



SRO909 – TILING ON CTU ON INTERNAL FLOORS

SCOPE

This recommendation relates to internal tiling over Ceramic Tile Underlay (CTU) sheets of fibre cement that have been mechanically fixed over timber flooring substrates such as strip timber floorboards and sheet timber such as particleboard and structural plywood. Adhesive fixing of tiles to strip timber flooring is not recommended.

PREPARATION

The original timber flooring must have been certified as a flooring grade material prior to covering with the CTU and the framed construction must comply with the requirement of AS1684-Residential timber framed construction. There must be no vertical displacement in the floor surface prior to installation of the CTU and the 5-6mm thick fibre cement CTU sheet must be nominated by the sheet manufacturer for this application. The floor must not deflect in excess of the allowable deflection calculated by the formula "Span divided by xxx" where the span is the distance between the supporting frames.

- For tiles up to 300 x 300mm, allowable deflection is "Span divided by 360".
- For tiles up to 500 x 500, allowable deflection is "Span divided by 600"
- For tiles > 500 x 500mm, allowable deflection may be "Span divided by 750+"

Part of the vertical deflection movement may be between bearers and part between the joists that rest on the bearers thus it is important to know the joist spacing to be able to check deflection between these joists.

- Ensure there is adequate ventilation under the timber floor to prevent moisture condensation leading to dimensional instability of the timber floor.
- Ensure the surface of the CTU is clean and dry. Remove all contaminants such as debris from other trades and/or paint over-spray by sanding with 80 grit sandpaper. Use sanders equipped with dust extraction systems. Vacuum to remove all dust prior to priming

PRIMING

Prime the CTU surfaces with [ARDEX Multiprime](#) or [ARDEX P 9](#) water based primers and let dry prior to tiling. Once the primer has fully dried, a bond breaker tape (e.g. 50mm wide PVC Tape) is applied over all CTU sheet joints.

TILING

The installation of tiles onto 'flexible' substrates such as CTU sheeted timber flooring requires deformable adhesives. In order to achieve the required performance, the mixed adhesives must be applied using 12 or 15mm notched trowels to achieve a continuous layer at least 2.5mm minimum thickness under the tile. AS3958 recommends at least 80% adhesive contact to the tile and the substrate for residential floors, 90% for commercial. This can be achieved by spreading the mixed adhesive using a suitable notched trowel so the adhesive lines are parallel. Additional adhesive is to be buttered over the back of tiles larger than 400 x 400mm. Each tile is then



pressed firmly into the adhesive with a back & forth sliding action across the adhesive lines to collapse and merge the adhesive lines to achieve maximum contact between the tile and adhesive.

	Good	Better	Best
Porous Bodied Tiles Terracotta and Glazed Ceramic	X17* ; X18* ; Abaflex	X56 ; X18 +E90	X77+E90 ; S28+E90 ; Isoflex
Glazed Mosaics	X18* ; Abaflex ; X7+E90 ; X18+E90 ; X56	X77+E90 ; S28+E90	Isoflex
Dense Bodied Tiles Vitrified/Porcelain	X17* ; X18* ; Abaflex ; X7+E90 ; X18+E90 ; X56	X77+E90 ; S28+E90	Isoflex
Natural Stone Tiles (excluding moisture Sensitive tiles)	X17* ; X18* ; Abaflex ; X7+E90 ; X18+E90 ; X56	X77+E90 ; S28+E90	Isoflex
Natural Stone Tiles (Moisture Sensitive Tiles)	WA100	Refer to Ardex Technical Bulletin TB010	

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

*Not for strip timber subfloors

GROUTING

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

- [ARDEX FG 8](#) sanded grout is for joints from 1 to 8mm and is a general purpose grout available in a large range of colours. In this application it is mixed with 80% [ARDEX Grout Booster](#).
- [ARDEX FS-DD](#) is a 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. In this application, it is mixed with 80% [ARDEX Grout Booster](#).



- [ARDEX WJ 50](#) sanded grout for joints 5 to 50mm. In this application it is mixed with 100% [ARDEX Grout Booster](#).
- [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 is required. It is available in 8 colours and is suitable for grout widths that range from 1.5mm 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 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](#) 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).