

Tuesday, 12 January 2016

GENERAL SPECIFICATION FOR FIXING 'FUSION TYPE' GLASS MOSAICS ONTO INTERIOR RENDERED WALLS

Please note that 'general' specifications are issued for information purposes, and should not be used as project specifications.

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.

The backs of all tiles must be clean and free from all traces of dust and contaminants.

Please note that any "wet" areas, such as showers or balconies, should be waterproofed using TAL SUPERFLEX I or TAL SUREPROOF waterproofing compounds prior to commencing tiling. Please feel free to contact us for a specification for waterproofing and tiling these areas, as well as for technical literature on any of our products.

TAL PRODUCT REQUIREMENTS

The TAL products required for this installation are as follows :

TAL KEYCOAT *
TAL MARBLEFIX
TAL BOND / TAL BOND POWDER
NOTCHED FLOOR TROWEL
TAL SEALMASTER CORD
TAL GOLDSTAR SEALMASTER 1000

SPECIAL NOTE MUST BE TAKEN OF THE FOLLOWING :

Glass Products :

- Glass products are impervious as well as brittle and rigid and therefore require a flexible rapid-setting high-strength shrinkage-compensated adhesive system. Failure to use a flexible adhesive system will result in any movement being transferred directly to the glass. Glass products, being reflective and translucent, will immediately show defects that might not be as visible with opaque (ceramic and porcelain) tiles and mosaics.
- It must be noted that glass tiles are reflective products, and any inconsistencies in the surface will show through after the tile is installed. For the installation of this type of material it is imperative that the substrate to be tiled is clean, sound, flat and level. Variations in levels in the substrate must be rectified prior to the glass tile installation.
- The installation of glass products requires good adhesive mixing and application procedures, as well as consistent and accurate installation techniques.
- The adhesive bed thickness should not exceed 5mm when using 4mm glass products.
- Due care must be taken when apply the adhesive to ensure that the face of the glass products do not get scratched.
- Movement joints ('Soft' Joints) must be created at **maximum 2 metre centres** in both directions, 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.

Mosaics :

The bonding and grouting of mosaics should be done in one operation in order to provide a strong installation. The mosaics should be FIRMLY bedded into the adhesive to ensure good contact between the adhesive and tile.

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 application of mosaics requires effective supervision and the employment of skilled operatives
- the bonding and grouting of mosaics should be done in one operation in order to provide a strong installation
- the mosaics should be FIRMLY bedded into the adhesive to ensure good contact between the adhesive and tile
- all mosaics should be inspected, and loose or damaged tessera removed and replaced before installation

Please refer to the manufacturer's instructions regarding cleaning and maintenance of these mosaics after installation.

Tile Panel Movement Joints & Perimeter Joints :

It should be noted that the lack of movement joints in a tile panel, or poorly constructed joints, 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. These joints must be filled with TAL GOLDSTAR SEALMASTER 1000 Polyurethane Joint Sealant (and suitable backing cord where applicable) in accordance with the manufacturer's instructions.

(See later detail of correctly constructed tile panel movement joint and perimeter joint.)

1. **BACKGROUND PREPARATION**

- 1.1 **Allow all new wall rendering to cure for at least 14 days.** 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. Renders should be left with a woodfloat finish and should not be skimcoated with gypsum plaster. **The surface must be clean, dry, firm and sound and free from all traces of dust, loose particles and surface contaminants.**
- 1.2 If the surface has been woodfloated (rough) it is possible to commence tiling. However, if the surface has been steelfloated (smooth, dense) 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 MARBLEFIX powder (by volume), which is applied by block brush. Allow this slurry coat to dry for 4 – 6 hours before applying the adhesive. *

2. **ADHESIVE SYSTEM**

2.1 **Mosaics with tessera smaller than 50mm**

- 2.1.1 Add 20kg TAL MARBLEFIX light-coloured rapid-setting adhesive to **5.5 litres of TAL BOND (replacing the water in the mix)** and mix to a 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 MARBLEFIX, or TAL MARBLEFLEX single-part flexible light-coloured rapid-setting adhesive may be used. When using TAL MARBLEFLEX no additives are required, simply mix with clean water, alleviating possible mixing errors on site.

2.2 **Mosaics with tessera larger than 50mm**

- 2.2.1 Add 20kg **TAL MARBLEFLEX** flexible light-coloured rapid-setting adhesive to **5.5 litres of TAL BOND (replacing the water in the mix)** and mix to a 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 MARBLEFLEX.

2.3 **Paper-Covered Mosaics**

- 2.3.1 The adhesive is applied to the surface in a solid bed of 4 – 6mm. The mosaics are pre-grouted by working adhesive into the joints between the mosaics from the back.
- 2.3.2 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.
- 2.3.3 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.

2.4 **Mesh-Backed Mosaics**

- 2.4.1 The adhesive is applied to the surface in a solid bed of 4 – 6mm. Immediately, **FIRMLY** bed the mosaics into the adhesive. A wooden beating block or rubber grouting float can be used to create a flat surface. Allow the adhesive to squeeze out through the joints between the mosaics to form the grout. If necessary, fill any voids or depressions in the joints with extra adhesive.

