

INSTALLATION GUIDELINE

Type: Fixing "Fusion-Type" Glass Mosaics onto Rendered Masonry Walls in Interior "Dry" Areas



1 December 2024

IMPORTANT:

- **NB: This Installation Guideline is applicable to Glass Mosaics with individual tesserae not exceeding 100 x 100mm. Please contact the TAL Technical Advice Centre should any one edge of the glass tesserae exceed 100mm.**
- **Installation Guidelines are issued for information purposes only, and should not be used as a project specification.**

Please contact the TAL Technical Advice Centre to ensure you have the latest version of this Installation Guideline, as products and application procedures can change.

- **As each and every project needs to be assessed individually on its own merits and characteristics, please contact the TAL Technical Advice Centre for a project-specific detailed materials and methods specification for specific projects.**
- **It is important that the tile selected is suitable for the application, preferably against a written Supplier's specification. Factors such as water absorption, irreversible moisture expansion, MOR and PEI ratings, chemical resistance and overall stability of the product need to meet the requirements of the service conditions.**

NB: The backs of all tiles must be clean and free from all traces of dust and contaminants which could impair adhesion.

THE TAL PRODUCTS REQUIRED FOR THIS INSTALLATION ARE AS FOLLOWS:

TAL KEYCOAT + TAL KEYMIX*
TAL MOSAICFIX
TAL BOND
TAL SEALMASTER CORD
TAL GOLDSTAR SEALMASTER 1000

NB: Prior to commencing the installation, please refer to the instructions on the packaging and in the product data sheets for more detailed information pertaining to substrate preparation, product mixing and application, curing times, etc. The products must be applied following a good standard of workmanship.

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SPECIAL NOTE MUST BE TAKEN OF THE FOLLOWING:

Glass Products:

- Glass products, being reflective and translucent, will immediately show defects that might not be as visible with opaque (ceramic and porcelain) tiles and mosaics.
- The adhesive bed thickness should not exceed 5mm when using glass products 4mm or thinner.
- Due care must be taken during application and cleaning to ensure that the face of the glass products do not get scratched. The use of soft applicators and cleaning equipment is essential.
- Movement joints ('Soft' Joints) must be created in both directions at maximum 2 metre centres, as well as at interfaces between glass tiles and other finishes (ie other tiles, metal trims, etc).
These joints must be a minimum of 5mm wide, must extend through the tile and adhesive layers, and must be filled with a good quality resilient joint sealant material.

Important:

The adhesive bed must never be built up, or “packed” behind glass products (mosaics or tiles), even when using shrinkage-compensated adhesives.

In instances where glass tiles are to be installed as feature panels/bands between thicker ceramic or porcelain tiles, a suitable shrinkage-compensated levelling compound (or even a modified rapid-setting shrinkage-compensated adhesive such as TAL MARBLEFLEX) should first be used to achieve the bulk of the difference in thickness between the two products.

The first layer of levelling compound/adhesive should be trowelled in a solid bed onto the wall substrate first and allowed to dry (minimum 12 hours, or as per manufacturer's instructions). Thereafter the tile adhesive can be trowelled onto the cured levelling compound/adhesive, and the glass tiles bedded into wet adhesive.

Mosaics:

To facilitate ease of handling, mosaics are assembled as sheets, the individual tessera being glued either face-down onto paper or plastic (paper-faced mosaics), or bed side down onto a synthetic mesh backing, fabric, or onto small tabs. Paper-faced mosaics are preferable since they allow full contact to be achieved with the adhesive bedding.

When sheets are assembled by means of a backing mesh, the mesh should be made of water-resistant synthetic fabric such as nylon, and not from cotton or paper.

In the case of a mosaic that has been assembled with a fabric backing or tabs, the following is critical for a successful installation :

- the fabric or tabs and the bonding adhesive should not occupy more than 25% of the areas of each tessera; the critical factor is the contact of the adhesive with the backs of the tessera, and
- the fabric or tabs and the bonding adhesive should be water resistant, should not weaken when exposed to moisture, and should be compatible with the adhesive bed
- the backs of the sheets must be clean and dry, and not contaminated with dust or powder

Furthermore

- The installation of mosaics requires a clean, sound, flat and level substrate. Variations in levels in the substrate must be rectified prior to the mosaic installation.
- The installation of mosaics requires effective supervision and the employment of skilled operatives. Good adhesive mixing and application procedures, as well as consistent and accurate installation techniques are essential.
- The mosaics should be FIRMLY bedded into the adhesive to ensure good contact between the adhesive and tile.

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- All mosaics should be inspected, and loose or damaged tesserae removed and replaced before installation. Please refer to the manufacturer’s instructions regarding cleaning and maintenance of these mosaics after installation.

