

## TECHNICAL BULLETIN – TB015

# APPLICATIONS FOR ARDEX K15M, K12N, ARDITEX NA & FEATHER FINISH OVER INTERNAL DRY TIMBER SURFACES & UNDERLAY SHEETS

Date, Thursday, 9 March 2017.

### 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 hard floor coverings, floating floors, and carpet.

Wooden floors are often rough and uneven, with deviations from zero to several centimetres in three metres. Installing a hardwood, fibre cement, or MDF underlayment sheet over rough/uneven timber will often result in disintegration of underlayment and floor coverings when exposed to traffic stress.

The resilient flooring standard AS1884-2012 states that;

#### **3.2.6.5 Particleboard subfloors**

*Resilient flooring shall not be adhered directly to particleboard subfloors. If the resilient flooring is to be adhered an underlay or underlayment shall be used.*

### SOLUTIONS

The following ARDEX underlayment applications can be used for vinyl, hard floor coverings, floating floors, ceramics and carpet to provide a smooth and level surface. Herein K15M refers to K15 Microtec and K12N refers to K12 'New'.

**OPTION 1 - ARDITEX FLOOD COATING DIRECT BONDED TO TIMBER . ARDITEX NA IS SUITABLE FOR STRIP T&G, PARTICLEBOARD, PLYWOOD.**

Pre-levelling/smoothing/patching of the wooden flooring using ArditeX can provide a flat durable surface. ArditeX can be featheredged to meet existing floor heights.

Floor coverings can be direct applied to the ArditeX, or underlay boards can be laid over pre-levelled/smoothed/patched area and over lapped onto existing timber flooring to provide the one flooring elevation.

The use of K15 flood coats is not recommended for particleboard or plywood floors in this way.

**OPTION 2 – ARDITEX OR ARDEX K15M / K12N USED A PATCH WITH FIBRE-CEMENT SHEET, HARDBOARD OR MDF UNDERLAY SHEETS**

Depressions in the floor can be filled with ArditeX or ARDEX K15M / K12N mixed with ARDEX E25 Improver and then over sheeted with underlay to provide a rigid and flat surface.

This is the preferred method for installation of ceramic tiles to minimise the risk grout cracking.

Refer to the adhesive and floor covering manufacturer's advice for application over wood based underlays.

**OPTION 3 – ARDEX FEATHER FINISH AS A SKIM COAT**

ARDEX Feather Finish can be used on closely fitted fibre-cement underlay, plywood and particleboard flooring to fill in grooves, gouges, level up joints etc., and allows for the fast installation of floor coverings. Extra flexibility and adhesion can be achieved if the Feather Finish is mixed 1:1.5 with ARDEX P82 primer (itself already mixed correctly).

*The consumer must be notified that joints of particle board or plywood flooring may show through and that vinyl can be damaged or distorted if particle board or plywood flooring expands or contracts.*

*Application of Feather Finish over T&G board flooring is not recommended.*



## SUBSTRATE PREPARATION

**Note: Particleboard/plywood flooring may be coated with a resin waterproof protective layer. This resin layer may act as a bond breaker to applied finishes and should be removed by sanding.**

1. The wooden subfloors must be clean and free of oil, grease, wax etc. The subfloor should be solid and fixed to provide a rigid base, with deflections less than 1/360<sup>th</sup> of the span distance of the floor joints. Any boards exhibiting movement should be re-nailed and open joints should be filled with a suitable fast setting mortar.

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

2. Sand the wooden subfloor, using a coarse abrasive, to remove all foreign matter and to provide a mechanical surface for the installation of Arditex, ARDEX K15M / K12N or Feather Finish.

The attached photo is particleboard flooring sanded with 36 grit abrasive to produce a suitable textured profile clean of surface waxes and contaminants.



3. Subfloor shall be vacuumed to remove any dust or sanding debris.
4. 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 are maintained. Failure to have adequate 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.

### PRIMING FOR ARDITEX AND ARDEX K15 / K12N

1. Prime the wood subfloor with ARDEX P82 Ultraprime in accordance with printed technical data. A thin pink coat is sufficient and excess material will slow drying and create a rubbery surface which can result in cracking of the underlayment.
2. Drying time is a minimum of 3 hours (@ 23 degC) and a maximum of 24 hours.

