SRO946 Levelling for the Installation of Resinous Coatings

SCOPE

This recommendation is regarding the levelling and/or smoothing of rough internal concrete substrates to allow the installation of a working floor and/or industrial floor coating systems consisting of either epoxy or polyurethane resins. Typical applications would include all internal dry floors such as utility areas, walkways & domestic garages.

PREPARATION

All new concrete shall have completed the minimum 4 weeks curing & drying period to allow the development of any micro-cracks as any cracking will continue through any applied levelling cement.

Any cracked concrete is to be repaired using the Ardex systems described in **Ardex Technical Bulletin TB206**. These include the **Ardex RA** series of injection products as well as repair mortars (e.g. **ARDEX A 45, ARDEX BR 345 / ARDEX BG 90 GP**) for filling wide cracks and/or holes in the concrete.

Prior to priming, all concrete substrates shall be mechanically prepared (by grinding, shot-blasting, scabbling or scarifying) prepared to remove all contaminants such as curing compounds, weak surfaces, laitance, waxy/oily residues and debris from other trades to achieve an open pored surface equivalent to CSP 3. (Concrete Surface Profile 3) Vacuum to remove residual dust.

MOISTURE CONTROL- PRIMING

The moisture content of all concrete substrates shall be determined by the methods described in **AS1884-2012, Appendix E**. The relative humidity within (at 40% slab thickness) the concrete is determined (over 72 hours) and where the result is less than 75% RH, the levelling cement and/or impervious coating may be installed. Where the result is greater than 75% RH, the concrete is too damp for the installation of levelling cements and/or impervious coating and a moisture barrier will be required.

For new concrete where the required minimum moisture content cannot be achieved in the available time, the following are systems for treating the “green” concrete prior to the application of levelling/smoothing cements:

1. **Ardex WPM 300 Hydrepoxy** – applied as a moisture barrier to new concrete that is at least 7 days old and at least 20MPa compressive strength. This is normally applied in 2 coats with “sand-seeding” of the wet top coat.

*Note: the **Ardex WPM 300 Hydrepoxy** treated concrete is brushed /vacuumed to remove any loose sand. It is ready for the levelling cement to be applied with no further priming required.*

2. **Ardex WPM 368** – One part moisture barrier that does not require "sand seeding". Applied over "green" concrete in 2 coats to achieve a waterproof barrier prior to installation of levelling cements.

For all (aged) concrete substrates that have achieved the required moisture content (as defined according to AS1884-2012), the surface is primed with **ARDEX P 51 Primer** and allowed to dry (3 hours minimum). Very porous concrete may require further priming.

LEVELLING SYSTEMS

The following table is a guide to the levelling/smoothing cements for new concrete floor substrates.

Underlayment	Situation	Cure Time to Coating	Thickness	Recommended coatings
K15	Dry, internal	~48 hours	Any thickness >2mm	>2-3mm Epoxy or Urethanes
K12	Dry internal	3 days	2 - 25mm	>2-3mm Epoxy or Urethanes
K250	Dry internal	3 days	2 - 25mm	>2-3mm Epoxy or Urethanes
K80	Dry Internal & Industrial	~48 hours	5 - 50mm	Epoxy, Urethanes or Floor Paints
K301	External or wet/dry internal	7 days	2 - 30mm	Epoxy, Urethanes or Floor Paints
A46	External or wet/dry Internal	3 days	2 - 30mm	Epoxy, Urethanes or Floor Paints
A45	Dry internal	>24 hours	2 - 30mm	>2-3mm Epoxy or Urethanes

Note: These levelling systems are not suitable for clear sealers and require the high build opaque coloured protective coatings. These coatings become the wear surfaces.

Note: Always install several test areas with the finished coating to check the suitability of the product for the intended use.

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).