Adhesive System:

We have specified TAL MOSAICFIX quick-setting adhesive, **mixed with TAL BOND as a total water replacement in the adhesive mix**, adhesive for this installation.

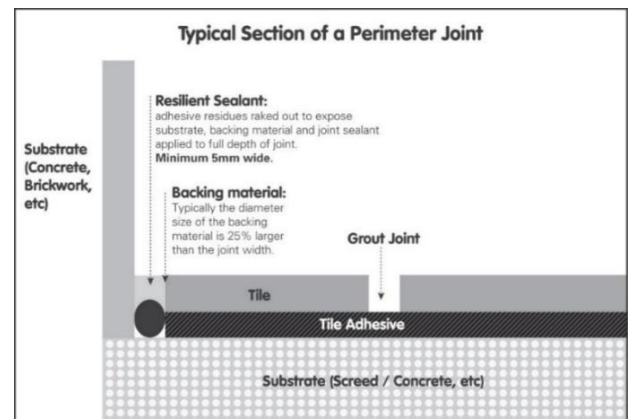
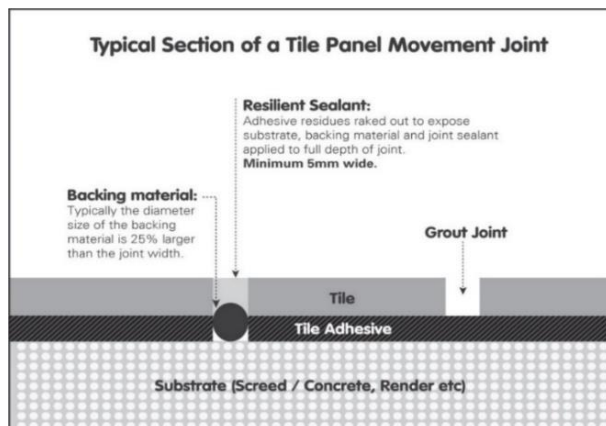
TAL MOSAICFIX is available in Super White and Light Grey. White adhesives are preferred for the installation of glass mosaics, as a grey adhesive may slightly alter the aesthetic appearance of the glass.

Tile Panel Movement Joints & Perimeter Joints:

It should be noted that the lack of, *or poorly constructed*, intermediate tile panel movement joints and perimeter joints in a tile installation is a major cause of tile failure.

Joints must be created at the required spacing and must be well raked out to remove all traces of adhesive residues, debris, contamination, etc, ie the joint must extend through the tile and tile adhesive layers down to the substrate.

These joints must be filled with and sealed with a suitable backing cord/tape and resilient joint sealant material in accordance with the manufacturer’s instructions.



Application Conditions:

Cold Ambient Conditions

Cold ambient conditions will not only impact on the temperatures of the adhesive, grout and mixing liquid (water or additive used in the adhesive and grout mix), but also the temperature of the substrate and tiles.

NB: Longer setting and curing times should thus be anticipated and catered for during extreme cold conditions.

High Ambient Conditions

As indicated on the product data sheets, warm weather conditions (generally, temperatures above 30°C) may shorten the working time of the mixture, and may even result in flash-setting of rapid- or quick-setting adhesives.

High ambient conditions will also impact on the temperatures of the adhesive and grout, mixing liquid (water or additive used in the adhesive and grout mix), substrate (concrete or screed), and tiles.

It is thus important when elevated ambient conditions are encountered that the materials (adhesives, liquids, tiles, etc) are stored in interior, cool conditions prior to use to reduce the risk of too-rapid setting.

NB: Never add more liquid to a mix which has been left standing for too long, as this will compromise the integrity of the product.

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1. BACKGROUND PREPARATION

- 1.1 **Allow all new wall rendering to cure for at least 14 days.**
- 1.2 The rendering must be firmly attached to the substrate, must be integrally sound (no crumbling, cracking, etc) and must be of a quality and consistency suitable for tiling. All damaged, defective, deteriorated or hollow sounding areas must be removed and made good before proceeding. **Renderers should be left with a woodfloated finish and must not be skimcoated with gypsum plaster.**
The substrate must be clean and dry and free from all traces of dust, loose particles and surface contaminants which could impair adhesion.
- 1.3 If the surface has been woodfloated it is possible to commence tiling. However, if the surface has been steelfloated it will be necessary to first key the surface with a slurry consisting of 1 part TAL KEYCOAT to 2 parts TAL KEYMIX powder or 2 parts TAL MOSAICFIX powder (by volume), applied using an appropriate builder's block brush and ensuring complete coverage of the substrate. Allow this slurry coat to dry for 4 – 6 hours before applying the adhesive. *

2. ADHESIVE SYSTEM

- 2.1 **Add 20kg TAL MOSAICFIX quick-setting adhesive to 6 litres of TAL BOND (replacing the water in the mix)** and mix to a smooth, creamy consistency.

