

# TECHNICAL BULLETIN – TB086

## ARDEX K15-K80-K301 LEVELLING OF COOL ROOM FLOORS TO RECEIVE SHEET VINYL COVERINGS OR EPOXY COATINGS

Date, Thursday, 9 October 2014

### INTRODUCTION & SCOPE

Cool Room floors often require the application of sheet vinyl flooring or an epoxy or paint finish. These coverings provide a surface which is easy to keep to keep clean and hygienic.

Resilient vinyl coverings and epoxy coatings will mirror the original concrete surface which can be uneven and have pitted surfaces that look unsightly. Surface irregularities can also result in high cleaning costs and rapid damage to the floor covering.

The Ardex K-15/Ardex E25 self smoothing underlayment for vinyl can be applied as thin as 3 – 4mm and be efficiently featheredged at doorways; roller doors etc. The topping can be covered after 24 hours and trafficked after only 48 hours.

For heavy duty applications, or with epoxy or polyurethane coatings, Ardex K80 can be applied at a minimum thickness of 5-6mm.

For applications where moisture could be present due to condensation or the need to wash down the floor, Ardex K301 can be substituted for K80 with epoxy or polyurethane coated floors.

### PRELIMINARY REQUIREMENTS

Existing cool rooms are required to be turned off, and the cool room environment including the concrete floor allowed to increase and return to normal external temperature conditions (the minimum is 10°C). Cementitious based products display slowed cure at temperatures below 10°C and do not cure when the temperature falls below 5°C.

*Installation shall not be done in operating cool rooms.*

The concrete floor must be allowed to dry, and comply with requirements of A.S. 1884-2012 for maximum allowable water moisture content to avoid bubbling and blistering of the covering or coating.

### 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. Professional cleaning by mechanical means in line with sound building industry practices back to an open porous matrix of the concrete is advised. Suggested cleaning & preparation methods in line with the American publication, "International Concrete Repair Institute Guideline No. 312.R2-2013" (formerly No. 03732-1997) <http://www.icri.org/publications/guidelines.asp>, will provide a surface profile of between CSP3 to CSP7 (CSP=concrete surface profile)..
2. All cracks in the subfloor shall be repaired to prevent telegraphing through the underlayment. Floor joints must be correctly detailed and not filled with cement.

### PRIMING FOR DRY CONCRETE

3. Primer for standard absorbent concrete shall be Ardex P51 Primer which is applied as an initial application of Ardex P51 mixed with 3 parts water using a soft push-broom. Do not leave any bare spots and remove all puddles and excess primer.
4. Allow to dry thoroughly before proceeding with a second (2nd) application of primer, 1 part water to one part Ardex P51.
5. Allow the 2<sup>nd</sup> coat of primer to dry for a minimum of 3 hours and maximum of 24 hours. Underlayment shall not be applied until primer is dry.

### DAMP CONCRETE

Where the concrete is classified as damp (as per AS1884) then a moisture barrier is required.



6. A coat of WPM300 is applied to the concrete at a rate of 2.0m<sup>2</sup>/litre and whilst the WPM300 is still wet, clean dry sand (~0.3-0.5mm) is spread over the surface. The coverage rate is around 700gms/m<sup>2</sup> and 90% coverage must be achieved.
7. The coated surface is allowed to stand for a minimum of 12-16 hours and the excess sand is broomed and vacuumed off the surface.

#### **APPLICATION OF THE FLOOR SMOOTHING CEMENT**

#### **Vinyl Flooring**

8. The cement-based self-smoothing underlayment for vinyl shall be Ardex K15 Self-Smoothing Cement.
9. The additive to be mixed with Ardex K15 shall be Ardex E25 Resilient Emulsions follows:-
  - 1.6 litres Ardex E25 Plus
  - 4.0 litres water Per
  - 20 kg Ardex K15
10. Install Ardex K15 to a minimum 3-4mm and follow COLD WEATHER PRECAUTION.
11. Ardex K15 hardens fast and can be walked on after 3 hours, and floor coverings can be installed after only 24 hours.
12. Refer to the vinyl flooring manufacturer for procedures to commission the cool room, and the maximum temperature reduction should not exceed increments of 5°C per day.
13. Note that Ardex K80 can be used in this application also where a higher compressive strength surface is required, but final surface smoothness is not as high as K15.

#### **Epoxy Coated Surfaces**

14. The cement-based self-smoothing underlayment for epoxy shall be Ardex 80 Industrial Levelling Compound or Ardex K301 External smoothing cement.
15. Install Ardex K80 to a minimum of 5-6mm, or Ardex K301 from a minimum of 2-2.5mm as per product datasheet
16. Ardex K80 or K301 when used as a wear surface, hardens fast and can be walked on after 3-4 hours.
  - a. For K80 coatings can be applied after 24 hours @ 20° C and driven on after 48 hours.
  - b. For K301 coatings can be applied after 48 hours minimum.
17. The surface should 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 no thicker than a coat of paint.
 

*Epoxy coating to be solvent less and tension free (e.g. 100% solids).*
18. 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 or Ardex New Zealand 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 - ISSUER**

Change of ICRI 03732 to ICRI 310.R2-2013

#### **DOCUMENT REVIEW REQUIRED**

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