

TECHNICAL BULLETIN – TB160

USE OF ARDEX SMOOTHING CEMENTS AND WEAR SURFACE PRODUCTS AS FLOORS OVER HEATED SUBFLOORS

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INTRODUCTION & SCOPE

Traditionally, heated cementitious subfloors have been associated with situations such as tiled wet areas, or floors covered with resilient or textile floor coverings. The application of smoothing cements over heated subfloors is an extension of this practice and has been successful with both the cable and mat heating systems. As with the actual heated concrete floors, these smoothed floors are 'hidden' beneath a floor covering.

With the advent of smoothing cements specifically intended to be used as wear surfaces or feature floors, inquiries have been received concerning using these wear products on heated substrates. This bulletin discusses the issues surrounding this application.

WHICH ARDEX SMOOTHING CEMENTS ARE INVOLVED?

Ardex has three primary smoothing cements used as wear surfaces, and a number of secondary products which may find usage in this area.

The primary smoothing cements are Ardex K80 or Ardex K301, but also the Pandomo products Ardex K1, Ardex K2 and Ardex TerrazzoMicro.

Please note that only the Pandomo products K1, K2 and TerrazzoMicro are classified as feature or designer floors. K80 and K301 do not carry any 'visual appearance' guarantees.

WHAT ARE THE ISSUES?

The primary concern with these exposed floors is the development of hairline cracking which mirrors the heating cables. These cracks develop either due to strains developed around the element related to heating/cooling, or as a result of limited bond development between the cement and the plastic coil sheafing. The hairline cracking appears on the floor surface and becomes more marked where the floor is sealed. Whilst these cracks do not affect the performance of the floor, they are a significant aesthetic issue.

The process of embedding the elements in a base coat of smoothing cement, which is subsequently over-coated with the wear product does not prevent the problem from occurring.

The usage of metal reinforcing mesh to prevent cracking is not recommended due to potential problems with securing the mesh to the subfloor, and in the process damaging the heating system. An alternative is to use unbonded fibre-glass mesh, but this has not been evaluated for suitability. Note that mesh laid within the wear surface coating will develop mesh ghosting on the surface.

ARDEX'S RECOMMENDATION

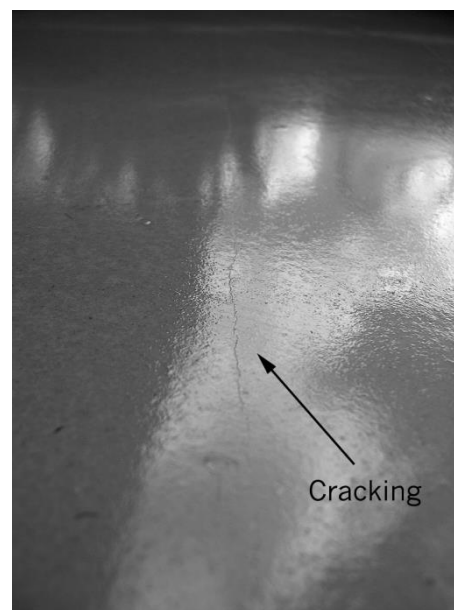
Ardex does not recommend the use of smoothing or feature floor products as wear surfaces directly over subfloors that have exposed electrical cable/mat heating systems, or exposed piped water heating on top of the substrate.



Where the heating is installed in the slab itself, or embedded in a 45mm thick Ardex A38 base screed, it is acceptable to place the wear surface on top.

An example of such a system would be with piped water heating embedded within the concrete or an A38 screed, overlain with Ardex TerrazzoMicro.

Refer to TB029 for permitted installations with heated subfloors, and the acceptable usages of smoothing cements with cable or mat heating are only where the smoothing cement acts as a underlayment for a floor covering. Acceptable floor coverings are resilient flooring, textile or carpet coverings, ceramic tiles and floating timber, but not a coating or sealer.



These photos show a cable heated subfloor in preparation (left) and with a wear surface smoothing cement applied (right). As can be seen in the right hand image the smoothing cement has developed linear cracks which mirror the embedded heating cables.

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.

REVIEW PERIOD

24 months from revision

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