



## SRO902 – TILING ON AGED CONCRETE

### Internal Dry Area floors only

#### SCOPE

This recommendation relates to tiling over aged concrete substrates in internal dry areas.

#### PREPARATION

Aged concrete floors may exhibit evidence of rising damp as well as a variety of cracks. The procedure begins by determining if the floor is structurally sound and suitable for adhesive fixed tile floor finishes. If the floor is deemed to be sound (by a professional) with no vertical displacement of one side of the crack relative to the other, cracks in the floor may be treated by one of the following methods;

1. Use the ARDEX injection systems as described in Technical Bulletin **TB206**
2. Use an ARDEX patching mortar as described in Technical Bulletin **TB206**
3. Use the ARDEX Decoupling mat systems such as [ARDEX DS 40](#), [ARDEX DS 60](#), [ARDEX UI 720](#) or [ARDEX UI 740](#). Decoupling mats may only be used after issues such as cracks in floors and/or rising damp have been dealt with.

Mechanically (i.e. by grinding, shot-blasting or scabbling techniques) prepare the surface to remove all contaminants such as concrete curing compound residues, residues such as old adhesive residues, plaster droppings, paint over-spray and/or laitance. Steel trowel finished concrete shall also be prepared to achieve a fine textured profile similar to a wood float finish to open the pores/capillaries in the concrete surface. Vacuum to remove dust.

#### PRIMING

Prepared standard concrete substrates can be primed using water based primers such as [ARDEX Multiprime](#) or [ARDEX P 9](#). However concrete with a compressive strength greater than 35MPa shall be primed with [ARDEX P 9](#) or [ARDEX P 82](#) primer after mechanical preparation.

Aged concrete floors exhibiting rising damp can be treated with an ARDEX Moisture Barrier system that is compatible with the tile adhesives. These are the [ARDEX WPM 300](#) Hydroepoxy (2 part water borne epoxy) and the [ARDEX WPM 368](#) (1 part moisture barrier). These are both applied at not more than 3m<sup>2</sup> per litre per coat.

- The [ARDEX WPM 300](#) shall be applied in 2 coats with at least 4 hours drying between coats. As the second coat is applied ARDEX Primer sand is broadcast over the wet surface.
- The [ARDEX WPM 368](#) shall be applied in 2 coats with at least 2-4 hours drying between coats. This material already contains granular material as a key for the adhesives so does not need to have sand broadcast.



## TILING

Tiles should be fixed in accordance with Australian Standard AS 3958. The type and size of the tiles determines the selection of the trowel. As a general guide, use at minimum a 10 x 10 x 10mm notched trowel. Achieve minimum 80% coverage in residential and 90% coverage in commercial areas. The tiles must be pressed firmly into the freshly combed mortar bed to ensure good contact with the mortar. Slide the tile at right angles to the notch pattern to ensure maximum coverage on the back of the tile. Tiles with ribbed or keyed back profiles should also be back-buttered to ensure complete coverage. Tiles greater than 400 x 400 mm should be back-buttered. Lift a tile from time to time to check appropriate coverage and that there are no voids beneath the tile. Any surplus adhesive must be removed from the surface of the tile and joints, before the adhesive sets. Do not spot fix.

The following table lists the adhesives to fix different tile types to the prepared concrete;

Tile type	Good	Better	Best
<b>Porous Bodied Tiles</b> Terracotta	X7 ; X10 ; X17	X18 ; X52	Abaflex
Glazed Ceramic	X7 ; X10 ; X17	X18 ; X52	Abaflex
<b>Glazed mosaic</b>	X10 ; X17 ; X52	X18 ; Abaflex ; X77	Optima ; X18 with E90
<b>Dense bodied tiles</b> Vitrified/porcelain/glass	X10 ; X17 ; X52	X18 ; Abaflex ; X77	Optima ; X18 with E90
<b>Natural Stone tile</b> <i>Not sensitive to moisture from the adhesives</i>	X10 ; X17 ; X52	X18 ; Abaflex ; X77	WA100 ; S28
<b>Natural Stone Tiles</b> <i>Moisture Sensitive</i>	WA100 ; S28	Refer to Ardex Technical Bulletin TB010	

Note : As an optional add-on, you can use [ARDEX E 90](#) with X77, S28, X18 and X10 as detailed in **TB231**. This will greatly improve their performance and longevity.

## GROUTING

Once the adhesive has set, (in most cases this is overnight but refer to the adhesive datasheet) the tiles may be grouted with one of the following ARDEX grouts:



- [ARDEX FG 8](#) sanded grout for joints from 1 to 8mm and is a general purpose grout available in a large range of colours.
- [ARDEX FS-DD](#) un-sanded grout 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 grout 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 designed for grout widths 1.5mm to 15mm.

**Note:** ARDEX cement based grouts may be mixed with [ARDEX Grout Booster](#) for increased performance such as resistance to water penetration, reduced potential for efflorescence, greater strength and flexibility.

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 built in furniture.
- Around all penetrations through the tile finish.
- At not more than 6m intervals in both directions of a grid pattern.

Movement joints should be at least 6mm wide and are filled with a flexible sealant such as the [ARDEX SE](#) or [ARDEX ST](#) silicone for natural stone. 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).*