipment is switched off. After the insulation work, you must wait 36 hours before you can use the equipment again. This is important for the sake of allowing the adhesive to set properly.
- Make sure that both the pipe and the insulation are clean and dry.
- Metal pipes containing iron should be treated with an anti-corrosion paint. After 48 hours, you can insulate with INSUL-TUBE®.
- INSUL-TUBE® should only ever be glued with NMC-FIX®.
- NMC-FIX® has its optimum adhesion properties at room temperature (15-20°C). Make sure that the surfaces of the INSUL-TUBE® and the pipe are free of dirt, oil, dust and water. The adhesion points should always be handled under pressure and never by pulling. INSUL-TUBE® must always be glued to the pipe on the ends.
Before use, shake and stir the NMC-FIX®, spread a thin coat on both surfaces and once it is finger dry, press the two adhesive surfaces firmly together. Any drips can be easily cleaned off with INSUL cleaner.

Recommended tools

- 1) Metre rule
- 2) Compasses
- 3) Feeler
- 4) Sharp knives
- 5) Whetstone
- 6) Brush with short, firm bristles
- 7) Punches

INSUL-TUBE® range accessories



- **NMC-FIX®:**
Special adhesive for watertight joints. Available in cans of 200 ml, 500 ml, 1000 ml and 2500 ml.
- **INSUL cleaner 3005:**
For cleaning tools and the surfaces to be stuck. In 1 litre tins.
- **INSUL-TAPE:**
3 mm thick and 50 mm wide, available in 15 m rolls.
We recommend using INSUL-TAPE for support clamps, narrow and inaccessible areas and small taps.
- **INSUL PVC self-adhesive tape:**
 - Black: 38 mm wide, 25 m long
 - Grey: 30 mm wide, 33 m long
- **INSUL knives**

Pipes smaller than DN 100



Pull up the hose over the pipe end. In order not to damage the material, feed the hose over the pipe using a gentle twisting motion.



Spread the abutting surfaces with a thin coat of NMC-FIX® and make sure that the seam is stuck under pressure.

Insulating after pipe fitting



Slit open the
INSUL-TUBE®, ...



... fit over the pipe,
then coat both cut
surfaces with a thin
layer of NMC-FIX®, ...

Insulating after pipe fitting



... and after the prescribed drying time (finger test), press the insulation together from the outside in.



For joins between two hoses, cut the piece to be inserted a little longer than necessary. If the piece to be inserted is not long enough, the insulation properties will be impaired.

Screw connections



For screwconnections, ...



... apply the
INSUL-TUBE® on both
sides as far as the
screwconnections and
bind as far as the
upper side of the hose
with INSUL-TAPE.

Screw connections



Adapt INSUL-TUBE®
to larger dimensions ...



... and glue tightly
with NMC-FIX®.

Angles



Cut the INSUL-TUBE®
to size at a 45-degree
angle, ...



... glue with
NMC-FIX®, ...

Angles



... slit open the
INSUL-TUBE®
formed piece, ...



... coat both inner sides
with a thin layer
NMC-FIX®, ...



... fit over the angle and press together.



For fittings:

Apply INSUL-TUBE® as far as the thickening, stick to the pipe and make an angle of a suitable larger size. Fit over the pipe and press together.

Segment elbows



Cut segments offset against each other out of INSUL-TUBE®.



Coat the segments on the inside on both sides with a thin layer of NMC-FIX® and stick together into an elbow.



Slit open, fit over the elbow and glue tightly.

Pipe elbows over 90 degrees



We recommend insulating the straight lengths of piping first.



On the section of hose to be inserted, two parallels are indicated at the distance of the hose radius. Join point A to point B.



Now cut the hose along this line and turn to achieve the required angle.



After gluing, the pipe is slit open along the inside.

Pipe elbows over 90 degrees



After fitting on the pipe,
all seams are glued.

