

Monday, 19 August 2013

## **GENERAL SPECIFICATION FOR FIXING EXTRUDED TILES (GAIL, INTERBAU, NCI, VTIRO, ETC) ONTO INTERIOR SURFACE BEDS AND SUSPENDED SLABS**

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 dust and contaminants.**

Please note that any "wet" areas, such as showers or balconies, should be waterproofed using TAL SUPERFLEX 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.

### **Special note must be taken of the following :**

#### **Tiles :**

These tiles (extruded and/or glazed stoneware) tend to have characteristics similar to those of porcelain tiles, ie very low water absorption rates (0.5% or less) and extremely dense bodies, necessitating the use of adhesives with higher bond strengths than conventional (standard setting) adhesives.

**Adhesive System :**

We have specified the use of a **rapid setting** high strength adhesive for the installation of these tiles. However, if timing on this project allows for a **quick setting** adhesive option, then TAL Gold Star 12 can be considered.

The advantages of using TAL Gold Star 12 are as follows :

- TAL Gold Star 12 has a longer pot life (pot life of 4 hours, grout after 6 – 8 hours, and traffic after 12 hours)
- TAL Gold Star 12 is more cost effective than TAL Gold Star 6

**It is however important that newly installed tiles are protected from traffic (other trades, etc) for a minimum of 12 hours, while the adhesive sets. This is especially important in high traffic areas and fast-track installations.**

**Suspended Applications :**

Tiling onto SUSPENDED concrete slabs require special precautions to be taken as the installation is prone to increased movement caused by slab deflection and creep, loading on the slab, etc. TAL BOND needs to be incorporated in the adhesive mix or a single part flexible adhesive such as TAL GOLDFLEX needs to be used to allow for the increased movement.

**TAL PRODUCT REQUIREMENTS**

The TAL products required for this installation are as follows :

TAL KEYCOAT \*  
 TAL GOLD STAR 6  
 TAL QUARRYGROUT / TAL STAIN FREE GROUT  
 TAL BOND  
 NOTCHED FLOOR TROWEL  
 SPACERS  
 TAL SEALMASTER CORD  
 TAL GOLD STAR SEALMASTER 1000

**1. BACKGROUND**

- 1.1 Allow all new concrete work and screeds to cure for at least 28 days before proceeding. All new concrete work and screeds must have a moisture content of 5% or less before tiling can be commenced. When tiling directly onto concrete, ensure that the surfaces are clean and free of all traces of curing agents, laitance and any other surface contaminants, preferably by scarifying.
- 1.2 Any screeding must be firmly attached to the underlying concrete, must be integrally sound (no crumbling, cracking, etc) and must be of a quality and consistency suitable for tiling. All damaged, defective or hollow sounding areas must be removed and the floor made good before proceeding, using TAL RAPIDFIX or TALCEM. The surface must be clean and dry and free of all traces of dust, debris, loose particles and surface contaminants before proceeding.
- 1.3 If the surface has been woodfloated (rough) it is possible to commence tiling. However, if the surface has been powerfloated or steelfloated (smooth, dense), it will be necessary to first key the surface with a slurry consisting of 1 part TAL KEYCOAT to 2 parts cement (by volume), which is applied by block brush. Allow this slurry coat to dry for 4 – 6 hours before applying the adhesive.\*

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## 2. **ADHESIVE SYSTEM**

### 2.1 **Surface Beds**

2.1.1 Apply TAL GOLD STAR 6 rapid-setting adhesive to the background using a notched trowel.

### 2.2 **Suspended Slabs**

2.2.1 Apply TAL GOLD STAR 6 rapid-setting adhesive mixed 20kg with 5 litres of TAL BOND **(replacing the water in the mix)** to the background using a notched trowel.

**Alternatively**, apply TAL GOLDFLEX flexible rapid-setting adhesive to the background using a notched trowel. No additives or surface priming agents are required, simply mix with clean water, alleviating possible mixing errors on site.

### 2.3 **General**

2.3.1 **In this tiling situation it is imperative that there is a solid bed of adhesive at least 6mm thick beneath each tile.** We would recommend the use of a notched FLOOR TROWEL.

2.3.2 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.

