

ARMA-CHEK SILVER APPLICATION MANUAL



Arma-Chek[®]
Silver

General application instructions

Working with Arma-Chek Silver

- The installer should have a general knowledge of the installation techniques relating to Armaflex tube and sheet products.
- Use high-quality tools. A sharp knife, good brushes and fresh Armaflex adhesive are required.
- Use clean Armaflex material. There should be no dust, dirt or oil on the surface. If necessary, remove using the Armaflex cleaner.
- Use the correctly dimensioned material!
- Always split oval tubes on the flat side.
- Never pull glued joints when sealing them, always push them together, ensuring that the material is fitted under compression.
- Never insulate installations and systems that are in operation! Wait 36 hours before starting insulated plant (24 hours for Armaflex RS850) - the adhesive is then fully cured.
- Do not use self-adhesive matching Arma-Chek tape as the only means of bonding butt and longitudinal joints and seams.
- Do not apply Arma-Chek covering on seams and joints which are glued with Armaflex adhesive until the adhesive has been given time to fully cure (typically 36 hours, 24 hours for Armaflex RS850).
- Do not carry out fabrication on the floor. Fabricate Arma-Chek products on a workbench as you would do metal jacketing.
- Avoid installing in very wet or humid conditions. Use a tent, for example, to protect where possible.
- Avoid installing Arma-Chek covering under tension.

- When using Arma-Chek covering on Armaflex substrate make sure that all seams/joints are damage free and completely sealed with the correct type of Armaflex adhesive.
- Always use the specified Armaflex adhesives. Do not assume the adhesives will all do the same job! If in doubt, consult Armacell's Technical Department or your local agent.
- For outdoor applications, always ensure there is a "watershed" on all seams and joints.
- Use Arma-Chek Silver PSA tape for all seams and joints.
- Keep the number of joints to a minimum and stagger them.
- Apply Arma-Chek Silver covering within 3 days of installing the Armaflex insulation on outdoor installations.

Health & Safety

- When using adhesive and tape sealants, the manufacturer's recommendations should be strictly followed. Details are available from your local Armacell Customer Services Department / local agent.
- Arma-Chek Silver coverings can be cut easily with a sharp craft knife. Such knives should be handled with due care.

Tools for installing Arma-Chek Silver

	Folding rule / tape measure		Straight edge
	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
	Safety craft knife		Fabric paint rollers for surface gluing
	Sharpening stone*		Gluemaster
	Armaflex Toolbox		

* A tool kit consisting of three knives plus a sharpening stone is available.

Correct use of Armaflex adhesive

There are two types of accessories currently available:

- Armaflex adhesive (Armaflex 520, Armaflex RS850 and Armaflex SF990)
- Arma-Chek Silver PSA tapes

Armaflex adhesive

The adhesives to use are:

Armaflex 520, Armaflex RS850 or Armaflex SF990 depending on your application:

- Before use shake Armaflex 520 and Armaflex SF990 and stir the adhesive thoroughly. Keep the container closed when not in use.
- Use brushes with short, stiff bristles. Alternatively the Armaflex adhesive gluemaster can be used when working with the adhesive.
- Where all-over adhesive coverage is required, apply adhesive in a thin, uniform layer to both the Armaflex surface and the inner face of the Arma-Chek Silver. Always ensure there is all-over adhesive coverage to both surfaces with no signs of dry spots.
- Allow the adhesive to tack dry on overlapping details. The tack-drying time depends on the thickness of the adhesive layer and the ambient conditions (temperature, relative humidity, air movement). The correct initial drying time is checked 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 covering can be positioned and fixed by applying pressure by hand.
- If the surfaces are left to dry too long, they will not bond when pressure is applied. When this happens you can reactivate the adhesive by applying a further film of Armaflex adhesive as described in the previous steps.
- In general, the application of adhesives should not be carried out when the ambient temperature is below the recommended application temperature or the relative humidity is higher than 80 %. (For further information see application hints for Armaflex adhesives.) At temperatures below 5 °C, condensation can appear on the surfaces to be glued or the adhesive film. If this occurs, it is very difficult to glue the materials.
- Use relevant Armaflex cleaner to clean your tools, contaminated Arma-Chek and all seam and joint details.

