



SRO913 – TILING ON INTERNAL CONCRETE WALLS

SCOPE

This recommendation is regarding tiling onto internal concrete walls. The concrete may be cast in-situ or may be formed from precast panels that are erected on site.

PREPARATION

All new concrete shall have completed the recommended curing & drying periods of 4-6 weeks prior to the commencement of tiling. The surfaces shall be mechanically prepared (e.g. by grinding, needle gun scabbling, abrasive blasting with non-metallic aggregate) to remove all contaminants such as concrete curing compounds, form release agents, paint over-spray, waxy/oily residues and laitance to achieve a fine textured surface with open surface pores. The surfaces shall be vacuumed to remove any residual dust.

Joints between the precast concrete wall panels are filled with flexible sealants and must be maintained in tile finish.

Any cracks in the concrete may be repaired using one of the crack repair systems offered by ARDEX such as [ARDEX RA 88](#).

Any voids or minor surface irregularities in the wall substrate may be repaired using one of the ARDEX repair mortar/fairing coat systems such as [ARDEX BR 120 FC / ARDEX BR 345](#), [ARDEX A 45](#) or [ARDEX WPM 405](#) improved sand/cement mortar. Where reinforcing steel is exposed, the [ARDEX BR 120 FC / ARDEX BR 345](#) system is applicable after all corrosion products have been removed from the steel and the steel has been coated with [ARDEX BR 10 ZP](#).

Where the wall surface requires a render coat to achieve an overall flat surface, sand & cement mortar mixed with [ARDEX WPM 405](#) additive as per the product data sheet can be used as can the ARDEX range of wall renders.

PRIMING

The prepared surfaces may be primed with one of the following ARDEX primers:

- [ARDEX Multiprime](#) – water based primer for porous substrates
- [ARDEX P 9](#) Primer – recommended for dense (high compressive strength) concrete such as precast panels
- [ARDEX WPM 368](#) – recommended for damp concrete.

TILING

ARDEX Technical Bulletins **TB001** & **TB148** provide guidelines for the adhesive fixing of tiles to wall surfaces. These guidelines, in the absence of an Australian Standard, recommend adhesive only for fixing tiles up to 60kg/m² and/or up to 3m height. Where these limits are exceeded, additional mechanical support fixings must be provided. The bulletins suggest metal angles as one type of support although other systems are now available. In addition, The Australian Stone Advisory Association (ASAA) Design Manual lists some of the types of mechanical support fixing more commonly used with heavy stone tiles.



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 least a 6 x 6 x 6mm notch trowel for wall tiling. Achieve minimum 65% coverage in residential and 80% 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 ARDEX adhesives are suitable;

	Good	Better	Best
Porous Bodied Tiles Terracotta and Glazed Ceramic	X7 ; X10	X17 ; X18	X77
Glazed Mosaics	X10 ; X17	X18 ; X77	S28*
Dense Bodied Tiles Vitrified/Porcelain	X10 ; X17	X18 ; X77	S28*
Natural Stone Tiles (excluding moisture Sensitive tiles)	X10 ; X17	X18 ; X77	S28*
Natural Stone Tiles (Moisture Sensitive Tiles)	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.

*Dry areas only



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

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.

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).