T-shaped pieces



Punch out the necessary
inside diameter from
INSUL-TUBE®, ...



... make saddle cuts on
the object,...

T-shaped pieces



... stick tight with
NMC-FIX[®], ...



... slit open, then coat the
inside with a thin layer of
NMC-FIX[®], ...



... fit over the T-shaped piece and press together.

Alternative for T branches



Cut the inside and outside at a 45-degree angle out INSUL-TUBE® , ...



... stick together with NMC-FIX® , ...



... slit open, apply to the pipe and stick back tightly.



For T-shaped pieces (fittings), apply INSUL-TUBE® as far as the thickening, stick to the pipe and make the T shape of a suitable larger size, fit over the pipe and press together.

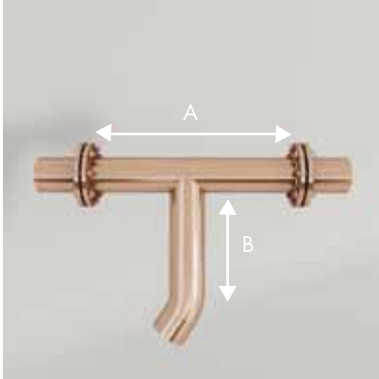
Single-part T-shaped piece out of sheet



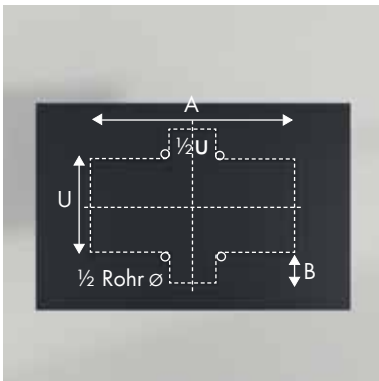
With a piece of the insulation thickness to be used, ...



... establish the width of the pipe.



Measure out the length of the insulation of the main pipe (A) and the branching pipe (B).



Indicate horizontal and vertical mid-lines on the sheet. Transfer the measurements as shown in the picture. In all four inside corners, make a circular elbow for the curves. The diameter corresponds to $\frac{1}{2}$ of the pipe diameter. Cut out the formed piece.

Single-part T-shaped piece out of sheet



Coat the outside edges of the formed piece all round ...



...with a thin layer of adhesive, allow to dry and mount on the T-piece.



Ready-insulated T-shaped branch.

Small taps



Cut the INSUL-TUBE® hose to the required length and punch out a hole for the hand wheel.



The hose is now fitted to the pipe, adjusted for the tap and glued.

Large taps



For taps, support clamps, narrow and inaccessible areas, we recommend INSUL TAPE.



Adjust INSUL-TUBE® to larger dimension and stick tightly with NMC-FIX®.

Pipe reduction



When insulating the reduction piece between two pipes of different diameters, you must leave enough room.



Now take a piece of hose of the larger diameter in the appropriate length ...



... and cut out two equal and opposing wedges.



The cut surfaces are glued so that the hose diameter is reduced.

Pipe reduction



Shorten the hose on the narrower side to the size of the smaller dimension.



Now shorten the hose from the other side to the optimum length.



To fit the hose piece, slit the hose open lengthwise.



The reduction piece can now be glued to the lengthwise seam and the abutting surfaces of the bordering hoses.

Insulation of a pipe carrier



Both halves of the pipe carrier are opened and mounted on the pipe according to the suspension point.



The tongue and groove joint is then glued and pressed together.



The pipe carrier is then glued with the self-adhesive joint.



Now the washer can be mounted.

Insulation of a pipe carrier

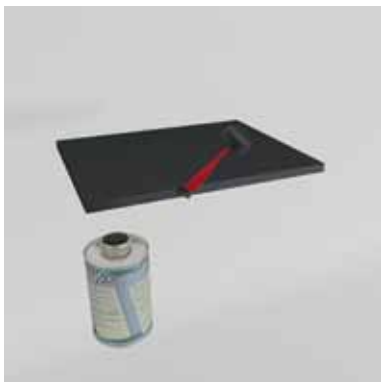


Finally, the pipe carrier is glued with the INSUL-TUBE[®] hose.