Correct use of Arma-Chek Silver PSA Tapes

- The following procedures are applicable for Arma-Chek self-adhesive matching tape with 30 mm and 50 mm width.
- Self-adhesive tapes are to be used for indoor and outdoor applications.
- Check that the seams and joints are clean, dry and free from contamination before applying the self adhesive tape. Use the relevant Armaflex cleaner to clean the seams and joints.
- Peel back the release paper and align the tape so that it is centred, covering the entire seam line with an additional 50 mm overlap. To enhance the bond strength of the tape use a smooth spatula to press the tape down.

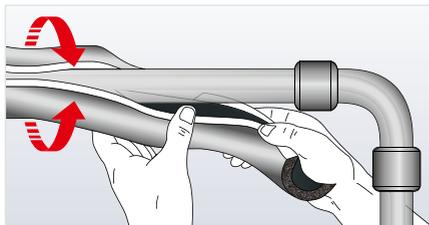
Note: The lower the application temperature, the more thoroughly this step must be carried out, applying greater pressure with the spatula.

- Self-adhesive Arma-Chek tape should not be used as the only means of fixing butt and longitudinal joints and seams.

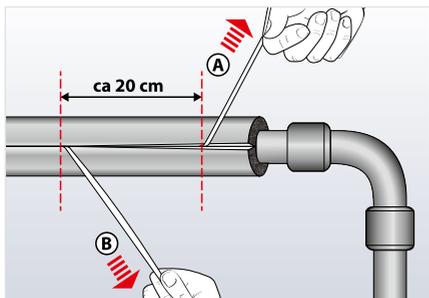
Temperature limits using self-adhesive tapes:

- Ambient application temperature +10 °C to +35 °C, maximum relative humidity 80 %
- Surface application temperature: minimum -50 °C, maximum +80 °C
- Always store in a warm, dry location. Ideal storage temperature +5 °C to +35 °C (+18 °C preferred)

Arma-Chek Silver tube installation

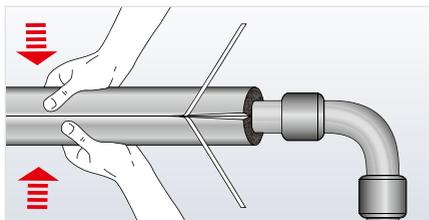


1. Open pre-slit Arma-Chek Silver and snap onto pipe (the release paper is still protecting the self-adhesive strip).

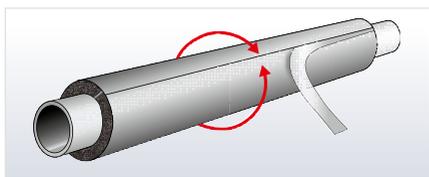


2. Remove the protection paper strip on both sides, by drawing it away from the insulation.

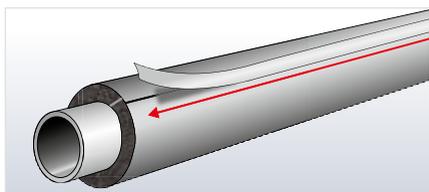
Please note: Remove protective release paper strip from both sides.



3. Close the slit seam and squeeze together with firm pressure to ensure a permanent seal.

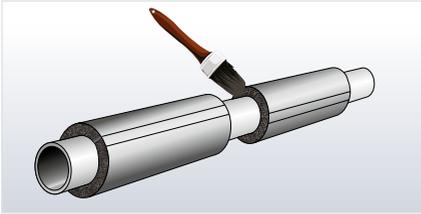


4. Now remove the protection paper on the self-adhesive strip on the foil.

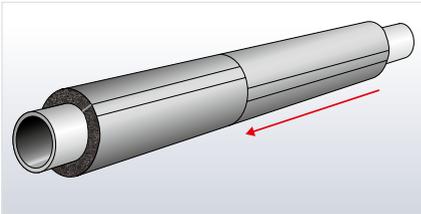


5. Cover the joint with the PSA self-adhesive tape, available in 30mm or 50 mm width.

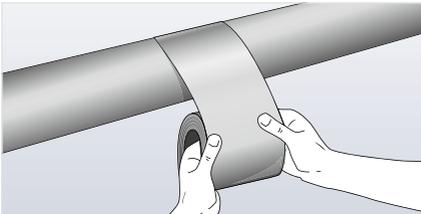
Consecutive installation of Arma-Chek Silver tubes and sheets