### INSTALLATION OF UNDERLAYMENT CEMENTS

#### OPTION 1 – ARDITEX NA FLOOD COAT.

Install Arditex as per the printed technical data sheet, allowing the Arditex to dry completely prior to installing flooring. This is typically around 24hrs, and can be extended at lower temperatures and high humidity

For thickness over 8mm, the minimum recommended temperature is 15-16 deg.C.

Where underlay sheets are to be applied over the Arditex follow Option 2 from 2.

#### OPTION 2 – ARDITEX NA OR ARDEX K15M / K12N AS A PATCH AND DEPRESSION FILLER WITH FIBRE-CEMENT UNDERLAY SHEETING.

##### ARDITEX

All depressions and undulations to be filled with Arditex Latex Self- Smoothing Cement

1. Allow the Arditex to harden to walkability (2-4 hours). Install the fibre-cement underlay sheets as per manufacturers written instructions.
2. *Install Hardwood and MDF sheets as per Special Note section.*

Avoid joins of the underlayment sheets over any Arditex patched area.

3. The underlay sheet must be secured to the wooden floor, using nails or sufficient length to penetrate through the Arditex and lock into the wooden subfloor (see attached diagram). These nails should penetrate through the timber sheeting.
4. Touch up and fine finishing of fibre-cement underlay sheets can be achieved using ARDEX Feather Finish.

**ARDEX K15M / K12N**

1. All depressions and undulations to be filled with ARDEX K15 mixed with ARDEX E25 improver.

*Note: ARDEX K15M to be mixed with ARDEX E25 as follows:*

K15M	K12N
1.6 litres ARDEX E25 Plus 4.0 litres water To 20 kg ARDEX K15M	1.0 litres ARDEX E25 Plus 4.5 litres water To 20 kg ARDEX K12N

2. Allow the ARDEX K15M / K12N to harden to walkability (2-4 hours). Install the fibre-cement underlay as per manufacturers' written instructions.
3. Avoid joins of the underlay sheet over any ARDEX K15M / K12N patched area.
4. The underlay sheet must be secured to the timber floor, using long nails to penetrate through the ARDEX K15M / K12N and lock into the timber subfloor (see attached diagram). These nails should penetrate through the timber sheeting.
5. Touch up and fine finishing of the fibre-cement underlay can be achieved using ARDEX Feather Finish.

*Special Note: For Masonite and M.D.F. Underlayment installation, follow procedure as above with the exception of that the ARDEX K15M / K12N + ARDEX E 25 and Arditex Latex Cement to must be allowed to **dry completely** before applying Masonite and M.D.F. sheeting.*

**OPTION 3 – ARDEX FEATHER FINISH AS A SKIM COATING**

1. ARDEX Feather Finish can be installed from a true featheredge up to 3mm thick.
2. Apply the mixed ARDEX Feather Finish to the clean substrate with a steel trowel. Fill all defects in the surface completely and apply sufficient pressure to the trowel to feather the product into the existing surface.
3. As soon as the ARDEX Feather Finish can be walked on without damaging the surface (in as little as 15 – 20 minutes) vinyl tile & sheet and carpeting can be installed.

**FLOORING ADHESIVES**

For resilient flooring it is recommended that ARDEX AF172, ARDEX 178, ARDEX AF143, or ARDEX AF142 are used for resilient sheet flooring, VCT and vinyl planks respectively.

For textile floor coverings the recommended adhesive would be ARDEX AF266 which is a wet-dry capable adhesive or ARDEX AF241 for normal carpets.

For PVC or vinyl backed carpet tiles and carpet underlay ARDEX AF143 and ARDEX AF236 are recommended.

For linoleum or Marmoleum™ the recommended adhesive is ARDEX AF748.

For covings and other difficult areas such as wall-floor interfaces ARDEX AF675 contact adhesive is recommended.

For ceramic tiles, the recommended adhesives would be ARDEX Optima, ARDEX Isoflex 2 Part, ARDEX X56 or ARDEX WA100. Also refer to Technical Bulletin TB218 for further information on this subject.

The grouts recommended would be ARDEX FG8, ARDEX FSDD or ARDEX WJ50 mixed with Grout Booster, ARDEX DG or ARDEX WA epoxy.