Pipes larger than DN 100



Measure the size of the pipe and cut the sheet to fit.

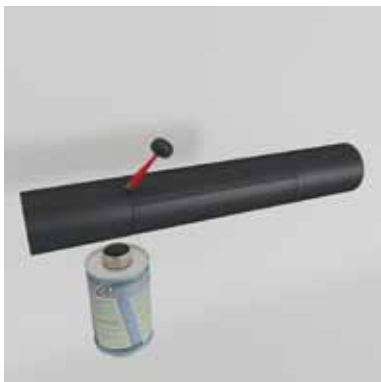


Glue both long sides and allow to dry.

Pipe insulation



Now place the sheet around the pipe and glue the two outer ends together.



The two sides of the interfaces are attached when the abutting surfaces are glued together.

If the insulation surface is not flush, you can go over the seam again with the brush to make any corrections required.

Elbows with INSUL-SHEETS



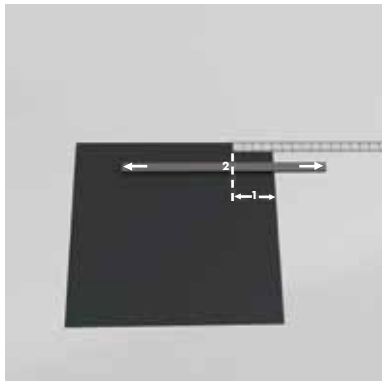
Elbows with INSUL-SHEETS:

Measurement 1 corresponds to the inside radius of the elbow.

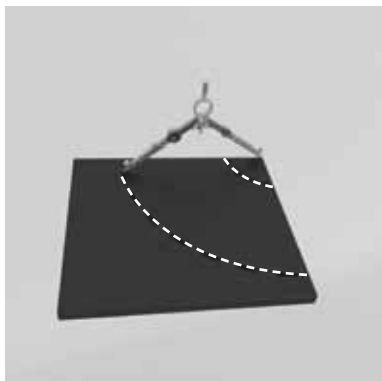


Measurement 2 corresponds to the pipe size (measure with a strip of INSUL-SHEET).

Elbows with INSUL-SHEETS



Transfer measurement 1 to the INSUL-SHEET. Halve measurement 2 and then transfer that also to the INSUL-SHEET, ...



... make two arcs and cut out.



Then apply a thin coat of NMC-FIX® to the outer cut edges of both halves of the elbow, ...



... allow to dry and then stick the two ends together, ...

Elbows with INSUL-SHEETS



... then glue towards the middle.



Apply a thin coat of NMC-FIX® to the inner cut edges,...



... fit over the pipe and press together.



Trim both pipe ends straight.

Pipe reduction

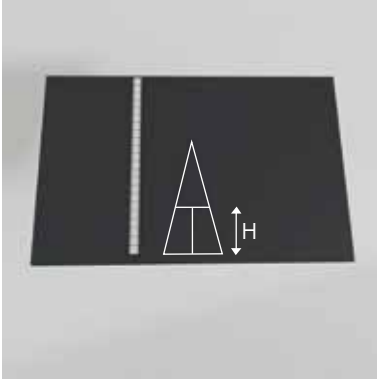


To insulate a pipe with two different diameters, you need to know the precise geometrical course.

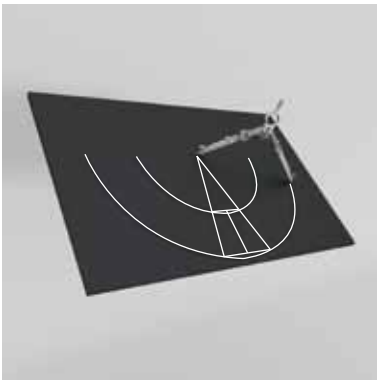
First, you measure the height of the reduction.



