

TECHNICAL BULLETIN – TB036

ARDEX FLOOR SMOOTHING CEMENTS AND ADHESIVES LEVELLING FLOORS FOR THE INSTALLATION OF PARQUETRY WOODEN BLOCKWORK & DIRECT STICK TIMBER FLOORING

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INTRODUCTION & SCOPE

The resurgence and appeal of parquet and directly adhered timber flooring combined with consumer demands for a better finish and smoother flatter floors, a greater need in precision for pre-levelling prior to installing new timber flooring is required.

New building designs such as open living rooms, larger glass windows and doors with lightweight or no curtains allowing light, heat and sun penetration onto larger arrears of flooring throughout the day are now very popular. The design features described above result in a rapid response to external climatic changes and resultant timber movement. The widespread use of airconditioning also creates circumstances where timber movements can occur. Increased timber movement has also been linked to the wider use of plantation grown immature timber. These movements can produce significant tensile stresses in the flooring system.

ARDEX has taken into consideration the changes in the industry and reviewed our procedures and products we feel suitable to meet the challenges of timber floors today.

The following underlayment products, mixed with water can achieve the required performance for parquet and strip timber installation, however to provide additional protection against the forces applied by natural that *displays rapid or large dimensional change*, which can be timber species dependent, we recommend the addition of ARDEX E25 Resilient Emulsion be considered. This does not apply to ARDEX K55.

SURFACE PREPARATION

Sub-floors must be structurally sound with all previous coatings removed, clean and free of oil, grease, wax, latex compounds, curing compounds, efflorescence, laitance, dust and all foreign matter, back to an open porous matrix of the concrete. Professional cleaning by mechanical means in line with sound building industry practices is advised and suggested. Methods in line with the "International Concrete Repair Institute" Guideline No. 310.2R-2013 (formerly Guideline No. 03732) are recommended and include shotblasting, scarifying or diamond grinding to provide a surface profile of between CSP3 to CSP7. Refer to ARDEX Technical Bulletin TB041 for more details about general floor preparation.

INSTALLATION

This procedure refers only to masonry sub-floors, and where the subfloor is strip timber (not ply or particleboard) the process of filling and over-sheeting described in Technical Bulletin TB016 can be applied. Installation of smoothing cements over pre-existing parquet floors is not recommended. Where the subfloor is particleboard or plywood, the process described for filling low spots with Arditec and covering the floor with sheet underlayment as described in Technical Bulletin TB015 is recommended.

It is not recommended to direct bond timber flooring to Arditec NA flood or patch coats such as Feather Finish.

1. ARDEX P51 Primer required for porous concrete or when re-coating ARDEX Levelling Cements. Dilute 1:2 with water and apply by a push broom.

- ARDEX P82 Ultraprime required for non-porous surfaces such as ceramic tiles, terrazzo etc. Mix the two parts and apply by roller, and brush into grout lines.
- The following smoothing cements can be used neat (unless used with ARDEX P82 priming in which case ARDEX E25 **must** be added). Irrespective, the addition of E25 increase overall resilience and will improve performance.

ARDEX K15 Microtec

ARDEX K55 (no E25 required)

ARDEX A45

ARDEX K12 New

ARDEX K120*

ARDEX K220*

*These are not Ardurapid system products and require longer cure times before strip timber placement.

- When installed with the addition of ARDEX E25 the following mix designs apply.

<i>Smoothing cement 20kg bags</i>	<i>ARDEX E25 added</i>	<i>Mix water added</i>
ARDEX K15M	1.6 litres	4 litres
ARDEX A45**	1 volume	2.5 volumes
ARDEX K12N	1.25 litres	3.75 litres
ARDEX K120	1.25 litres	3.75 litres
ARDEX K220	1.6 litres	3.5 litres

** A45 is usually mixed in small quantities rather than full bags.

ARDEX K55 requires no addition of ARDEX E25.

Note: Minimum thickness is 2mm.

- Recommended underlyament curing times prior to the installation of timber flooring at 23°C is tabled below:

<i>Smoothing cement</i>	<i>Parquet blocks</i>	<i>Timber strips</i>
ARDEX K15M	48 hours minimum	24 hours minimum
ARDEX A45	36 hours minimum	24 hours minimum
ARDEX K12N	48 hours minimum	24 hours minimum
ARDEX K55	24-36 hours	24 hours minimum
ARDEX K120	72 hours minimum	48 hours minimum
ARDEX K220	72 hours minimum	48 hours minimum

Where the temperature falls below about 15°C these times are likely to be extended and installation is not recommended below 10°C. Note the floor temperature can be several degrees colder than the air temperature, especially slab on ground situations.

Particular care is required in south eastern NSW and the ranges, the ACT, Victoria and Tasmania in the cooler months where temperatures can regularly fall below the minimums for days at a time.

IMPORTANT POINTS WHEN INSTALLING PARQUETRY OR STRIP TIMBER

- ✓ Check moisture content of subfloor. Note that tiled floors may have performed adequately on a damp substrate as the moisture could escape through the grout lines. When covered with the timber flooring this situation can change and both coverings become unstable. Application of moisture barriers over tiled subfloors is not a recommended practice. Where moisture is identified as a problem with tiled floors, it is



recommended that the tiles are removed and a moisture barrier system installed. Refer to Technical Bulletin TB006 for information about moisture barrier systems.

- ✓ The subfloor moisture shall not exceed the maximum relative humidity reading shown in Appendix A of A.S.1884-2012 or as specified by the parquet manufacturer. Note – Direct application over rigid epoxy type moisture barriers is possible but is not generally recommended, see Technical Bulletin TB053 for more information. Direct application over flexible waterproof membranes is not recommended.
- ✓ Acclimatise parquetry and timber on site, remove packaging and stack individually for a minimum 2 weeks or until equilibrium moisture content is obtained.
- ✓ Acclimatisation is even more critical where the subfloor is 'heated' because clearly, un-equilibrated timber will make rapid and unpredictable dimensional changes when the heated floor is turned on.
- ✓ Leave the laid parquet or timber floor to dry for 21 days or until moisture content equilibrium is obtained before sanding and then sealing.
- ✓ Use the correct sealer as recommended by the parquet or timber manufacturer.
- ✓ Beware of the problems associated with polyurethane finishes and the “**clumping effect**”.
- ✓ Beware of any environmental situations, which may affect the long-term performance of natural timber flooring i.e. air conditioning, floor to ceiling glass doors and windows, large variations in humidity through out the year (tropical north of Australia).

Always install test areas to determine the suitability of the product for the intended purpose.

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

Addition of K120 and K220. Changes to curing wait times. Additions of extra warnings about cold conditions.

REVIEW PERIOD

24 months from date of issue.

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