System Recommendation
SRO932 – Levelling Internal Dry Floors- Old Concrete

This ARDEX recommendation is regarding the levelling of internal dry area floors prior to the installation of most types of floor finishes. It applies to aged concrete substrates but does not apply to internal wet areas. The concrete must be structurally sound (at least 20 MPa compressive strength and at least 1.5 MPa tensile strength). All remedial work to repair corroded reinforcement steel shall be completed prior to levelling.
Note: Some old concrete substrates may not be suitable for levelling compounds.

Preparation

Aged concrete shall be mechanically prepared (by grinding, shot-blasting, scabbling or scarifying) to remove all contaminants such as weak surface materials, adhesive residues, waxy/oily residues, debris from other trades, paint over-spray and/or laitance to achieve a clean open pored surface comparable to Concrete Surface Profile 2 (CSP2) which has a fine textured surface. Vacuum to remove all dust prior to proceeding.

The moisture content of all concrete substrates shall be determined by the methods described in **AS1884-2021, Appendix A**. The relative humidity within (at 40% slab thickness) the concrete is determined (over 72 hours) and where the result is less than 80% RH, the levelling compound and sheet vinyl may be installed. Where the result is greater than 80% RH, the concrete is too damp for the installation of levelling compounds and the sheet vinyl and a moisture barrier will be required.

Where there are signs of dampness in any part of the prepared concrete substrate, an **ARDEX Moisture Barrier** is to be applied prior to proceeding.

Moisture Barrier

The following systems can be applied as the moisture barrier to prevent residual moisture rising in the concrete from damaging the applied levelling compound and impervious vinyl floor covering.

- **ARDEX WPM 300 Hydrepoxy** applied in two coats at a rate of 3 m^2 per litre per coat and allowing at least 4 hours drying between coats. Immediately after the topcoat is applied, ARDEX Primer Sand is broadcast over the entire wet surface. Allow to dry (~24 hours) before brooming/vacuuming to remove any loose sand and installing the levelling compound. Recommended for problematic substrates where rising damp or hydrostatic pressure are likely or known.
- **ARDEX WPM 368** One-part moisture barrier applied in two coats at 3 m^2 per litre per coat and allowing 2 - 4 hours between coats. Allow to dry for 24 hours although longer drying times may be required if applied to saturated substrates. Sand seeding is not required.

These moisture barriers also act as the prime coats for the levelling compounds, so no further priming is required when a moisture barrier is used.

Priming – Where no moisture barrier has been applied

For aged, dry concrete, the surface must be primed with **ARDEX P 51** water-based primer. Mix 1-part ARDEX P 51 with 2 parts water and apply evenly using a bristle broom. This primer must be allowed to fully dry prior to application of the levelling compound.

The following table is a guide to the levelling compounds that are suitable for aged concrete floor substrates. The last columns indicate methods for bulking out with washed and dried 2-5 mm aggregate to get to higher thicknesses. ARDEX sells an aggregate suitable for this in a 25 kg bag.

ARDEX Levelling and/or Smoothing Cement	Application Thickness	Internal Floor finish type	For bulking out with 2-5 mm aggregate	Bulked out thickness
K15 MICROTEC	Any thickness	Tiles- all types Linoleum, Vinyl, Carpet, Timber*	Equal volume mix with aggregate	10 mm - any thickness
K125	2.5 – 15mm	Tiles- all types Linoleum, Vinyl, Carpet, Timber*	Equal volume mix with aggregate	15-25 mm
K275	2 – 25 mm	Tiles- all types Linoleum, Vinyl, Carpet, Timber*	Equal volume mix with aggregate	25-40 mm
K12N	1.5 - 35mm	Tiles- all types Linoleum, Vinyl, Carpet, Timber*	Equal mix with aggregate by weight	10-50 mm
K900 Bulk Fill	3 -90mm	Tiles, Carpet and ARDEX levellers as above at less than 10mm thick.	Not required	NA
LQ92	Max 25mm	Tiles – all types	Equal volume mix with aggregate	10-25 mm
Patching compounds A45 & ARDEX A30	Max 30mm	Tiles- all types Linoleum, Vinyl, Carpet, Timber*	Equal volume mix with aggregate OR 1/3 volume mix with sand	20-50 mm OR 5-30 mm

**Strip timber and parquet are suitable but details from ARDEX Technical Bulletin TB036 need to be considered*

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Notes: ARDEX A 45 *&* ***ARDEX A 30*** *Patching / Repair Mortars can be used for ramping & coving to create falls in small areas.* ***ARDEX LQ92*** *can also be used to create falls when bulked out with sand as per datasheet.*

Once the ARDEX levelling systems have set and dried, minor surface imperfections in the levelled surface can be smoothed using the **ARDEX Feather Finish** (maximum 3mm thick). The various floor finishes can now be applied. Tile finishes can be achieved with appropriate ARDEX tile adhesives & grouts. Carpet and resilient floor coverings can be installed using the following adhesives:

ARDEX Adhesives:

- For sheet vinyl coverings, use **ARDEX AF171** Universal Vinyl Adhesive.
- For sheet vinyl coverings and vinyl planks use **ARDEX AF180 MS** One-Component Heavy Duty Adhesive. **Note**: *Recommended in areas in areas exposed to higher levels of solar gain.*
- For carpet tiles use **ARDEX AF271** Pressure Sensitive Carpet Tile Adhesive.

NEXUS Adhesives:

- For sheet vinyl, use **NEXUS 880** High-Performance Vinyl Sheet Adhesive.
- For vinyl planks use **NEXUS 880** or **NEXUS 870** Vinyl Plank Adhesive.
- For carpet tile use **NEXUS 840** Pressure Sensitive Adhesive.

All ARDEX products and NEXUS adhesives shall be mixed and used in accordance with the product data sheets. ARDEX Technical Bulletin TB102 relates to the addition of aggregate to the levelling cements and may provide more details than this document.

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).

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