Using a feeler, you then measure the larger and smaller diameters of the reduction. Add to this figure the two layers of insulation.



Now transfer all the measurements (the larger and the smaller diameters plus the height) to the INSUL-SHEET. In other words, extend two lines from the outer edges to the intersection of the midline.

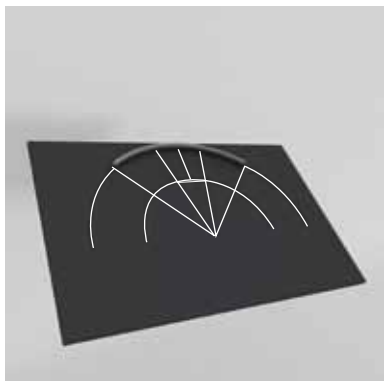


Using compasses placed on the intersection of the midline, join the outer points of the diameter.

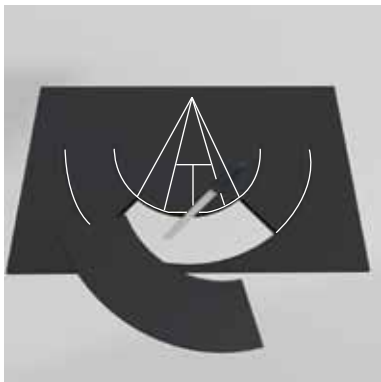
Pipe reduction



Using a strip of INSUL-SHEET of the same insulation thickness, measure the size of the pipe.



Draw the midpoint of this figure and apply the strip around the middle of the larger elbow of the INSUL-SHEET. Then draw the outer points of this cutting line.



Now cut out the complete piece.



To stick the long side of the reduction, first press the outer points and then the midpoints tightly together.

Pipe reduction

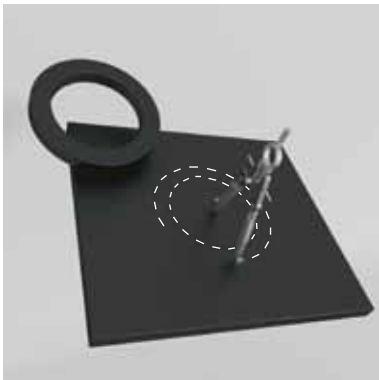


Now you can
insulate further.

Flange insulation



Using INSUL-TUBE®, insulate as far as the flange, measure the diameter of the insulated pipe and flange with a circumference measure.

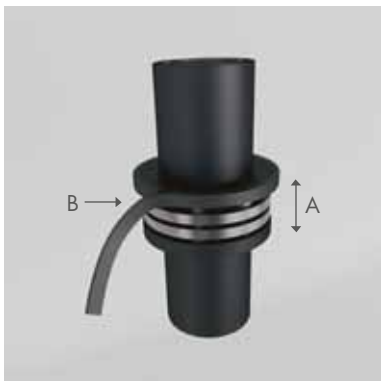


Transfer measurements to INSUL-SHEET and cut out two flange rings ...

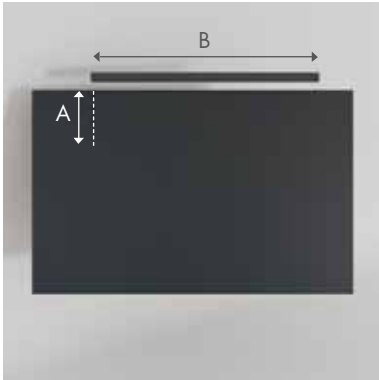
Flange insulation



... and then after cutting open one side, glue tightly to the insulated pipe.



Measure the size of the flange ring with a strip of INSUL-SHEET, then calculate the distance between the surfaces of the rings ...



... transfer the measurements to the INSUL-SHEET and cut out ...

