SRO936 Levelling as Internal Heavy Duty Wear Surface

SCOPE

This recommendation is regarding the use of Ardex levelling cement as a wear surface exposed to heavy trucks and forklift traffic such as industrial (e.g. warehouse) floors which are essentially internal dry area applications. This system is not suitable for tracked vehicles.

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. For new "**green**" concrete where the required minimum drying time is not available, the following system is for treating the "**green**" concrete prior to the application of levelling/smoothing cements:

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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.

All (new & aged) concrete should 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 3 (CSP3) which has a fine textured surface. Vacuum to remove all dust prior to proceeding.

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,** or **Ardex BR 345**) for filling wide cracks and/or holes in the concrete.

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. Where the result is greater than 75% RH, the concrete is too damp for the installation of levelling cements and a moisture barrier will be required. These moisture barriers do not apply to prepared new "green" concrete previously treated as above (Item 1).

Where there are other signs of dampness (e.g. rising damp) in the prepared aged concrete substrate, an **Ardex Moisture Barrier** is to be applied prior to proceeding.

- **Ardex WPM 368** is a one part moisture barrier applied at not more than 3 sqm per litre per coat.

- Apply 2 coats of **Ardex WPM 368** with 2 – 4 hours between coats. Allow to dry for at least 24 hours – cool damp conditions may extend drying time
- **Ardex WPM 300 Hydrepoxy**, two part water borne epoxy that is mixed and applied at not more than 3 sqm per litre per coat. Two coats are required with at least 4 hours drying between coats. As the top coat is applied, **Ardex Primer sand** is broadcast over the wet surface to achieve an evenly distributed coverage over at least 90% of the area. Allow drying for 24 hours and then brush/vacuum to remove any loose sand.

Dry (according to AS1884-2012 recommendations) prepared concrete not previously treated with a moisture barrier, is primed with **Ardex P 51** water based primer and left to dry (3 hours minimum).

Ardex Levelling Cement	Application on Prepared Concrete	Drying Time	Thickness
K 80	Smoothing slab deflection, infilling & ramping	24 hours	>10mm when mixed with equal volume of 3-8mm clean aggregate. 5- 50mm without added aggregate.
K 80	Final smoothing layer over aggregate filled K80 or Ardex A38 Base layer	24 hours	5mm neat K80 to smooth uneven base layers.

Note: Where the thickness to be achieved is greater than 50mm, a base layer of either the **Ardex A 38** **or** **Ardex A 48** **(both Rapid Set screeds)** may be applied from 15 to 80mm as described in SRO934. This base layer is left to dry for a minimum of 48 hours prior to the application of the **Ardex K 80**. Where the thickness to be achieved is greater than 50mm, a base layer of either the **Ardex A 38** or **Ardex A 48** is to be applied in bays/panels of approximately 40m^2 in size.

SEALING

Ardex Levelling cements may show variations in colour as well as trowel “swish” marks thus are not truly homogenous in aesthetic appearance. If a more homogenous appearance is required, the dry surface may be coated with an opaque epoxy or polyurethane coating. These coatings are also recommended for high wear situations.

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).