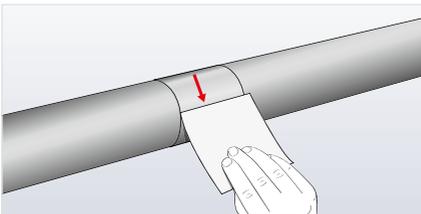
1. Put the tube or sheet on the pipe to join it with the previous one. Glue the elastomeric ends with Armaflex Adhesive 520.



2. Push the two sections together until the ends are joined.



3. Cover the seam with the PSA tape. Ensure a full overlap.

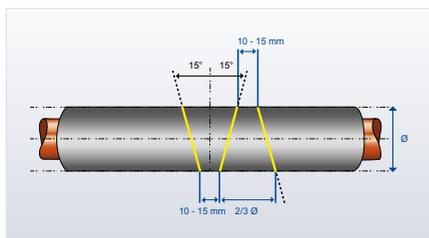


4. Use a flat plastic spatula to rub over the entire tape covering. Pay special attention to the edges and ends.

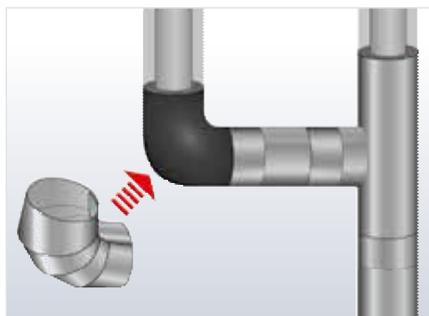
Insulating pipe bends

For pipe bends fabricate an Armaflex segment bend with 2 middle parts to install on the pipe. Bond the longitudinal seam with adhesive and also bond the butt ends of the Armaflex bend with the covered tubes on the straight pipes.

Segment bend with 2 middle parts - 2+2 using Arma-Chek Silver tube

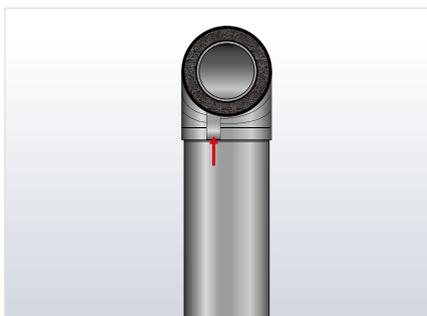


After gluing the Armaflex bend, cover it with an Arma-Chek Silver bend.



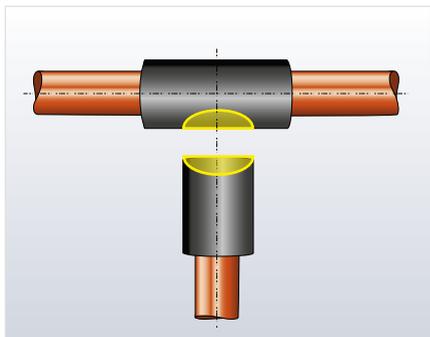
The correct size of the prefabricated covers for insulated pipe bends depends on the pipe diameter and insulation thickness. Consult the following table to select the correct prefabricated cover.