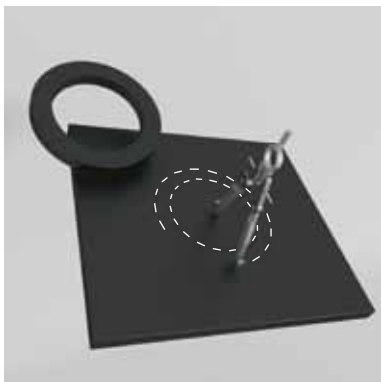


...and glue tightly to the surfaces of the rings/seam.

Valves and taps



Using INSUL-TUBE®, insulate as far as the tap. Measure the diameter of the insulated pipe and flange with a circumference measure.



Transfer measurements to INSUL-SHEET and cut out two flange rings.

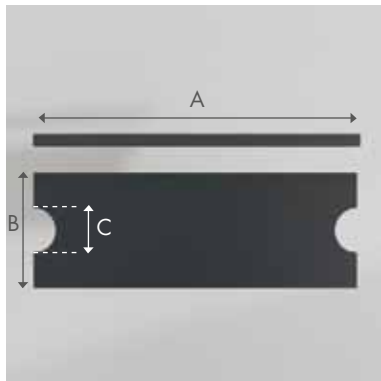


Measure the size of the flange ring with a strip of INSUL-SHEET.



Measure the distance between the outer ring edges (B) and the spindle housing (C).

Valves and taps



Draw in the size and height on INSUL-SHEET, along with the outer dimensions of the spindle housing (left and right half width of the measurement).



Then apply a thin coat of NMC-FIX® to the cut-out formed shape, fit round the pipe and glue tightly.



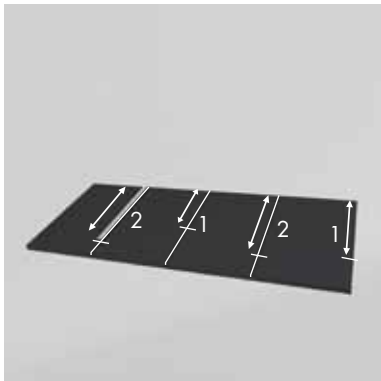
Measure the width (A) and height (B) of the flange on the spindle housing and make the flange ring.



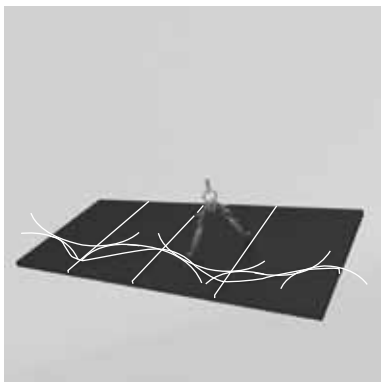
Cut the flange ring out in the middle, cut open on one side and glue tightly to the spindle housing with NMC-FIX®.

Measure the lower height (1), greater height (2) and size of the flange ring.

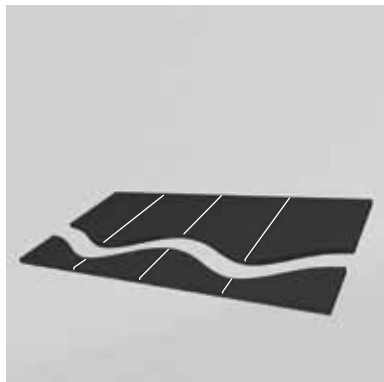
Valves and taps



Transfer to INSUL-SHEET, cut out, divide into four equal pieces and enter the measurements.



With the difference between measurements 1 and 2, cut five arcs around the marked points and join up to form a continuous line.



Cut out ...



... and slant the edges on the inside to the greater height.

Valves and taps



Fit the formed piece round the body of the tap and glue tightly with NMC-FIX®.

