TECHNICAL BULLETIN – TB016

MESH REINFORCED ARDEX K15 & K55 UNDERLAYMENT OVER TONGUE & GROOVE WOODEN SUBFLOORS

Date, 26th August 2020.

INTRODUCTION & SCOPE

One of the most common problems in renovation and remodelling of existing buildings is the levelling and smoothing of wooden subfloors to receive floor coverings.

Wooden floors move under stress and they expand or contract with temperature and humidity changes. These movements can be up to +/-0.3% per metre for each 1% change in relative humidity. So in areas with appreciable seasonal variations such as the north of Australia timber floors could move up to +/-1.2%, or 12mm per metre.

Joints between boards can be very pronounced and the surfaces are often rough and uneven, with curvature across the board due to warping. Deviations from zero to several centimetres in three metres are possible.

Covering these wooden subfloors with more wood is labour intensive and will result in floor elevation problems at doorways and hallways. Gypsum levelling compounds are not capable of sustaining this degree of movement and will crack along joints, break bond with the lateral wood movement and often disintegrate when exposed to traffic stress.

SOLUTION

The mesh reinforced ARDEX K15 (K15 Microtec) or ARDEX K55 system is a successful, fast-track method, which allows the installation of high quality cementitious underlayment in a thin layer (6-8mm) while maintaining the ability to handle traffic stress, and floor movements.

The resulting concrete surface is smooth and hard and is suitable for any type of flooring material, including resilient flooring, parquetry and ceramic tiles. All types of adhesive that are normally used over concrete surfaces can be used over ARDEX K15 or K55 surfaces.

PREPARATION

1. Particleboard subfloors are **NOT** recommended as a suitable substrate for this system, instead use ARDITEX NA self-smoothing underlayment. Particleboard floors may not have sufficient internal strength to hold the fasteners used to restrain the mesh to the subfloor. This also particularly applies to K55 which can create tensile strains during cure.
2. The wood subfloors must be clean and free of oil, grease, wax etc. Sanding may be necessary with 40 grit abrasive to remove contaminants and the surfaces then

vacuumed clean of dust. Moisture content must be in the normal acceptable range of ~11-15% when measured.

3. The subfloor should be solid and fixed securely to provide a rigid base, with deflections under load less than 1/360th of the span distance of the floor joints. Any boards exhibiting movement should be re-nailed. Open joints should be filled with a suitable fast setting mortar such as ARDEX A45.

   The examination of the subfloor is a professional evaluation by the contractor and is most important.

   Prime the wood subfloor with ARDEX P82 Ultraprime in accordance with printed technical data.

4. There are two types of mesh that can be used as shown below.

   a) The preferred and more rigid type is a galvanised, diamond metal lath mesh with 15mm apertures. This is stapled or screwed to the subfloor (note: this system can also have the mesh screwed down).

      Chicken wire or bird mesh are not suitable substitutes.

   b) The second type is woven E-glass* fibreglass mesh with 10-12mm sized apertures. This is either stapled or spot stuck to the subfloor with a structural adhesive and is suitable for more rigid floors.

An example of metal tilers or renderers lath.

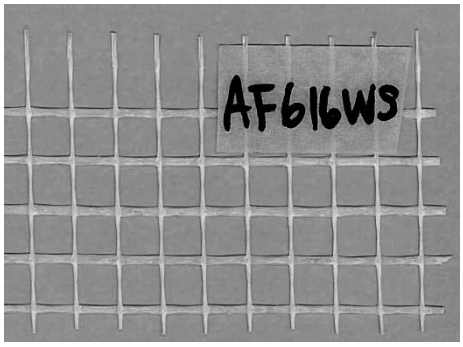
(Truss Forte Rendalok® http://trussforte.com.au
(formerly called Sankey Rendalloc)

An example of E-glass* fibreglass matting with 10mm apertures and 2 x 0.75mm thick fibres.

(Colan - product AF616WS see

http://www.colan.com.au/compositereinforcement/fibreglass-woven-fabric-leno-130g-m2-1000mm.html)

* E-glass is alkali resistant



7. The levelling compound shall be either ARDEX K15 or ARDEX K55. It is recommended that the applied thickness is a minimum of 5mm. Insufficient thickness will lead to mesh ghosting and show through.

8. To improve the flexibility of the floor levelling cement, the additive to be mixed with ARDEX K15 shall be ARDEX E25 Resilient Emulsion.