Max. pipe outer Ø (mm)	AF/Armaflex tubes					
	AF-1	AF-2	AF-3	AF-4	AF-5	AF-6
12	-	-	-	-	-	ACHB-070
15	-	ACHB-040	ACHB-040	ACHB-050	-	ACHB-080
18	-	ACHB-040	ACHB-050	ACHB-060	ACHB-070	ACHB-080
22	ACHB-040	-	ACHB-050	ACHB-060	-	ACHB-080
28	-	-	ACHB-060	ACHB-070	ACHB-080	ACHB-100
35	-	-	ACHB-070	ACHB-080	ACHB-090	ACHB-100
42	ACHB-060	ACHB-070	ACHB-080	ACHB-080	ACHB-100	ACHB-110
48	ACHB-070	-	ACHB-080	ACHB-090	ACHB-100	ACHB-120
54	ACHB-070	ACHB-080	ACHB-090	ACHB-100	-	ACHB-130
57	ACHB-080	ACHB-080	-	ACHB-100	-	ACHB-140
60	ACHB-080	ACHB-090	ACHB-100	ACHB-110	ACHB-120	ACHB-140
64	ACHB-090	ACHB-100	ACHB-100	ACHB-110	ACHB-120	ACHB-130
70	-	ACHB-100	ACHB-110	ACHB-120	ACHB-130	ACHB-140
76	ACHB-100	ACHB-110	ACHB-120	ACHB-120	ACHB-130	ACHB-170
89	ACHB-110	ACHB-130	ACHB-130	ACHB-140	ACHB-160	ACHB-180



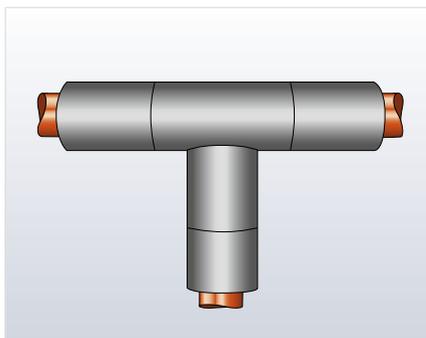
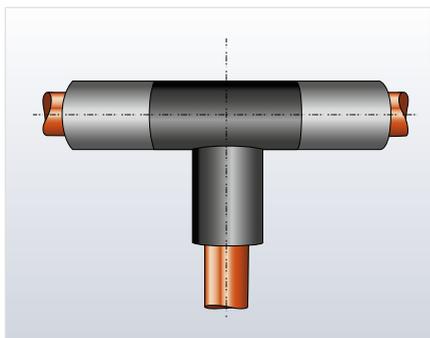
Secure the seam with Arma-Chek Silver PSA tape.

T-Section



Cut a hole in the non-covered Armaflex tube for the main pipe with a sharpened section of copper pipe of the correct diameter.

Prepare a saddle-cut at the end of a second piece of a non-covered Armaflex tube and glue it together, positioned over the hole of the main pipe insulation.



Afterwards install the T-piece section, gluing it onto the pipe and cover this area with the prefabricated Arma-Chek Silver T-piece.

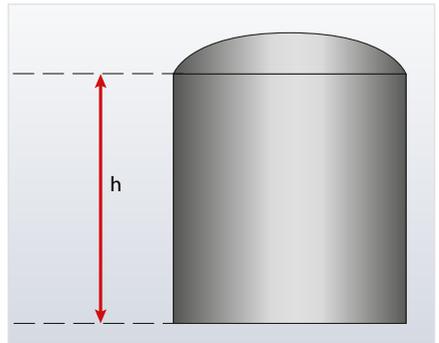
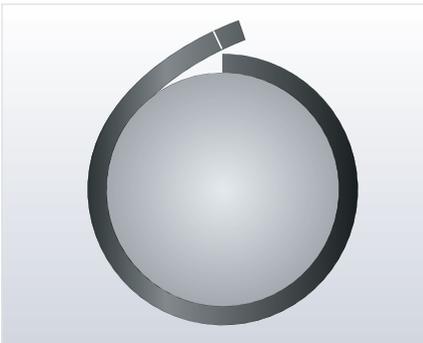
Finally all seams must be secured with PSA self-adhesive tape, which is available in 30 mm or 50 mm width.