Bevel seat taps and dirt filters



Using INSUL-TUBE®, insulate as far as the flange. Measure the diameter of the insulated pipe and flange with the circumference measure. Transfer measurements to INSUL-SHEET and cut out two flange rings.

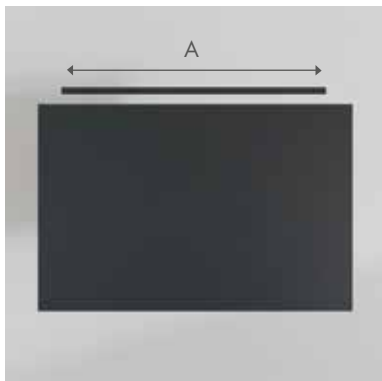


Glue the flange rings tightly to the insulated pipe and fill the tap body with a strip of INSUL-SHEET.

Bevel seat taps and dirt filters



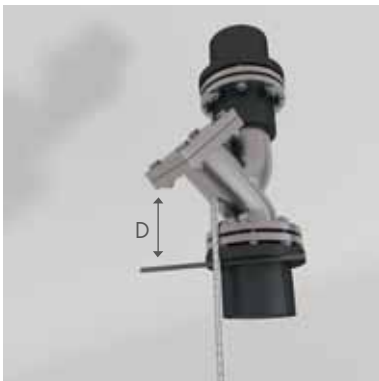
Measure the size of the flange ring with a strip of INSUL-SHEET...



... and transfer to INSUL-SHEET.

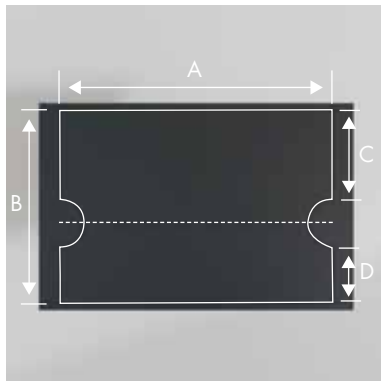


Measure the distance between the outside surfaces of therings (B), measure the distance between the outside surface of the ring above the filter and highest edge of the filter (C).



Measure the distance between the lowest part of the upper part of the tap body to the outer surface of the ring (D).

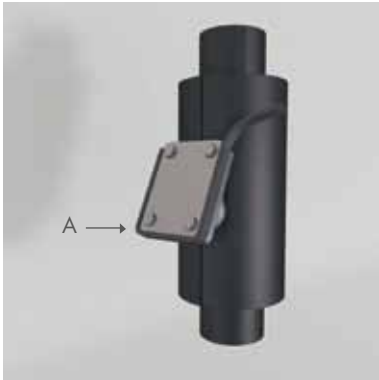
Bevel seat taps and dirt filters



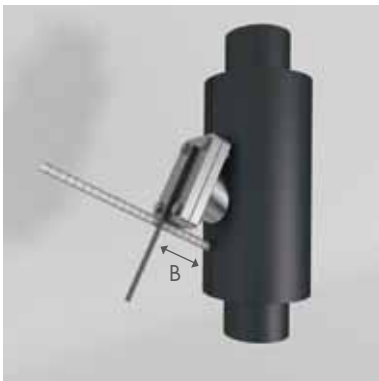
Transfer measurements B to D to the INSUL-SHEET and draw in the gap for the upper part of the tap body.



Cut out, apply a thin coat of NMC-FIX® to the cut edge, fit over the tap body and glue tightly.

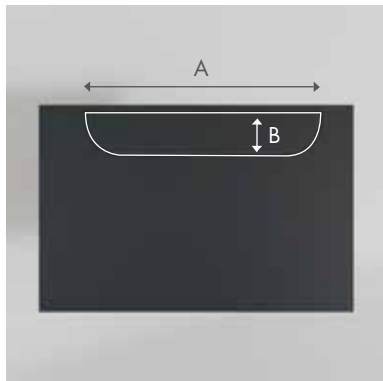


Measure the length of the three sides of the upper part of the tap body with a strip of INSUL-SHEET.



