



SRO925 – TILING ON CONCRETE WALLS EXTERNALLY

SCOPE

This recommendation is regarding the adhesive fixing of tiles to **external concrete walls** in residential and commercial situations.

PREPARATION

The concrete shall have completed the recommended curing & drying periods of 4-6 weeks and shall have a maximum variation in the plane of the surface of not more than 4mm over 2m as recommended in AS3958. Greater variation in the plane of the concrete surface will require a render coat to achieve a suitably flat surface suitable for the adhesive fixing of tiles.

Note: the larger the size of the tile, the more critical it is to have a flat substrate surface.

All wall surfaces to be tiled are to be mechanically (e.g. by grinding, needle gun scabbling, high pressure water blasting or abrasive blasting with non-metallic aggregate) prepared to remove all contaminants such as formwork release agents, laitance & contaminants from other trades (e.g. paint over-spray) as well as exposing any air pockets in the concrete. All protrusions and sharp edges are to be ground flat. Holes/voids in the prepared surface may be filled with a proprietary patch mortar such as the [ARDEX BR 120 FC](#) / [ARDEX BR 345](#) system or [ARDEX A 46](#) or a sand/cement render mortar improved with [ARDEX WPM 405](#) additive. The preparation is to achieve an open pored surface compatible with the tile adhesives. Remove (vacuum or brush) any residual dust from the prepared surface.

WATERPROOFING

Waterproofing of walls that form the outer wall of habitable areas is recommended prior to tiling although not included in this recommendation.

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

External environments can be stressful on tile finishes with a wide variety of climatic variables such as temperature, pollution and moisture content as well as wind velocity to withstand. Thus the tiles to be fixed should be mechanically strong with low rates of water absorption. The size of the tiles can be variable although tiles larger than say 600 x 600mm become difficult to manhandle and install and darker shades will require higher quality adhesives.



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 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 proprietary systems are now available. In addition, ASAA Design Manual lists some of the types of mechanical support fixing more commonly used with heavy stone tiles.

	Suitable ARDEX Adhesives
Porous Bodied Tiles Terracotta and Glazed Ceramic	X17 ; X18 ; X77 ; X7+E90 ; X10+E90
Glazed Mosaic	X18 ; X77 ; X7+E90 ; X10+E90 ; WA100
Dense Bodied Tiles Vitrified/porcelain/glass	X18 ; X77 ; X7+E90 ; X10+E90 ; WA100
Natural Stone Tile Excluding stone that is sensitive to moisture from tile adhesives	X18 ; X77 ; X7+E90 ; X10+E90 ; WA100
Natural Stone Tiles Moisture Sensitive stone	WA100

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

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% between the tile and the substrate on all external walls.

GROUTING

Once the adhesive has set, the tiles may be grouted with one of the following ARDEX grouts.

- [ARDEX FG 8](#) sanded grout for joints from 1 to 8mm 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 is 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.

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
- At not more than 4.5m 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](#) silicone or [ARDEX ST](#) neutral cure 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).