Arma-Chek Silver sheet installation

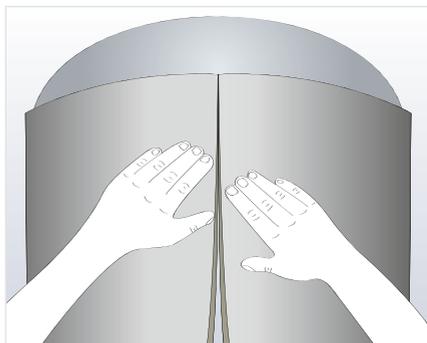
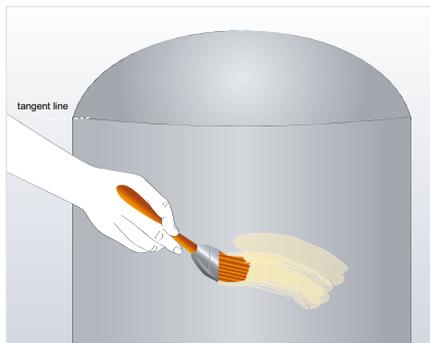
Covering spindle-neck valves, inclined-seat valves and strainers

Insulate with non-covered Armaflex as described in the Armaflex Application Manual, then cover with an Okabell metal jacket.

Insulating small ($\varnothing < 1.5$ m) tanks and vessels using Arma-Check Silver pre-covered sheets



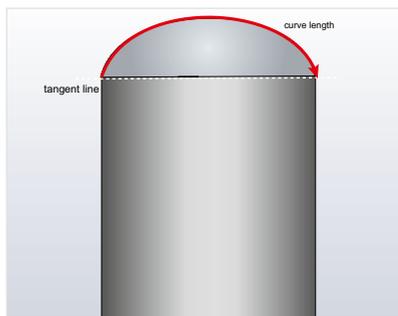
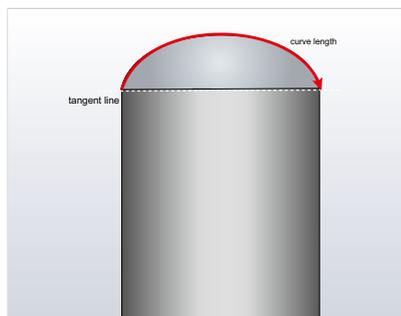
1. Determine the circumference of the tank.
Important: Always measure with a strip of Arma-Chek Silver sheet of the thickness to be used for the insulation.



2. Transfer the circumference to the Arma-Chek Silver sheet and cut to the required size. Spread a thin film of adhesive onto the Arma-Chek Silver sheet and then onto the metal surface. When the adhesive is tack dry (fingernail test) place Arma-Chek Silver sheet in position and press firmly to achieve a good bond. Fix the first Arma-Chek Silver sheet to the height of the tangent line.

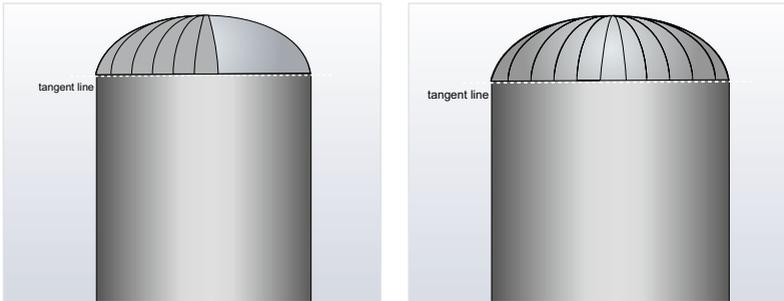
Covering vessel dome ends

When covering an Armaflex-insulated vessel dome end with Arma-Chek covering material it is necessary to cut out segments. Use enough segments to ensure that the material can be applied without wrinkles.



1. Determine the curve length (a) of the insulated vessel dome end using a tape measure.

2. Calculate or measure the circumference $C = \text{arc length} \times \pi$ and divide the circumference by the number of segments to be used.
3. Draw the segment shape on a piece of cardboard to create a template.
4. Use this template to draw and cut out the other segments.
5. Apply Armaflex adhesive to one side of the Arma-Chek Silver segment and also to the Armaflex installed on the vessel. Allow to tack dry before installing.



