



CLEANER INDOOR AIR QUALITY
FOR OPERATIONAL RELIABILITY

ArmaFlex® Pro

The preferred dust- and fibre-free insulation
for cleaner indoor air quality and reliable
condensation control

Application Manual

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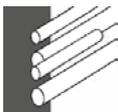
ArmaFlex Pro

Refer to this guide about Armacell's recommended installation method for this dust- and fibre-free material. **The preferred insulation for cleaner indoor air quality and reliable condensation control.**

BEFORE YOU START

// Installation tools

Prepare all the tools that you will require. Armacell recommends the use of good quality tools such as a sharp, non-serrated knife, fresh ArmaFlex 520 adhesive, a short, firm bristle brush and ArmaFlex cleaner for the installation of your ArmaFlex Pro product.

	Folding ruler / tape measure		Silver ink marker pen		Dividers
	Straight edge		Brushes with short, firm bristles		Short knife* 75 mm
	Chalk for marking irregular shapes		Smooth spatula		Long knife* 300 mm
	Scissors		Rollers for surface gluing		Sharpening stone*
	Callipers		Gluemaster		Sharpened pipe ends for the most common pipe diameters

*A three knife set plus sharpening stone are available together as a toolkit.

// Advice about ArmaFlex 520 adhesive

ArmaFlex 520 adhesive is a quick drying contact adhesive specially formulated for the uniform and safe seam bonding for ArmaFlex insulation materials (except ArmaFlex Ultima and HT/ArmaFlex). It is low viscosity for ease of use. When applied to clean surfaces and fully cured, it maintains high resistance to water vapour ingress.

Trusted for applications with operating temperatures up to +105 °C, the bond is resistant to weathering and ageing.

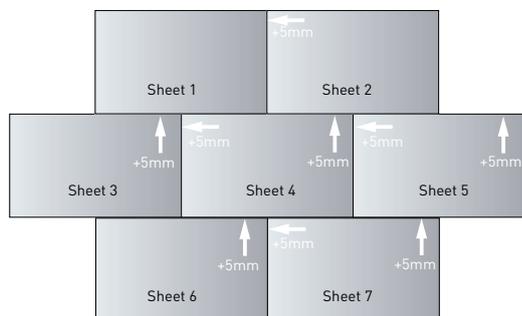


- 1 Before working with any adhesive, ensure that there is proper ventilation in the working area. Check the condition of the adhesive prior to use. ArmaFlex adhesive should be stored in a cool environment wherever possible. Refer to the product data sheet available on Armacell's website for detailed information about its shelf-life, transportation and storage.
- 2 Clean all surfaces to be joined with ArmaFlex cleaner prior to installation. Ensure that there is no dust, dirt, or oil on the surface of both the insulation material and on the duct surface. All joining surfaces must also be dry before applying any adhesive.
- 3 Pay close attention to installation instructions shown on the adhesive can. When adhesive is exposed, the solvent will evaporate and the viscosity will thicken. Use small cans of ArmaFlex 520 adhesive during application so that the adhesive does not thicken too quickly. Close the lid of the can(s) when not using the adhesive.
- 4 The ideal application temperature is between 15 °C and 20 °C. If the adhesive is too cold, warm the can 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, it is very difficult to glue the materials.
- 5 Shake the can well before opening. Stir the adhesive well after opening. If left to stand for long periods of time, heavier components in the adhesive may settle on the bottom of the can. These must be periodically mixed thoroughly before use to effectively activate the adhesive.



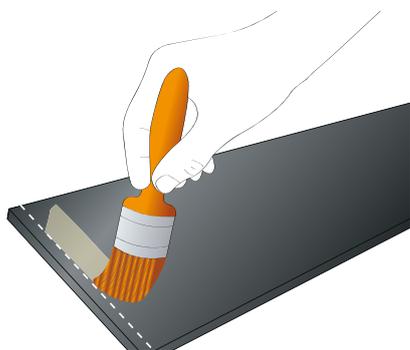
RECOMMENDED APPLICATION

①



Work out the most efficient way of covering the surfaces using ArmaFlex Pro. Ensure that sheet joints are staggered. Cut ArmaFlex Pro insulation sheets to size, including 5 mm of additional allowance on all sides to enable compression joints.

