

TECHNICAL BULLETIN – TB194

APPLICATIONS FOR ARDITEX & FEATHER FINISH OVER INTERNAL DRY TIMBER SURFACES IN RAIL CARRIAGES, MOTOR OMNIBUSES AND BUILDING ELEVATORS

Date, Wednesday, 17 September 2014.

INTRODUCTION & SCOPE

A problem which is encountered with wooden floored moving machinery is the levelling and smoothing of wooden subfloors to receive resilient flooring, hard floor coverings 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 underlay sheet over rough/uneven timber will often result in disintegration of underlay and floor coverings when exposed to traffic stress.

These surfaces are rarely suitable for direct applications of the floor covering, and to compound the issue, movements of the machinery result in stresses and strains that require good flexibility and resistance to fatiguing.

The revised Australian Standard for Resilient Flooring AS1884-2012 says this about particleboard subfloors:

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 applications can be used for vinyl, hard floor coverings (ceramic tiles) and carpet to provide a smooth and level surface.

OPTION 1 - ARDITEX NA FLOOD COATING DIRECT BONDED TO TIMBER

(ARDITEX IS SUITABLE FOR PARTICLEBOARD AND 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.

OPTION 2 – ARDITEX NA USED A PATCH WITH FIBRE-CEMENT SHEET, HARDBOARD OR MDF UNDERLAY SHEETS

Depressions in the floor can be filled with ArditeX and then over sheeted with underlay to provide a rigid and flat surface. This is the preferred option for ceramic tiles to avoid grout cracks, since bond breakers can be used over the sheet joints.

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.

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.



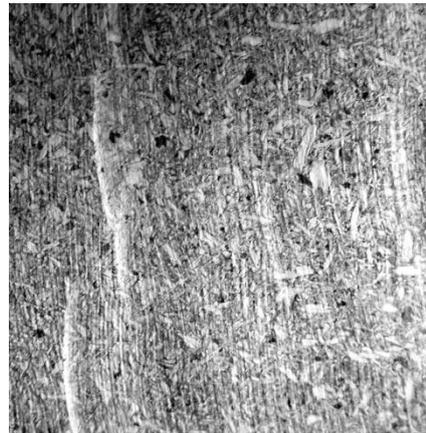
SUBSTRATE PREPARATION

WARNINGS: 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.

Some particleboards used in rail carriages that Ardex has seen, appear to be heavily phenol-formaldehyde impregnated and require effective surface roughening to get a good bond for the smoothing cement.

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 1/360th of the span distance of the floor joints. Any boards exhibiting movement should be re-fixed by fasteners 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 Arditec 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.

PRIMING FOR ARDITEX

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

OPTION 2 – ARDITEX NA AS A PATCH AND DEPRESSION FILLER WITH UNDERLAY SHEETING.

1. Allow the Arditec 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 underlay sheets over any Arditec patched area.
3. The underlay sheet must be secured to the wooden floor, using long nails to penetrate through the Arditec and lock into the wooden subfloor. 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.

*Special Note: For Masonite and M.D.F. Underlayment installation follow procedure as above with the exception of that the Arditec 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.
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 or carpeting can be installed.

FLOORING ADHESIVES

The following adhesives are recommended for these installations:

For resilient flooring it is recommended that Ardex AF545 epoxy is used due to its high load capabilities. Other alternatives for lower traffic areas would be Ardex AF172, AF178 or Ardex AF143 for resilient flooring and VCT respectively.

For textile floor coverings the recommended adhesive would be Ardex AF266 which is a wet-dry capable adhesive.

For covings, wheel arches and other difficult areas such as wall-floor interfaces Ardex AF675 contact adhesive is recommended.

For ceramic tiles, the recommended adhesives for high traffic applications would be Ardex Optima, Ardex X77+/-E90, Ardex X78+/-E90, Ardex WA100 and Ardex X56 for low traffic applications (i.e. lifts in domestic buildings). The grouts recommended would be Ardex FG8 mixed with Grout Booster or Ardex WA epoxy.

PRECAUTIONS

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.

The installation of ceramic tiles requires care to prevent cracking of the grout lines and potential flexing of the tiles producing cracks within the tile field.

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

Two years from date of issue

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