

# TECHNICAL BULLETIN – TB140

## ARDEX UNDERLAYMENTS - LEVELLING OF FLOORS FOR THE INSTALLATION OF HIGH BUILD EPOXY, POLYURETHANE AND PAINT COATINGS

Date, Wednesday, 20 June 2012

### INTRODUCTION & SCOPE

Dry internal utility areas, walkways, plant rooms, domestic car garages etc., often require an epoxy or paint finish as a protective coating. However, industrial floor coatings and paint finishes will mirror the original concrete surface, and unevenness and pitted surfaces look unsightly and result in high cleaning costs.

The Ardex Self-Smoothing Toppings can be applied in various applications and conditions from ~2mm thicknesses upwards to 50mm in one operation. Cement curing times as low as 48 hours are possible prior to coating.

### PRECAUTIONS

When specifying this system, applicators must take into account that Ardex underlayments have a high compressive strength, but with a *surface hardness equivalent to that of hardwood flooring*. The applied coating will protect the surface from scratch damage and also contamination by chemicals or oils.

Any damage in the subfloor such as active cracks can transmit through the underlayment and appear on the top surface. For this reason it is important that all cracks be examined for activity, and if active, repaired by methods such as epoxy injection and metal pinning.

**This recommendation is intended for high build opaque coloured coatings. It does not refer to clear seal coats or so called 'feature floors'. Installation using clear seal coats are purely at the risk of the installer. The preclusions for the different types of underlayment are shown in the table on the next page.**

Ardex does not offer any recommendations for specific brands of coatings, and does not offer any warranty on such systems.

### SURFACE PREPARATION

1. Concrete floors must be structurally sound with all previous coatings removed, clean and free of oil, grease, wax, latex compounds, curing compounds, efflorescence, laitance, dust and all foreign matter, back to an open porous matrix of the concrete. Professional cleaning by mechanical means in line with sound building industry practices is advised.
2. Suggested cleaning & preparation methods in line with the "International Concrete Repair Institute" Guideline No. 03732 to be shotblasting, scarifying or diamond grinding to provide a surface profile of between CSP3 to CSP7.
3. All cracks in the subfloor shall be repaired to prevent telegraphing through the underlayment.

### DRY SLAB PRIMING

4. Primer for standard absorbent concrete shall be Ardex P51 Primer.
5. Mix Ardex P51 1:2 with water and apply evenly with a soft push broom. Do not leave any bare spots and remove all puddles and excess primer. Allow to dry to



a clear, thin film (min 3 hours max. 24 hours). Underlayment shall not be applied until primer is dry.

**Note:** Highly porous surfaces may require two coats of Ardex P51, the first diluted at 1:3 and the second 1:1 ratios.

#### DAMP SLAB PRIMING

6. Apply one coat Ardex WPM300 by roller at 3m<sup>2</sup>/litre. Cure for two hours
7. Apply second coat at 3m<sup>2</sup>/litre. Whilst WPM300 is still wet broadcast 0.5mm clean dry sand over surface at ~700gms/m<sup>2</sup>.
8. Cure overnight and broom and vacuum excess sand off. Apply smoothing cement.

#### TOPPING APPLICATION

9. The cement-based self smoothing underlayment shall be specified from the attached listing, taking into account curing time, thickness and recommended coatings.

Underlayment	Situation	Thickness range mm	Cure time to coating	Type of recommended coatings
Ardex K15	Dry internal	>2mm	~48 hours	>2.3mm Epoxy or Urethanes*
Ardex K80	Dry internal and industrial	5-50mm	~48 hours	Epoxy, Urethanes or 'floor paints'
Ardex K250	Dry internal	2-50mm	3 days	>2.3mm Epoxy or Urethanes*
Ardex K10	Dry internal	2-35mm	3 days	>2.3mm Epoxy or Urethanes*
Ardex K12	Dry internal	2-25mm	3 days	>2.3mm Epoxy or Urethanes*
Ardex K301	External or wet/dry internal	2-30mm	7 days	Epoxy, Urethanes or 'floor paints'
Ardex A45	Dry internal	2-30mm	>24 hours	>2.3mm Epoxy or Urethanes*
Ardex A46	External or wet/dry internal	2-30mm	3 days	Epoxy, Urethanes or 'floor paints'

10. *The surface shall always be protected from wear, oil, salt, chemicals and water by applying a suitable wear protection system, such as an epoxy coating or flooring paint.*

*\*Epoxy or Urethane industrial coatings are to be high build, pigmented and opaque, solvent less and tension free (e.g 100% solids). Floor paints are to be pigmented.*

*→The coating becomes the wear surface, not the underlayment ←*

Note: Ardex K301 and Ardex A46 can be used as uncoated surfaces if required.

**Note: Always install an adequate number of properly located test areas, to include the finish coating, to determine the suitability of the product for the intended use.**



**IMPORTANT**

This Technical Bulletin provides guideline information only and is not intended to be interpreted as a general specification for the application/installation of the products described. Since each project potentially differs in exposure/condition specific recommendations may vary from the information contained herein. For recommendations for specific applications/installations contact your nearest Ardex Australia Office.

**DISCLAIMER**

The information presented in this Technical Bulletin is to the best of our knowledge true and accurate. No warranty is implied or given as to its completeness or accuracy in describing the performance or suitability of a product for a particular application. Users are asked to check that the literature in their possession is the latest issue.

**REASON FOR REVISION**

24 month review. Some text clarifications.

**REVIEW PERIOD**

24 months from issue.

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