



SRO939 Levelling over Internal Floor Heating Elements

SCOPE

This recommendation is regarding the levelling/smoothing over **internal concrete floors** to cover the electrical heating elements (mats or cables) laid over the floor surfaces prior to the installation of the floor finishes. The concrete floors must be structurally sound and comply with the recommendations of AS1884-2012 (i.e. at least 20MPa compressive strength and at least 1.5MPa surface tensile strength). This specification is based upon **ARDEX Technical Bulletin TB029**

PREPARATION

Concrete floors must be mechanically prepared (by grinding, short-blasting or scarifying) to achieve a roughened clean and open pored surface. Vacuum to remove dust. The concrete temperature must be above 10°C.

The concrete substrate must be checked and corrected for moisture in accordance with **AS1884-2012**; or any other conditions that may affect the levelling cement and/or finished floor covering.

All expansion joints in the substrate must be carried through the levelling cement and any damaged or incomplete joint sealant shall be removed and replaced to reinstate the joint. These joints must not be covered with the levelling cement.

PRIMING

The prepared concrete floor is to be primed with 1 volume of [ARDEX P 51](#) primer diluted with 2 volumes of water. This primer is applied evenly over the floor with any puddles brushed out. Leave to dry to a clear, thin film (min. 3 hours)

Install the heating cables/mats by adhesive fixing at specified intervals using [ARDEX S28 Neu](#), [ARDEX A 45](#), hot melt glue or liquid nails ensuring the adhesive is used sparingly and soiling of the primed surface is avoided as much as possible.

Note: *The heating system mats must permit approximately 80% contact of the levelling cement with the primed floor substrate – do not use continuous full coverage mats that prevent the contact of the levelling cement with the floor.*



ARDEX Product	E25 additive litres	Water litre	Thickness over heating system
K15 Microtec 20kg bag	1.6	4	≥4mm over heating element
K12 N 20kg bag	1.25	3.75	≥4mm over heating element
K120 20kg bag	1.6	3.5	≥4mm over heating element
K220 20kg bag	1.6	3.5	≥4mm over heating element
K80 20kg bag	Nil	4	≥6 mm over heating element
K55 20kg bag	Nil	5.25	≥4mm over heating element
Arditex NA 20kg bag + 4.8kg latex	Nil	Nil	≥4mm over heating element

FLOOR FINISHES

The following levelling cements can be used with the floor finishes nominated below. Minor surface imperfections in the levelled surface may be smoothed using the **ARDEX Feather Finish** prior to the installation of vinyl floor coverings.

1. For vinyl tiles, vinyl strips and vinyl sheet; carpet; floating timber; ceramic/porcelain tiles and rubber matting use:

[ARDEX K 15](#); [ARDEX K 12 N](#); [ARDEX K 55](#); [ARDEX K 80](#), [ARDEX K120](#), [ARDEX K 220](#)

Note: [ARDEX K 80](#) includes coarse sand and may not be suitable for all types of vinyl floor coverings. [ARDEX K 80](#) must not be used as an exposed wear surface when used over floor heating systems.

2. For Carpet; floating timber, ceramic/porcelain tiles, domestic/light commercial vinyl, use:

[ARDEX Arditex NA](#)

ARDEX adhesives for the installation of vinyl, carpet and rubber matting include:-

[ARDEX AF 142](#); [ARDEX AF 178](#); [ARDEX AF 241](#); [ARDEX AF 545](#)

The installation of ceramic/porcelain floor tiles must be completed using flexible adhesives and grouts in accordance with the product data sheets and the recommendations of AS3958.1-2007. These **ARDEX** tile adhesives include:-

[ARDEX STS8+E90](#); [ARDEX X 77+E90](#); [ARDEX X 18+E90](#); [ARDEX X 56](#);

[ARDEX S 28 Neu+E90](#); [ARDEX Abaflex](#); [ARDEX X 78+E90](#);



[ARDEX WA100](#)

[ARDEX Optima](#)

Note: Ensure the tile adhesive is applied with the appropriate size notched trowel to achieve the recommended bed thickness and contact to both the substrate and the tile.

The grout systems consist of pigmented cement based powders mixed with [ARDEX Grout Booster](#). These ARDEX grouts are;

- [ARDEX FG 8](#) sanded grout for joints 1 -8mm ;
- [ARDEX FS-DD](#) un-sanded grout for joints 1 -4mm;
- [ARDEX WJ 50](#) sanded grout for joints from 5 – 50mm.

Ensure movement joints are included along all perimeters and at not more than 4m intervals in both directions of a grid pattern in large floor areas. The joints can be filled with [ARDEX ST Neutral Cure Silicone](#).

COMMISSIONING

Heated floors are high stress situations and it is important to ensure the levelling cement is fully dry and cured prior to turning the heating system on.

Generally, allow a minimum of 3 days drying/curing time unless the installation has been completed in ambient conditions of 18°C or more where the drying time can be reduced to 2 days prior to the installation of vinyl, rubber or carpet floor finishes.

Tiled floors must be left for 7 days after the installation of the tiles to ensure the tile adhesive and grout is fully dry and set.

The heating system is to be turned on and the temperature is to be raised at approximately 2°C per day until the desired temperature is reached.

The maximum recommended operating temperature is 28°C and the floor is not to be heated above 45°C. The heating system must be controlled with an appropriate thermostat system.

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).