



## SRO928 – TILING IN SWIMMING POOLS

### SCOPE

This recommendation is regarding the adhesive fixing of tiles in structurally sound, concrete/concrete masonry swimming pools and includes waterproofing of the pool shell if required. While waterproofing is not always required for in-ground concrete pools, it can prevent issues from ground water saturating the concrete and affecting the internal finish. It is required for suspended pools. This recommendation follows the guidelines of AS3958.1-2007, Appendix E, and ARDEX Technical Bulletin TB088.

### PREPARATION

- All concrete shall have been wood float finished and completed the recommended (AS3958) 6 weeks curing & drying period to allow for any shrinkage to occur.
- The surface shall be mechanically prepared (e.g. by grinding, abrasive blasting with non-metallic grit, or similar methods) to remove all contaminants (such as curing compounds and laitance) and to scarify smooth steel trowel finished concrete and achieve a fine profiled open pored surface.
- Vacuum to remove any residual dust.
- All holes/voids in the concrete are to be filled with either a patching mortar or a render mortar. Patch mortars such as the [ARDEX BR 120 FC](#) / [ARDEX BR 345](#) system are applied prior to application of a waterproofing membrane system.
- Renders and screeds are applied to achieve a suitable surface for adhesive fixing of tiles and/or waterproofing membranes. Rendering applies particularly to core-filled reinforced concrete block walls while topping screeds will smooth uneven floors.
- Typically the render/screed mortars consist of sand & cement mixed with [ARDEX WPM 405](#) liquid additive in the ratios given on the [ARDEX WPM 405](#) product data sheet. The mixed mortar is applied over still wet, fresh bonding slurry that has been applied to the prepared surface.
- The render/screed is left to dry for a minimum of 18 hours prior to application of a waterproofing membrane system.
- The render/screed is left to dry for a minimum of 21 days is the tiles are to be adhesive fixed directly to these surfaces.

### TREATMENT OF CRACKS & JOINTS

All cracks in concrete substrates shall be filled with a suitable system for example [ARDEX RA 88](#) or [ARDEX RA 142](#).

Movement joints in the pool shell are to be filled with a flexible sealant suitable for immersed conditions such as [ARDEX ST](#) Silicone and the joint then covered with the [ARDEX Construction detail Bandage](#) that is fixed into place using the [ARDEX EG-15](#) epoxy resins. These joints must be maintained through the tile finish.



Cold joints in concrete constructions can be treated using the ARDEX Waterproofing membrane with embedded [ARDEX Deckweb](#) polyester fabric along the line of the joint.

#### **WATERPROOFING**

- Prime all surfaces with one coat of [ARDEX WPM 300](#) mixed in the following ratio: 1 volume part A to 1 volume part B to 1 volume of water. Apply the mixed [ARDEX WPM 300](#) with brush or roller and work well into the surface. Let dry to touch dry state (approx. 4 hours) and then apply a coat of [ARDEX WPM 300](#) undiluted at not more than 3m<sup>2</sup> per litre and let dry 24 hours.
- Apply two coats of [ARDEX WPM 002](#) two part waterproofing membrane to achieve the recommended minimum 1.2mm dry film thickness. Allow approx. 4 hours drying of the first coat before application of the second coat of membrane.
- Allow the completed membrane to dry for 24 hours prior to adhesive fixing the tiles.

**Note:** the membrane application shall include [ARDEX ST](#) neutral cure silicone bond breakers in all internal corners with [ARDEX Deckweb](#) polyester bandage embedded in the membrane applied over these bond breakers in accordance with the instructions of the product data sheet.

#### **TILING**

The selected tiles must be suitable for immersed conditions as confirmed by the tile manufacturer. Mesh mounted mosaic tiles may have water-soluble mesh-tile adhesive and/or the mesh adhesive may have applied excessively so that the tile adhesive is unable to achieve adhesion to the tile body and thereby introducing a high risk of loss of bond.

The tile adhesives shall be rated according to ISO13007 criteria as C2S1 or R1 types. The following ARDEX adhesives are suitable:

- [ARDEX X 18](#)
- [ARDEX X 77](#)
- [ARDEX X 77](#) + [E90 additive](#)
- [ARDEX X 18](#) + [E90 additive](#)
- [ARDEX Optima](#)
- [ARDEX WA 100](#) (shell must be completely dry)
- [ARDEX WA Epoxy](#) (shell must be completely dry)

The mixed adhesive shall be spread over the wall surfaces using a suitable notched trowel in accordance with the recommendations of AS3958. The lines of adhesive are to be parallel horizontally across the wall and additional adhesive shall be buttered



over the back of tiles larger than 400 x 400mm. The tile is then firmly pressed into the adhesive with a back and forth sliding action across the lines of adhesive to collapse and merge the adhesive lines to achieve maximum contact between the tile and the substrate. ARDEX recommends a minimum adhesive contact of 90% to both the tile and the pool substrate.

## GROUTING

Once the adhesive has dried for 72 hours, the tiles may be grouted using one of the flowing ARDEX grouts:-

- [ARDEX FG 8](#) sanded cement based grout mixed with [ARDEX Grout Booster](#) diluted with 20% water for joints from 1 to 8mm and is a general purpose grout available in a large range of colours
- [ARDEX FS-DD](#) un-sanded cement based grout mixed with [ARDEX Grout Booster](#) diluted with 20% water for joints 1 to 4mm. This is recommended for polished tiles with rectified edges as the grout has a smooth finish and is available in a range of colours.
- [ARDEX WJ 50](#) sanded cement based grout mixed with undiluted [ARDEX Grout Booster](#) for joints 5 to 50mm
- [ARDEX WA](#) Epoxy 2 part grout available in black, grey or white for installations where high standards of hygiene and/or chemical resistance are required.
- [ARDEX EG-15](#) Epoxy 3 part grout for installations where high standards of hygiene and/or chemical resistance are required. It is available in 8 colours and is suitable for grout widths ranging from 1.5 to 15mm.

## MOVEMENT JOINTS

Movement joints are to be included in the new tile finish in accordance with the recommendations of AS3958. These joints are installed (but not limited to) in the following locations:

- Over all existing movement joints in the substrate.
- At all internal corners/changes in direction in the plane of the substrate.
- Along all perimeters where the tiles butt against walls and/or fittings.
- Around all penetrations through the tile finish.

Movement joints should be at least 6mm wide and are filled with a flexible sealant such as the [ARDEX ST](#) silicone. The [ARDEX ST](#) is a neutral cure sealant for use in immersed conditions. Compressible backer rods may be required in deeper joints to maintain the recommended sealant thickness at half the joint width.



*Disclaimer:*

*The recommendation selected is based upon questions answered on the ARDEX Australia website. This recommendation is designed as a general application for your described situation and should not be considered site specific documentation for general distribution. Always consult the latest relevant ARDEX Technical Bulletins and information on the product packaging and/or product data sheets (available on the ARDEX Website). Australian and other relevant standards should be followed during installation. If you have any further questions or would like further clarification please contact the ARDEX Technical Services Hotline on 1800 224 070 (9am to 5pm Monday to Friday).*