Measure the distance from the lower edge of the upper part of the tap body to the tap body.

Bevel seat taps and dirt filters



Transfer the measurements to the INSUL-SHEET and extend arcs with the distance from the upper part of the tap body to the tap body at both ends.



Cut out, ...



... slope on the inner
edge ...

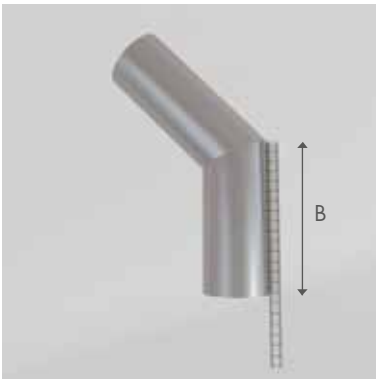


... and glue tightly with the
tap body.

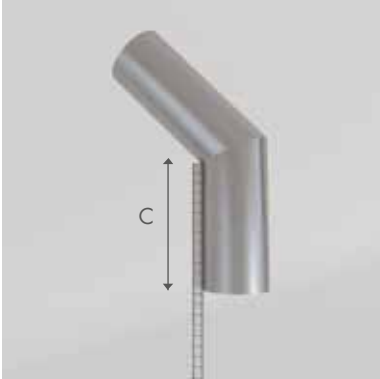
Bends



Measure the pipe size with a strip of INSUL-SHEET (A).

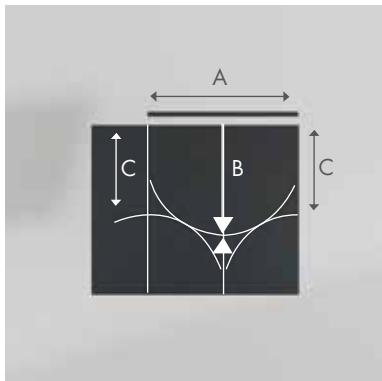


Measure the outer height of the bend(B).

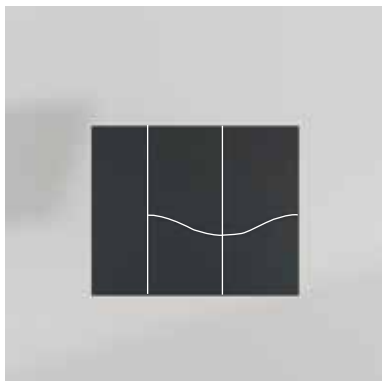


Measure the inner height of the bend (C).

Bends



Transfer the measurements to INSUL-SHEET and draw in half pipe size. With half pipe size, extend three arcs.



Join up the line and cut out.



When offset against each other, these will give the bend.



Apply a thin coat of NMC-FIX® to the inside cut surface, fit round the pipe and glue first the length and then the joining seam.

Tanks



To calculate the size of the tank, take a strip of INSUL-SHEET of the same insulation thickness.



Then transfer the measurements on to an INSUL-SHEET and cut them out appropriately.



Now apply the NMC-FIX® with a brush to the tank surface and the seam of the insulation material.

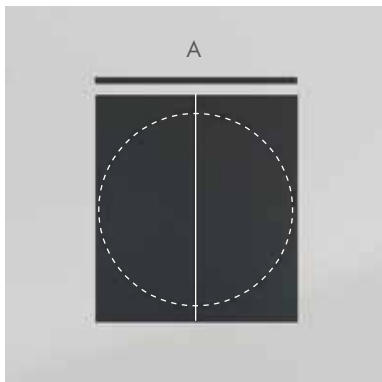


Coat the surface of the insulation material with a spatula. Then position the INSUL-SHEET on the tank and press the edges tightly together.