Alternatively, TAL BOND POWDER may be added to the adhesive mixing water at a ratio of 1 x 1kg sachet per 20kg TAL MOSAICFIX, ***strictly in accordance with the product instructions.***

2.2 **Paper-Covered Mosaics**

- 2.2.1 The adhesive is applied to the surface in a solid bed of 4 – 6mm. (The adhesive can be applied using a NOTCHED FLOOR TROWEL, and the adhesive then smoothed with the straight edge of the trowel to flatten the ridges.)
- 2.2.2 The mosaics are pre-grouted by working adhesive into the joints between the mosaics from the back.
- 2.2.3 Immediately, **FIRMLY** bed the mosaics into the adhesive on the background. A wooden beating block or rubber grouting float can be used to create a flat surface.
- 2.2.4 Allow the adhesive to dry sufficiently, and then gently remove the paper covering on the mosaics with a dampened sponge. **Excessive water must be avoided as this may compromise the integrity of the adhesive.** If necessary, fill any voids or depressions with the adhesive mixture.

2.3 **Mesh-Backed Mosaics**

- 2.3.1 The adhesive is applied to the surface in a solid bed of 4 – 6mm. (The adhesive can be applied using a NOTCHED FLOOR TROWEL, and the adhesive then smoothed with the straight edge of the trowel to flatten the ridges.)
- 2.3.2 Immediately, **FIRMLY** bed the mosaics into the adhesive, ensuring that the adhesive penetrates (oozes) through the mesh-backing into the joints between the tesserae. A wooden beating block or rubber grouting float can be used to create a flat surface.

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- 2.3.3 Allow the adhesive to set for approximately 20 minutes to ensure that the mosaic sheets are not disturbed. Thereafter, fill the joints with the same adhesive. In this instance a 'wet to wet' bond between the bedding and grouting is preferred.
- 2.3.4 For areas larger than 1m², it may be necessary to mix fresh adhesive for filling the joints to ensure that the adhesive is still workable and of a consistency suitable for filling the joints.

2.4 General

- 2.4.1 At no time spread more adhesive than can be tiled onto in 10 – 15 minutes. This prevents the adhesive from drying or “skinning” before the tiles are applied.
- 2.4.2 Pot life of the adhesive will vary with climatic conditions. Under no circumstances should adhesive which has been left standing for too long be reconstituted by adding more liquid.
- 2.4.3 Leave a 'grout joint' between the mosaic sheets, the same width as the joints between the mosaics on the sheets.
- 2.4.4 Do not tile over structural, expansion or cold joints in the background. These joints must be extended through the various layers to the surface.
- 2.4.5 **Gently clean any excess adhesive off the face of the mosaics immediately – do not allow the adhesive to dry on the face of the tiles.**
- 2.4.6 **Due care must be taken during application and cleaning to ensure that the face of the glass products do not get scratched. The use of soft applicators and cleaning equipment is essential.**

3. MOVEMENT JOINTS

- 3.1 It should be noted that the lack of movement joints in a tile panel is a major cause of tile failure. They should be specified at the design stage to avoid spoiling the visual effect of the tiles.
- 3.2 **Movement joints should be located in both directions at maximum 2 metre centres for this application.**
Movement joints must also be created at the interfaces between glass mosaics and other finishes, eg other tiles, trims, door frames, etc.
- 3.3 **Movement joints should also be made in all vertical and internal corners/interfaces, against obstructions fixed to the structural background and over all discontinuities in building materials, eg at interfaces of concrete and brickwork. In addition, movement joints must be located around any fixtures protruding through the tiled surface.**
- 3.4 **The joints should be at least 5mm wide and extend through the adhesive and tile layers. All construction / cold joints and structural joints in the background must be extended through the adhesive and tile layers to the surface in the form of tile panel movement joints. With regards to structural joints, the full width of the structural joints must be respected and extended through the adhesive and tile layers to the surface.**
- 3.5 Where practical, the bulk of the depth of the movement joint can be filled with TAL SEALMASTER CORD.

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- 3.6 Seal the joint using TAL GOLDSTAR SEALMASTER 1000 polyurethane joint sealant in accordance with the manufacturer's instructions. It is important that the joint sealant bonds only to the sides of the movement joint (edges of tiles).
- 3.7 For the key requirements common to all tiling situations, please refer to SANS 10107, Code of Practice for the Design and Installation of Ceramic Tiling.

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