2.3.3 Bed dry tiles (do not soak) firmly into the wet adhesive with a twisting action to ensure full contact between the background, tiles and adhesive. Tiles should be well tapped home with a rubber mallet or the wooden handle of a trowel. It is sound practice to remove the occasional tile to ensure that good contact has been achieved.

2.3.4 When using heavily lugged tiles, or tiles with a very irregular back profile, it is good practice to butter the back of each tile, ensuring that the grooves or dovetails are completely filled with adhesive.

2.3.5 Clean off any surplus adhesive remaining on the face of tiles and between the joints with a damp sponge before the adhesive dries.

2.3.6 Never butt joint tiles. Joints are required to allow the individual tiles to move with respect to each other and thus avoid a compressive stress build-up. They are also required as vents for the tile adhesive to cure. The joints between these tiles must be a minimum of 5mm wide, or as per manufacturer’s instructions.

2.3.7 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.

2.3.8 Do not tile over structural, expansion or cold joints in the background. These joints must be extended through the various layers to the surface.

## 3. **GROUTING**

3.1 Grouting must not be carried out until sufficient bond has developed between the bedding mix and the tiles to preclude disturbance of the tiles during the grouting operation. Allow a minimum of 4 hours before grouting.

### 3.2 **Surface Beds**

#### 3.2.1 **Option 1 : TAL Quarrygrout**

3.2.1.1 Use grey or coloured TAL QUARRYGROUT for filling tile joints 5mm and wider. TAL QUARRYGROUT is suitable for use in joints up to 25mm wide.

### 3.2.2 **Option 2 : TAL Stain Free Grout**

- 3.2.2.1 Use Light Grey TAL STAIN FREE GROUT for filling tile joints up to 12mm wide. TAL STAIN FREE GROUT is especially designed to drastically reduce the staining of highly porous tiles such as sandstone and slate, overcoming the "picture-frame" effect encountered with conventional grouts.

## 3.3 **Suspended Slabs**

### 3.3.1 **Option 1 : TAL Quarrygrout**

- 3.3.1.1 Use grey or coloured TAL QUARRYGROUT mixed 20kg with 5 litres of TAL BOND **(replacing the water in the mix)** for filling floor tile joints 5mm and wider. TAL QUARRYGROUT is suitable for use in joints up to 25mm wide.

### 3.3.2 **Option 2 : TAL Stain Free Grout**

- 3.3.2.1 Use Light Grey TAL STAIN FREE GROUT mixed 20kg with 6 litres of TAL BOND **(replacing the water in the mix)** for filling tile joints up to 12mm wide. TAL STAIN FREE GROUT is especially designed to drastically reduce the staining of highly porous tiles such as sandstone and slate, overcoming the "picture-frame" effect encountered with conventional grouts.

## 3.4 **General / WARNING :**

- 3.4.1 Particular care must be taken to clean the grout off the tile face before it hardens completely. This is especially important when a latex additive such as TAL BOND has been used.

**NOTE: greater care may be required with some types of tiles, ie those with textured and/or unglazed surfaces.**

- 3.4.2 A sample of the tiles to be used should be tested beforehand to ensure that no grout is absorbed through the glaze, or into the tile body, causing permanent staining of the tiles.
- 3.4.3 It is important to use the stipulated amount of liquid in the TAL Grout mixture. When cleaning, a **damp, not wet**, sponge must be used. Over hydration (too much water) of the mix, or in cleaning, causes colour variations in the grout joints, and also affects the integrity of the grout, resulting in a friable product.

## 4. **MOVEMENT JOINTS**

- 4.1 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 placing them in heavy traffic areas and spoiling the visual effect of the tiles.
- 4.2 Movement joints should be located in both directions at maximum 5 metre centres for interior surface bed applications, and maximum 3 metre centres for suspended applications.
- 4.3 Movement joints should also be located around the perimeter of all floors, in all vertical corners, against obstructions fixed to the structural background and over all discontinuities in building materials, e.g. at interfaces of concrete and brickwork. In addition, movement joints should be located around any fixtures protruding through the tiled surface such as columns or stairs.
- 4.4 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.
- 4.5 Where practical, the bulk of the depth of the movement joint can be filled with TAL SEALMASTER CORD.

- 4.6 Seal the joint using TAL GOLD STAR 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.
- 4.7 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 sincerely

**SHARON MARGON**  
**TECHNICAL ADVICE SUPERVISOR**

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