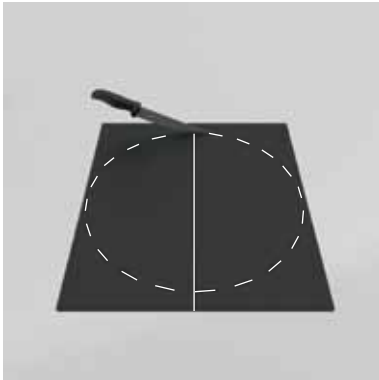
Tanks



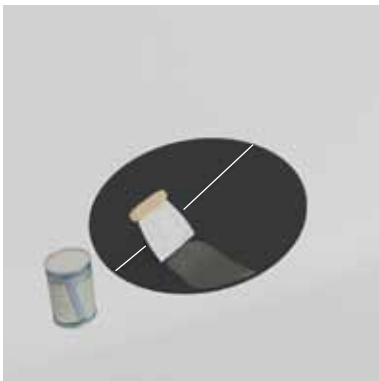
To insulate the top of the tank, first calculate the diameter again.



Transfer the diameter to INSUL-SHEET and draw the circumference out from the middle.



Then cut out the tank insulation, ...



... apply the NMC-FIX®
to the insulation material
with a spatula ...

Tanks



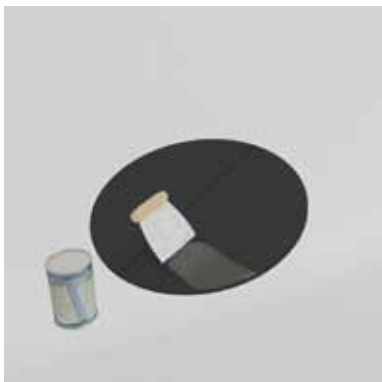
... and to the top of the tank with a brush.



Then glue the sheet with the top of the tank, pressing lightly from the middle outwards to avoid the formation of any bubbles. Insulate the tank bottom in the same way.



Once the sheets are perfectly tailored to the surface, coat the outer sides of the insulation on the top of the tank and the cylinder with NMC-FIX®.



Once the adhesive is dry, join the top of the tank by lightly pressing the individual points..

Other applications



Where there are several layers of insulation, be careful to ensure that the gluing seam is offset and the upper layer is stuck to the lower layer at the pipe ends. In the case of surfaces, the first layer must be glued over the whole surface, and the second layer only at the sheet ends. Following the instructions above, the seam and lengthwise joints of different layers must basically be offset.



Always add 6 mm in length and width when cutting pieces. Place the inside of the INSUL-SHEET and the side to be insulated together.

Installation cap



For cooling and heating applications, the cap is used to prevent condensation water. The cap has the advantage that it can be removed and access to the flange is easier!



For better manipulation, you should label the individual pieces in the sequence in which they are to be applied. Be sure to leave enough time for the glue to set!

INSUL-TAPE



Insul-Tape completes the INSUL-TUBE® range, and is used to insulate

- support clamps,
- narrow and inaccessible areas,
- and small taps.

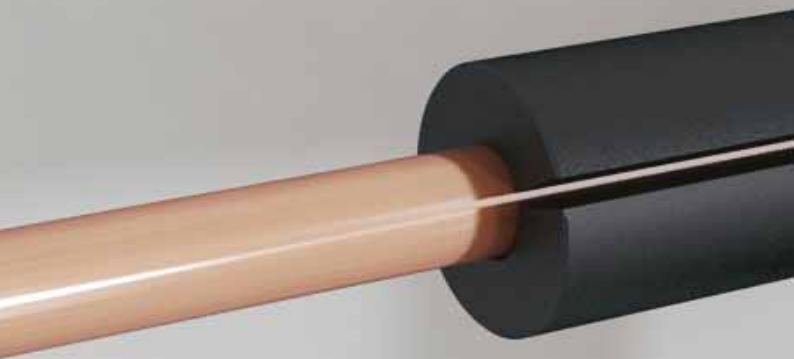
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