



TECHNICAL BULLETIN – TB071

WATERPROOFING AND TILING EXTERNAL COMPRESSED FIBRE CEMENT (CFC) SHEETED BALCONIES

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INTRODUCTION & SCOPE

Ardex Australia Pty Ltd has prepared guidelines for waterproofing and installing a ceramic tile surface finish over CFC sheeting on external balconies.

The waterproof membrane is flexible enough to accommodate the anticipated movement in the balcony structure and incorporates required bond breakers and membrane reinforcement across the joints.

The bonding and finishing of the ceramic tile surface incorporate adhesives and grouts that also produce a flexible bond while providing the required service performance.

QUALIFICATIONS

All surfaces are to be structurally sound with movement characteristics less than 1/360th of the span between the supports.

The Compressed Fibre Cement sheeting shall be firmly screw-fixed to the support structure in accordance with the sheet manufacturer's recommendations. Mechanical fixings such as screws shall be countersunk, filled, and sanded to a smooth substrate surface finish.

The Compressed Fibre Cement sheets will be installed with falls to outlets where a waterproofing membrane is applied directly over the sheet. Falls to waste shall be a minimum of 1:100 (i.e., approx. 20mm in 2m) before waterproofing. Ensure outlet pipes are fixed securely, and the waste or drainage flanges are recessed into the floor.

Install suitable flashing, ideally before installing the balcony screen/sliding door.

Prepare and seal all wall/floor junctions with a bead of neutral cure silicone.

The membrane shall be applied up the step-down and as far up underneath the screen door flashing as possible (ideally waterproofing it before installing the door).

Membrane application shall be applied to the entire balcony/deck floor and at least 100mm up the wall above the top surface of the finished tiles and finished below the wall drainage vents.

The membrane shall be applied down over the front edge of the balcony onto the drip rail.

Any gaps around balcony or deck penetrations shall be sealed before membrane application.

Membrane shall be applied down into outlets and drains and ensure excess material is removed.

All weep holes shall be above the membrane application area.



PREPARATION

The Fibre Cement Sheeting shall be sanded to a smooth, plane finish and vacuumed to remove all loose particles. All surfaces should be dry, clean, and free of dust, grease, and loose contaminating materials.

Place a foam backing rod into the sheet joints to a depth equal to half the distance between the sheets. Fill the joints above the backing rod with a good-quality neutral cure silicone, extending to 5mm on either side of the horizontal surface adjacent to the joints and spreading to a thickness of 1.0mm.

Apply a bead of neutral cure silicone or other suitable bond breaker along all internal corners (e.g., wall/floor junctions). This bond breaker should be extended approximately 6mm on either side of the corner or joint.

Ensure surfaces are thoroughly dry and apply one coat of ARDEX WPM 265 water-based primer at a coverage rate of 5 - 6 square metres per litre to treat all surfaces. Allow the primer to dry (at least 30 minutes) before applying the next coating. Plastic (e.g., PVC) pipes should be primed with a solvent-based plumber's pink primer. Prime metal surfaces with a suitable metal primer, such as epoxy polyamide primer.

Alternative primers for external applications are ARDEX WPM 270, a solvent-based primer for dry substrates, or ARDEX WPM 300 HydrEpoxy, a two-part, water-based epoxy for damp substrates with no surface water present.

INSTALLATION OF WATERPROOF MEMBRANE

Apply a liberal stripe coat of ARDEX WPM 001, ARDEX WPM 130, ARDEX WPM 002, or ARDEX WPM 155 Rapid Plus waterproofing membrane across all joints and corners extending not less than 120mm on either side of the joint or corner and, while the coating remains wet and fluid, lay ARDEX Deckweb equidistantly across the corner or joint. Knead the ARDEX Deckweb into the underlying layer, ensuring no creases, folds, or air pockets, to wet out the ARDEX Deckweb thoroughly. Only apply the membrane to a sufficient area to allow the ARDEX Deckweb to be laid while the coating remains wet.

As soon as all corners and joints have been reinforced, a full coat of ARDEX WPM 001, ARDEX WPM 130, ARDEX WPM 002, or ARDEX WPM 155 Rapid Plus shall be applied to all surfaces to be treated by brush or roller application techniques to achieve a wet film thickness of not less than 1.0mm.

Allow the preceding coat to cure hard (normally at least 2 hours) and apply a further coat of ARDEX WPM 001, ARDEX WPM 130, ARDEX WPM 002, or ARDEX WPM 155 Rapid Plus membrane to all surfaces to be treated by brush or roller application techniques to achieve a wet film thickness of not less than 1.0mm.

Ensure the membrane is applied up all walls at least 100mm above the finished tiled surface or as per AS 4654.2

Allow the membrane to dry, following the manufacturer's instructions before fixing the tiles.

ADHESIVE FIXING OF TILES

Suitable adhesives for fixing tiles to ARDEX WPM 001, ARDEX WPM 130, ARDEX WPM 002, or ARDEX WPM 155 Rapid Plus externally are ARDEX X77, ARDEX Optima, ARDEX Abaflex, ARDEX X18 and ARDEX X56.



When using ARDEX X56 externally, sufficient falls should be installed so that no water ponding occurs.

Apply the adhesive to ensure a minimum dry bed of 3mm is achieved. As a guide, a 10mm x 10mm (minimum size) notched trowel can be used for floors. Follow packaging instructions in conjunction with product data sheets.

Press and slide the tile at right angles to the notch pattern to ensure 100% coverage on the back of the tile. Deeply keyed quarry tiles and some extruded tiles may require buttering of the adhesive on the back of the tile to ensure 100% coverage. Occasionally remove tiles and check there are no voids in the adhesive layer.

Provide movement joints in accordance with Australian Standard AS3958. Joints are to be placed along all perimeters against walls, columns, penetrations, and fittings such as sanitary items and joinery fittings.

NOTE: For balcony decks with the waterproof membrane applied over the compressed fibre cement sheet and tiles directly fixed over the membrane, control joints in the tiling must correspond with sheet joints.

Ensure joints between tiles are clean and free from excess adhesive. With porous tiles, dampen joints and tile edges with water (but not so wet that water remains in the joints) before grouting to avoid dehydration of the grout.

Do not grout until the adhesive has set firmly. All "spacers" must be removed from joints.

Grout the tile finish after the adhesive has dried for at least 24 hours using the ARDEX FG8 mixed with an 80% to 20% blend of ARDEX Grout Booster and water where the joints between tiles are up to 8mm wide. Allow the grout to cure and dry for 24 hours before subjecting the area to normal loads.

ARDEX SE or ARDEX ST Silicone should be used for the movement joints and corners (wall to floor). Where possible, the ARDEX silicone should be at a 2:1 ratio width: depth). For internal joints, the width and depth of the joint should be a minimum of 6mm, and for external joints, 10mm. A backing rod should be used for joints greater than 10mm deep. When using over unglazed porous tiles, mask the joint edges with tape. Clean off any excess while the silicone is still wet.

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 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

Content review, change of company slogan and address and product inclusions

DOCUMENT REVIEW REQUIRED

36 months or whenever third-party suppliers change their recommendations.

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