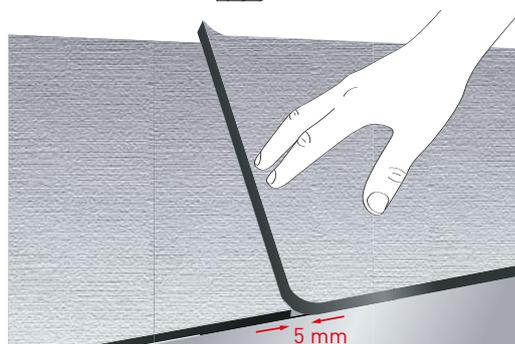
②



Leaving a gap of about 30 mm from the edge, apply a thin and even coat of ArmaFlex 520 adhesive onto both surfaces to be glued. When adhering ArmaFlex Pro to other materials (e.g. metal), apply adhesive to the insulation material first, then on the other clean surface.

Use a brush with short, stiff bristles and keep clean. For larger areas a (non-foam) paint roller or the ArmaFlex Gluemaster may be used to speed up application.

③



All seams are joined wet. Attach the connecting sheet with adhesive and an overlap of 5 mm. Press the overlapping butt joint for added compression. Seal the seam with aluminum foil tape.

The glued surfaces should be pressed together, not stretched. Do not leave glued seams on top of the insulation in external locations. When working outdoors, always turn the glued seams away from the sun.

// Advice about reinforced aluminum tape

- Follow the manufacturer's instructions regarding the width of reinforced aluminum foil tape to be used.
- If no instructions are provided, use foil tapes with a minimum width of 50 mm for insulation thicknesses up to 25 mm or a foil tapes with a minimum width of 75 mm for insulation thicknesses up to 50 mm.
- Reinforced aluminium foil tape must be applied with pressure by rubbing the external surface of the tape repeatedly with a flat and blunt object.
- Any tear or exposed seam must be covered with reinforced aluminium tape.
- Follow the surface contour when applying tape. Avoid excessive tension on tape.
- Seal all joints in a continuous manner. Ensure a minimum overlap of 50 mm.

// In hot and humid environments

High atmospheric humidity and high temperatures lead to faster evaporation of the solvent in ArmaFlex 520 adhesive. This means that a film of moisture may appear on the surface of the adhesive and reduce the strength of surface adhesion. Under these conditions, the following points may be observed as an alternative to our standard installation recommendation.

- Apply a thin uniform layer of ArmaFlex 520 adhesive as usual on both surfaces.
- Hold both surfaces to be glued together with pressure whilst wet.
- Due to the shorter curing time, the adhesive should only be applied to a limited area at a time. Depending on atmospheric humidity, temperature, material thickness and practical installation conditions, we recommend a length of around 1 m as a guideline.

To avoid tension within the material and prevent the trapped solvent from opening the seam, seams should be held in place with aluminium tape immediately after gluing. Apply the aluminium tape at right angles to the glued seam at every 20 cm.

// On concrete

Before you begin adhering ArmaFlex Pro directly onto dried concrete surfaces with ArmaFlex 520 adhesive, review the following before application.

- In the first step, ensure that the concrete surface is in a fit-for-purpose condition. This means that the surface is clean and dry, free from any contamination such as oils, mould or flakes.
- Porous concrete surfaces should be treated to prevent ArmaFlex 520 adhesive from being absorbed into the concrete mass. Consider one of these two options:
 - 1 Seal the concrete surface with a liquid sealant designed specifically for concrete. Allow the sealant to cure fully according to the manufacturer's instructions.
 - 2 Apply a very thin layer of adhesive all-over adhesive coverage layer of 520 adhesive to the concrete surface. Allow the adhesive to cure for 36 hours.

Once the above is completed, apply ArmaFlex 520 adhesive according to Armacell's recommendations for installing ArmaFlex on flat surfaces.

// Advice about application on concrete

- Both surfaces (insulation material and concrete) should have complete adhesive coverage. Spot/partial adhesive application will not provide sufficient adhesion strength.
- A small bonding application test should be carried out before starting the full project. Cut the intended insulation material (same thickness as to be installed) in square pieces measuring 200 mm x 200 mm. Adhere these to the concrete surface according the recommended steps above. Once this is completely dry, peel the samples away. If the samples were correctly applied onto the concrete surface, the structure of the insulation material will be physically damaged during this removal attempt.

// Advice about fasteners

- Fasteners are recommended if additional support is needed, such as when applied on the ceiling. Use appropriate insulation fasteners with a minimum head diameter of 35 mm to secure the insulation material evenly distributed at 0.5 m to 1 m apart. Seal the fastener with aluminium foil.

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ABOUT ARMACELL

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With 3,200 employees and 24 production plants in 16 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next generation aerogel blanket technology.

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