**NOTES**

*Always make a test installation first to assure success, as floor conditions vary from site to site and refer to flooring manufacturer and adhesive manufacturer for their recommended installation procedures.*

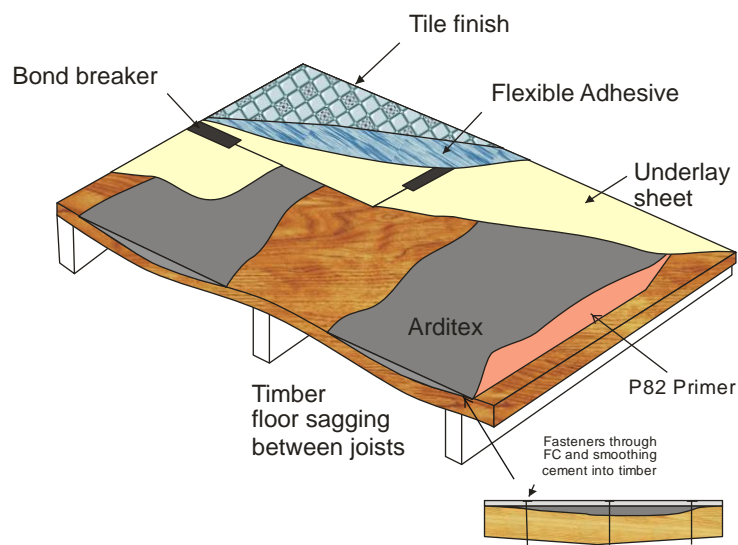


This bulletin does not apply to wet areas as defined in AS3740 or floors requiring waterproofing systems under the BCA/NCC.

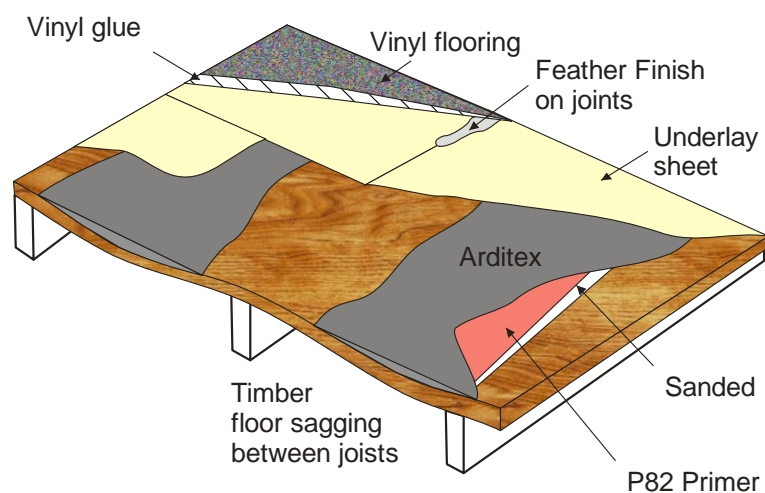
For information concerning application of ARDEX K15M levelling cement over T&G refer to Technical Bulletin TB016, for thick bulk fills refer to Technical Bulletin TB102, and for wooden floored vehicles and machinery Technical Bulletin TB194.

The presumption is that the timber floor is stable and rigid. Where the vertical deflection exceeds  $1/360^{\text{th}}$  of the floor joist spacing, then cracking is more likely to occur at joints. High deflections also have implications for applied tiling systems.

**The practice of installing the liquid smoothing cements on the top of fibre-cement underlay sheets is not recommended. One problem is that dips and depressions in the fibre-cement sheet can result in problems with sheet cracking or damage. These sheets work best on already relatively flat surfaces. Also the underlay sheets are attached to the base timber boards, but still retain a fairly large degree of their flexibility and can be deformed. The higher strength smoothing cements can result in the edges of the sheets lifting, resulting in cracking of the topping at the fibre-cement joints, possible lipping and resultant show through. The only type of fibre-cement sheet that can have liquid smoothing cements directly applied is compressed fibre-cement sheeting.**



Typical application of Arditex or ARDEX K15M / ARDEX K12N + ARDEX E25 used as a patch below fibre-cement underlay sheets and ceramic tiles.



Typical application of Arditex used as a patch below fibre-cement underlay sheets for vinyl

## GLOSSARY

*Underlay* – The description used in AS1884 to describe fibre-cement, hardboard and MDF sheets used as sheets placed on subfloors under resilient flooring.

*Underlayment* – the description used in AS1884 to described engineered liquid applied smoothing cements placed on subfloors under resilient and textile floor coverings.

### **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**

Removal of redundant sentence

### **REVIEW PERIOD**

Two years from issue date.

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