TECHNICAL BULLETIN – TB114

TILING OVER POLYESTER-FIBREGLASS AND OTHER POLYMER DECORATIVE SURFACES

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INTRODUCTION & SCOPE

Situations arise where a customer may want to tile over rigid surfaces made of polyester resin, phenol or urea-formaldehyde (melamine, Laminex®, Formica® etc.), acrylic or Lexan® sheeting or similar surfaces. The most common cases are polyester or acrylic shower bases, pool copings and existing bench tops.

The adhesion of tile adhesives on these surfaces is problematic, and in this bulletin, we shall briefly look at this application.

MELAMINE, LAMINEX®, FORMICA® AND SIMILAR FINISHES

These materials are well known as decorative finishes on bench tops, cupboards and splash backs. The surfaces are very smooth and glossy, and chemically inert. *Adhesion to this surface with tile adhesives can be problematic*. The ARDEX tile adhesive OPTIMA can provide adhesion, but the surface requires sanding to provide a rough finish which promotes adhesion.

Even after this preparation, there are no guarantees that long term adhesion will be obtained. When in doubt the best course of action is not to tile over these surfaces.

ACRYLICS AND POLYCARBONATES

These are normally supplied in sheet form, though acrylic is used for shower bases and bathtubs. The surfaces are normally very smooth, shiny and chemically inert. Plastics of this type are also highly flexible.

ARDEX *does not recommend* the application of its tile adhesives over these materials.

POLYURETHANE MOULDINGS AND COATINGS

Some wall claddings and other bathroom fittings are made from or coated with a hard, shiny polyurethane. They are very inert with hard and smooth shiny finishes that do not take adhesives or coatings.

ARDEX *does not recommend* the application of its tile adhesives over these materials.

STRUCTURAL NYLONS AND POLYOLEFINS

These plastics are not encountered often in areas to be tiled, but questions are asked occasionally. Nylon is a strong plastic that is often used for engineering applications, whilst polyolefins are plastics such as polyethylene and polypropylene. They are all very inert with hard and smooth shiny finishes that do not take adhesives or coatings.

ARDEX *does not recommend* the application of its tile adhesives over these materials.

POLYVINYL CHLORIDE PVC

The main application for ARDEX products onto PVC is usually for waterproof membranes applied over floor wastes or other mouldings in the floor or shower base area. To obtain a good bond, the PVC fittings are primed with plumber's 'pink primer' that is normally used with PVC cement. Once the primer is tacked off the membrane can be applied over it.

POLYESTER FIBREGLASS SURFACES

The most common applications for this plastic are pool liners, shower bases and membranes. Polyester resins when cured are hard, smooth and commonly shiny. The resins normally contain fillers such as talc or ground limestone and a pigment. The upper-most layer is a gel coat, and the glass reinforcement mat is held in a sandwich layer.

MEMBRANES AND PREFORMED SHOWERS

When used as a membrane, polyesters are usually encountered in showers and on decks or verandas.

The preformed shower modules and bases are commonly made of fibreglass (or acrylics). In both of these situations tile adhesion to the surface will require roughening of the topcoat by sanding or grinding, which risks compromising the membrane and water sealing.

ARDEX *does not recommend* the application of its tile adhesives in preformed shower *modules* for the reason mentioned above. In addition, these fittings are able to move excessively when not properly supported. Pre-formed shower *bases* are discussed in Technical Bulletin TB238 which describes systems for these bases.

Where the fibreglass is a laid membrane, direct adhesion is not recommended and where possible a self-supporting sand/cement screed should be placed over the polyester/fibreglass and this used as the tiling substrate.

SWIMMING POOL SHELLS

With regards to tiling *within* a fibreglass pool, pond shell or water feature *below the waterline*, ARDEX *does not recommend* the use of any of its adhesives, and this applies to the tile adhesives recommended in masonry pools, ARDEX OPTIMA and ARDEX X77 + ARDEX E90.

SWIMMING POOL COPINGS

The more common application is applying water line border tiles, or copings around the pool rim. As with other fibreglass applications, to obtain maximum adhesion the surface needs to be roughened, and by doing so the waterproofing qualities may be compromised, and the glass fibres exposed.

- Prepare by grinding to expose fibres
- Apply continuous skim coating of OPTIMA to seal exposed fibres
- Adhesive fix tiles to skim coat, again using OPTIMA

Where the tiles are on the coping, they can be subjected to high leverage forces when swimmers climb in and out of the pool, using the tile as a grip. High bond strengths are required to resist this force and adhesives such as ARDEX WA100 or ARDEX WA can provide that strength.

The tiles often span the pool ring boundary where the liner contacts the surrounds (usually masonry). Tiles must not be bonded across this joint as the two materials can move to different degrees resulting in tile de-bonding or cracking.

The tile adhesive ARDEX OPTIMA will bond the tiles at the coping and water line, but users need to recognise that good adhesion is dependent on the surface preparation mentioned, which in turn may compromise the pool waterproofing integrity.

In view of this, users are advised that other forms of water-resistant construction adhesive may be more suitable in this application.

IMPORTANT

This Technical Bulletin provides guideline information only and is not intended to be interpreted as a general specification for the application/installation of the products described. Since each project potentially differs in exposure/condition specific recommendations may vary from the information contained herein. For recommendations for specific applications/installations contact your nearest Ardex Australia or Ardex New Zealand Office.

DISCLAIMER

The information presented in this Technical Bulletin is to the best of our knowledge true and accurate. No warranty is implied or given as to its completeness or accuracy in describing the performance or suitability of a product for a particular application. Users are asked to check that the literature in their possession is the latest issue.

REASON FOR REVISION – ISSUER

PERIODIC UPDATE

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