   Note: ARDEX K15 to be mixed with ARDEX E25 as follows: -

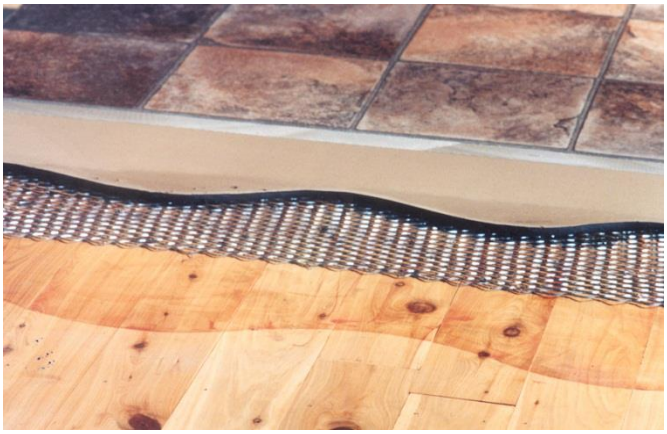
   1.6 litres ARDEX E25

   plus *4.0 litres water*

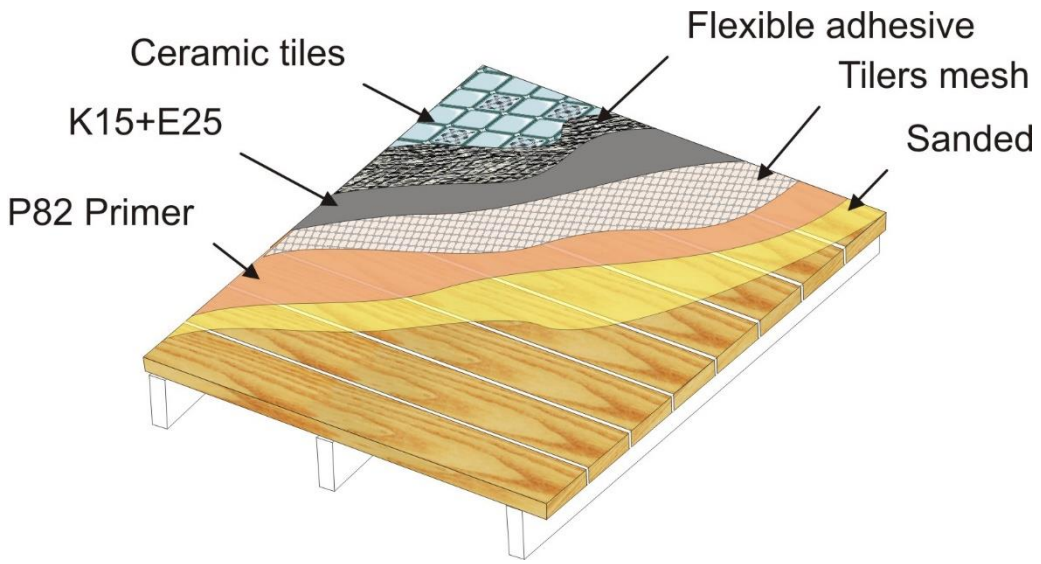
   to *20 kg ARDEX K15*

ARDEX K55 **does not** require the use of E25 Resilient Emulsion.

9. Minimum installation temperature is 15°C.
10. Where K15 has been used, the floor can be walked on 3 to 4 hours after installation, depending on temperature. Floor coverings can be installed the next day.
11. Where K55 has been used the floor should be cured in 60 minutes and ready for floor coverings after that.
12. Ceramic tiles can be installed as per Ardex Technical Bulletin TB218.
13. Ensure that there is adequate cross-flow ventilation and that the minimum height clearance between earth and the timber flooring, in accordance with Australian Standards (AS1884-2012 section 3.2.4) is maintained. Failure to have adequate underfloor ventilation can result moisture build up under the subfloor which result in excessive floor deformation, mould growth or moisture permeation through the underlayment which can result in blistering of sheet vinyl.
14. *Always make a test installation first to assure success, as floor conditions vary from site to site. Once this type of floor has been installed, removal of the topping is extremely difficult, and may require complete removal of the floor timbers.*



Typical installation over T&G floor.



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

PERIODIC UPDATE AND INCLUSION OF NEXUS AND DTA INFORMATION

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