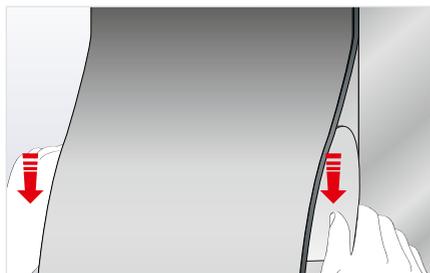
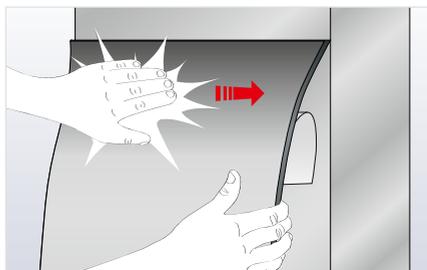
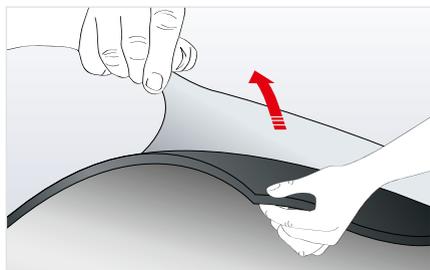
6. Butt up all vessel dome segments until the whole dome end is covered with Arma-Chek Silver.
7. Cover all seams and joint details using Arma-Chek Silver PSA Tape.
8. If the outer diameter of the vessel is larger than 500 mm, the Arma-Chek Silver factory-covered material must be fully glued to the metal surface (all-over adhesive coverage). Before gluing, use the Armaflex special cleaner to remove any oil, dirt or dust from the surface!

Covering rectangular air-duct systems

On large, flat areas the factory-covered Arma-Chek Silver sheet material has to be fully glued to the metallic surface with the original Armaflex adhesive.

Important: Before gluing clean metallic surfaces with Armaflex special cleaner!

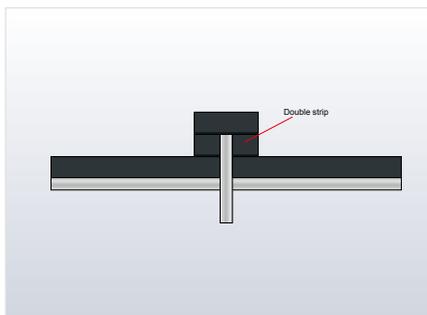
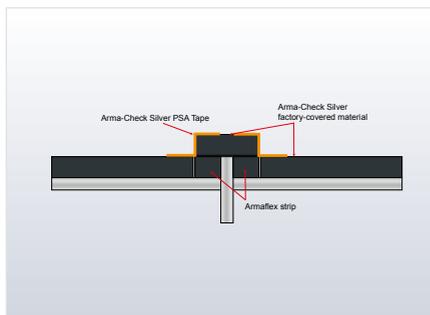
We recommend insulating air-duct systems with the Arma-Chek Silver self-adhesive system.



Peel back 10 to 20 cm of the protective foil and position the sheet.

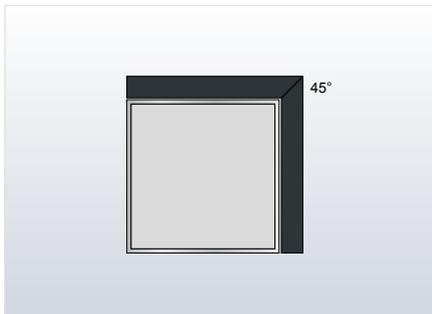
Then press this first section of the sheet very firmly onto the duct to activate the adhesive layer.

Continue to gradually peel back the protective foil and press the Arma-Chek sheet material onto the duct.



If the flange is much bigger than the insulation thickness, use the double-strip method.

Insulate the area of the ductwork which directly adjoins the duct flange with 50 to 100 mm wide strips of uncovered Armaflex (depending on the size of the duct). Afterwards insulate the flange with Arma-Chek Silver factory-covered material so that the uncovered area is covered. The last step is to secure all seams of the Arma-Chek Silver factory-covered material with PSA tape.



Especially on the corners of the flange, but also on all corners of the air-duct system, the Arma-Chek factory-covered sheets and strips can be cut with a 45° angle.

Circular ductwork is insulated and covered in the same way as pipes.

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