



## SRO926 – TILING ON RENDERED WALLS EXTERNALLY

### SCOPE

This recommendation is regarding adhesive fixing of tiles to rendered surfaces of external walls. In accordance with the recommendations of AS3958, **all brick** walls are to be rendered prior to tiling while rendering is recommended for concrete block masonry construction.

**Note:** *This System Recommendation does not include waterproofing of the rendered wall prior to tiling.*

### PREPARATION

Cement based renders are applied to smooth concrete and/or masonry (block and brick) wall surfaces in accordance with the recommendations of AS3958 to achieve a flat surface suitable for the adhesive fixing of tiles with the adhesive layer at a relatively constant thickness. In addition, the render provides a more uniformly porous surface, including over the mortar joints, that assists the adhesive in achieving maximum bond strength as it sets.

A suitable render mix consists of 3 to 4 parts (by weight) of sand to 1 part cement mixed with a solution of 1 volume of [ARDEX WPM 405](#) additive in 4 volumes of water. This mortar mix is applied over a bonding slurry coat consisting of 1 volume of [ARDEX WPM 405](#) in 1 volume of water and mixed with 1 volume of cement. The slurry coat is applied to the wall substrates and the mortar applied immediately to the wet slurry and firmly pressed & worked in to achieve full contact. The recommended thickness of the render is 15mm. Initially the render should be kept damp (minimum 3 days) to minimise the development of cracking due to rapid moisture loss.

- The render coat shall have dried for at least 7 days if applied to dry brick/block substrates.
- The render shall have dried for a further 14 days if applied to concrete block walls within 7 days of the blocks being core filled with concrete.
- New render shall be wood float finished and free of all contaminants such as curing compounds and/or laitance.
- All contaminants such as paint, white set gypsum based plasters, waxy/oily residues and laitance shall be removed, and smooth steel float finished concrete scarified, by mechanical means (e.g. by grinding, needle gun scabbling or abrasive blasting) to achieve a fine textured open pored surface suitable for the tile adhesives.

**Note:** *Render that is very weak and able to be rubbed away easily is not suitable for the adhesive fixing of tiles. It must be removed and replaced.*



Selected ARDEX polymer improved adhesives can be applied over 'green' render after only 16 hours drying. They are [ARDEX Abaflex](#), [ARDEX X 18](#) and [ARDEX X 77](#) . In this case a Moisture Barrier or a primer does not have to be used.

If other Ardex tile adhesives are to be used then [ARDEX WPM 368](#) can be applied on a new rendered wall after the render has been allowed to cure for 16 hours minimum.

## TILING

Adhesive fixing of tiles to external rendered wall substrates is extremely dependent on the weight of the tiles and the contact of the adhesive to both the substrate and the back of each tile.

ARDEX Technical Bulletins **TB001** & **TB148** provide guidelines (in the absence of an Australian Standard) for the adhesive fixing of tiles up to **32kg/m<sup>2</sup>** and up to **3m** height. When these limits are exceeded, additional mechanical support fixings are recommended. The ARDEX bulletins suggest metal angles as one type of suitable support fixing although there are other proprietary systems now available. In addition the ASAA Design Manual lists mechanical fixings suitable for use with the thicker, heavier stone cladding.

The following table is a guide to suitable ARDEX adhesives for fixing tiles to external rendered walls.

	<b>Suitable ARDEX adhesives</b>
<b><i>Porous Bodied Tiles</i></b> Terracotta and Glazed Ceramic	X17 ; X18 ; X52 ; X77 ; X7+E90
<b><i>Glazed Mosaic</i></b>	X18 ; X52 ; X77 ; Abaflex ; X18+E90
<b><i>Dense Bodied Tiles</i></b> Vitrified & porcelain  Glass	X18 ; X52 ; X77 ; Abaflex ; X18+E90
<b><i>Natural Stone tiles</i></b> (excluding Moisture Sensitive Stone)	X18 ; X52 ; X77 ; Abaflex ; X18+E90 ; WA100
<b><i>Natural Stone Tiles</i></b> Moisture Sensitive Stone tiles	Refer to ARDEX Technical Bulletin TB010

Note : As an optional add-on, you can use [ARDEX E 90](#) with X77 and X18 as detailed in the respective datasheets. 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).*