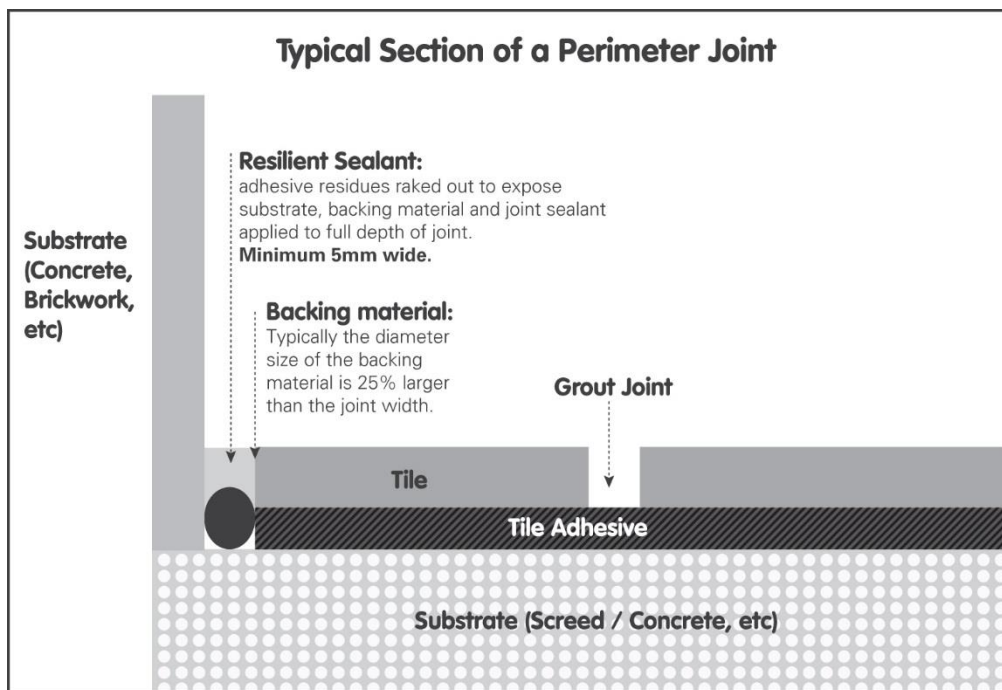
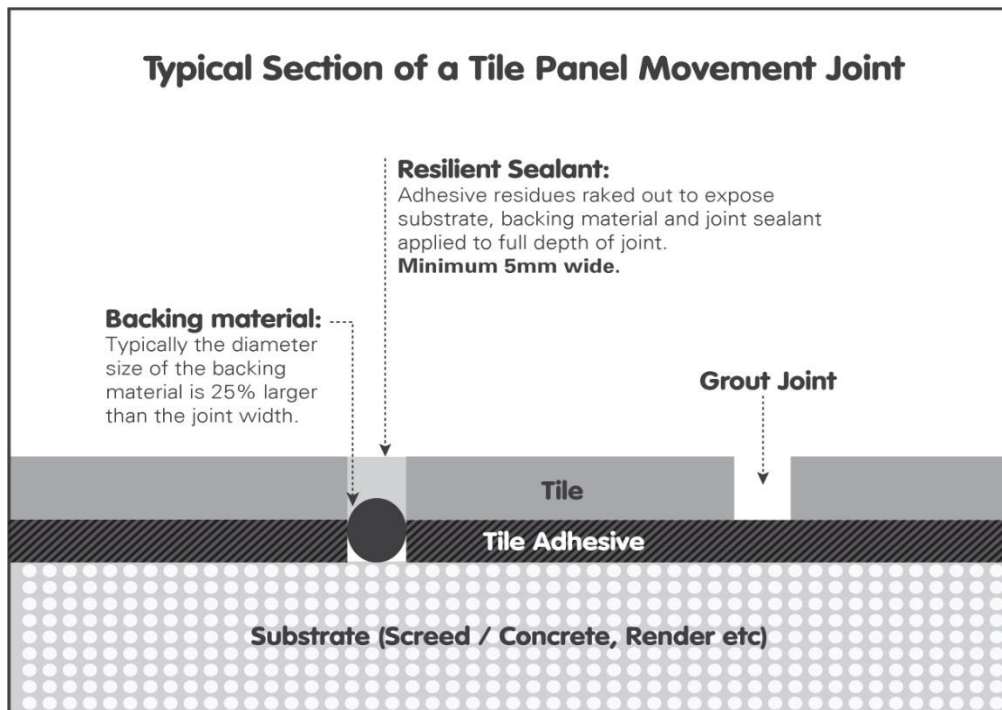
NOTE : The adhesive bed thickness should not exceed 5mm when using glass products which are 4mm or thinner.

2.5 **General**

- 2.5.1 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.)
- 2.5.2 **Gently** clean any excess adhesive off the face of the mosaics before it hardens.
- 2.5.3 At no time spread more adhesive than can be tiled onto in 10 – 15 minutes. Depending on atmospheric conditions, this will normally be around 1 square metre. This prevents the adhesive from drying or “skinning” before the tiles are applied.
- 2.5.4 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.
- 2.5.5 Leave a ‘grout joint’ between the mosaic sheets, the same width as the joints between the mosaics on the sheets.
- 2.5.6 Do not tile over structural, expansion or cold joints in the background. These joints must be extended through the various layers to the surface.
- 2.5.7 **Due care must be taken to ensure that glass mosaics do not get scratched by the adhesive during application and cleaning.**

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.**
- 3.3 **Movement joints should also be made in all internal corners and 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.
Movement joints (‘soft’ joints) must also be created at the interfaces between glass mosaics and other finishes (ie other tiles, metal trims, etc).
- 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.
- 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.
- 3.7 For the key requirements common to all tiling situations please refer to SANS 10107-2011, Code of Practice for the Design and Installation of Ceramic Tiling.



Should you require any further assistance or have any queries regarding the above, please do not hesitate to contact us. Assuring you of our best attention at all times.

Yours faithfully

SHARON MARGON
TECHNICAL ADVICE SUPERVISOR

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