

## TECHNICAL BULLETIN – TB135

### The Issues with using Ardex K15 and other Underlayment Type Smoothing Cements as a Wearing Surface ‘Feature Floor’

Date, 5 April 2011

#### INTRODUCTION & SCOPE

A building design feature that is frequently requested is the use of a levelling cement as a wear surface or feature floor, and the most commonly requested product in this application is ARDEX K15. However we have also received requests for products such as ARDEX ARDITEX and ARDEX FEATHER FINISH. In this bulletin the issues surrounding feature floors will be spelled out.

#### WHAT IS A FEATURE FLOOR?

This is a cementitious floor which has no form of floor covering, and is intended to provide a raw natural look, or to give an ‘industrial appearance’. Where colourants either in the form of natural oxides or acid colour etches are used, complex patterns and appearances are the designer’s intention.

#### WHY IS ARDEX K15 REQUESTED?

The floor smoothing cement K15 is requested in this application due to its superior smoothness and finish. It is an old practice which Ardex does not encourage, but is a common misuse encountered in the field.

#### WHY DOESN’T ARDEX RECOMMEND K15 IN THIS APPLICATION?

Ardex GmbH designed K15 purely as an underlayment and Ardex Australia manufactures it for use with floor coverings such as vinyl, carpet and applied timber floors. Because it is intended as an underlayment, the following product properties are not normally observed, and can become an issue where an homogenous looking cement floor is expected;

- Variation in colour that results from slight differences in the product raw materials, amount of gauge water used, mixing variations and degrees of ‘working’ the floor,
- Microcracks developing in the surface which have transferred through from the subfloor (including stress cracks from post-tensioned slabs), that are often accentuated by clear sealers
- Scratching and scuffing of the surface. Whilst K15 has good compressive and ball impact strengths, its scratch resistance is equivalent to hardwood timber and
- Tension cracks where there have been problems with over-watering or priming

*For these reasons Ardex does not recommend the use of K15 as a wear surface feature floor and where an application is done in this way, there is **no product warranty available**. The same applies to ARDEX K12, K11, A55 and other similar smoothing cements.*



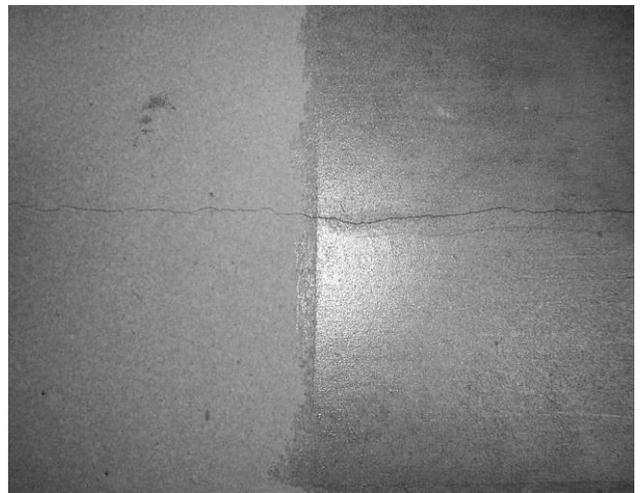
Products which are completely unsuitable are ARDITEX and FEATHER FINISH which are relatively soft easily damaged when exposed.

Ardex does permit the use of Ardex smoothing cements with an epoxy coating (pigmented, 100% solids) as a wear surface in certain applications (refer to Technical Bulletin TB140). Ardex K80 can be used with Ardex WPM163 sealer for light foot traffic only.

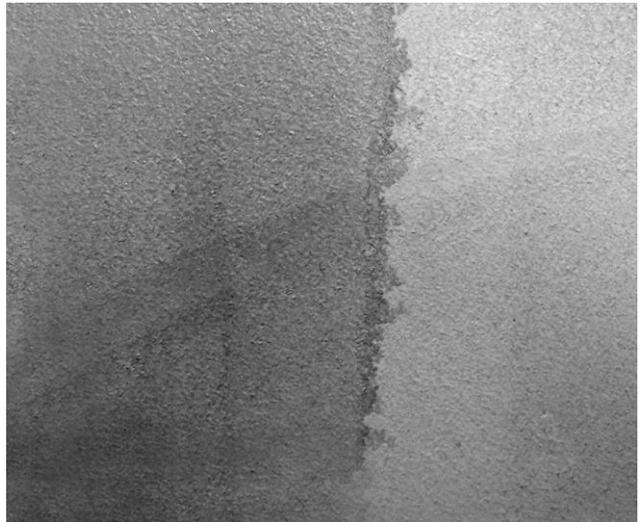
The Ardex Pandomo system comprises feature floor wear surface products based on a white (or black) cementitious topping and colourants. These products, K1, K2 and TerrazzoMicro™ are available on a limited basis in Australia installed by specialised applicators.

Ardex Group companies in the USA and United Kingdom have feature floor systems based SD-T, but *this is not available* in Australia.

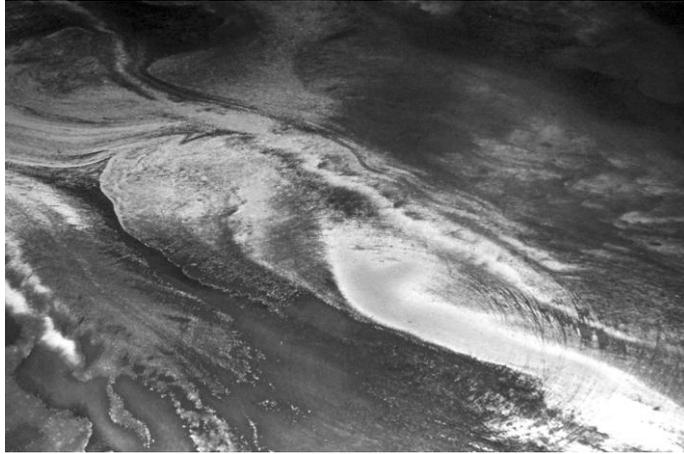
The example on the right shows a topping cement that has been sealed with a clear polyurethane sealer. Movement at a floor joint has produced a fine crack which is accentuated by the sealer. Cracks like this have no effect on the topping performance and are not seen when a floor covering such as carpet or vinyl is used.



Any marks such as trowel drags or changes in colour due to variations in topping colour, texture or water gauging are all brought into sharper contrast when sealed. Again, these features are not visible under normal floor coverings.



This is a sealed floor which has been subject to over-watering during smoothing cement installation. Whilst this is an attractive swirl pattern, it also highlights softer and weaker areas defined by the white patches. Also note the sanding marks.



This floor shows shrinkage related cracks due to product installation problems.



Not all customers object to the effects shown above, and indeed they may be considered rustic, however experience has shown that customer expectations often do not match the end result leading to dissatisfaction.

**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**

Bulletin revised to be in line with TB140, and the addition of K2 and TerrazzoMicro.

**REVIEW PERIOD**

24 months from issue.

**NSW** 02 9851 9100, **QLD** 07 3817 6000, **VIC** 03 8339 3100, **SA/NT** 08 8406 2500, **WA** 08 9256 8600  
**New Zealand** (Christchurch) 64 3384 3029  
**Technical Services** 1800 224 070.

Web: <http://www.ardex.com> <http://www.ardexaustralia.com> email: [techinfo@ardexaustralia.com](mailto:techinfo@ardexaustralia.com)