



SRO907 – TILING ON INTERNAL FLOORS with Electric Wire Heating Elements on Subfloor Surface

Scope

This recommendation relates to tiling over wire heating elements that have been placed on the surface of internal concrete floors. These elements may be single wires that are taped to the floor in a prescribed pattern, or wires fixed into a mesh carrier at set intervals or wires embedded in mats. This recommendation does not include hot water piping laid over the concrete substrate.

Preparation

Concrete floors must be structurally sound, have completed the recommended curing & drying period of 4-6 weeks, and be clean and dry. Mechanically (e.g. by grinding, shot-blasting, scabbling or similar methods) prepare concrete floors to remove any contaminants such as concrete curing compounds, and to scarify steel trowel finished concrete. The aim is to achieve a fine textured open pored surface free of all contaminants, including laitance.

Ensure the heating elements are suitable for covering with the tile adhesive. Some mesh and mat type systems have a fine mesh aperture such that sufficient tile adhesive cannot pass through to achieve adequate bond strength to the substrate.

Priming

Prime the prepared surface with [ARDEX Multiprime](#) or [ARDEX P 9](#) water based primers and let dry.

HEATING WIRE INSTALLATION

The heating system is applied to the primed floor using tape, suitable adhesive (e.g. [ARDEX CA 20 P](#)) or the self-adhesive wires to prevent movement as the tile adhesive is applied.

Apply a layer of tile adhesive over the heating wires to ensure there is full contact with the substrate and that there is at least 2mm of adhesive covering the wires. Ensure the surface of this adhesive layer is flat and even before leaving to cure overnight.

TILING

For commercial floors, AS3958 recommends at least 90% contact with at least 80% contact for residential floors. This can be achieved by spreading the mixed adhesive using a suitable notched trowel (at least 10 x10 x 10mm) 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 perpendicular to the rib direction to collapse and merge the adhesive lines to achieve maximum contact between the tile and adhesive.



	Good	Better	Best
Porous bodied tiles Terracotta & Glazed Ceramic	Abaflex ; X56	X18 + E90 ; X77 + E90	Isoflex
Glazed Mosaic	X18 + E90	X77 + E90 ; X78 + E90	Optima
Dense bodied tiles Vitrified/porcelain Glass	Abaflex ; X56	X18 + E90 ; X77 + E90 ;	Isoflex
Natural Stone tile Excluding moisture sensitive stone	Abaflex ; X56 ; X18 + E90	X77 + E90 ; Isoflex	Optima
Natural Stone Tiles Moisture sensitive stone	WA100 ; Quickbond+Abalastic	Please Refer to Ardex Technical Bulletin TB010	

The selected tile adhesive is to be applied to achieve at least 2.5mm thickness under the tiles.

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. In this application it is mixed with 80% [ARDEX Grout Booster](#)
- [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. 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 are required. It is available in 8 colours and is suitable for grout widths ranging from 1.5 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 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](#) 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.

COMMISSIONING OF HEATED FLOOR

When commissioning the newly tiled floor it is important to observe the recommended drying times for the tile adhesive & grout. Heat the floor by increasing the temperature by approximately 2° C. per day until the desired temperature is reached. Do not exceed 45° C. maximum floor temperature.

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).