



## TECHNICAL BULLETIN – TB030

# ARDEX K15, K12 & ARDITEX NA OVER INTERNAL COMPRESSED FIBRE-CEMENT DECKING

11<sup>th</sup> October 2024

### INTRODUCTION

Modern construction techniques require floor coverings to be laid over many substrates. Compressed fibre-cement flooring on steel or timber framework presents an unusual challenge to the floor-covering contractor. The compressed fibre-cement flooring due to its construction can provide an irregular surface subject to vibration when loaded or walked on.

### SOLUTION

ARDEX K15 / ARDEX K12 self-levelling cement mixed with ARDEX E25 improver or ARDEX ARDITEX NA universal smoothing cement, combined with ARDEX P82 bonding agent, is suitable for “Dry Internal Areas Only” and provides a smooth flat surface that is resistant to vibrations.

ARDEX K15 / ARDEX K12 mixed with ARDEX E25 is suitable for high-quality vinyl, carpets, and floating timber floors, while ARDITEX NA can be used for applications where surface hardness is less critical and semi-self-smoothing only is required, such as floating timber floors and carpets.

### QUALIFICATIONS

There is a degree of confusion in the industry as to what constitutes compressed fibre-cement sheet flooring. Compressed fibre-cement sheet is manufactured by taking several thin ‘green’ fibre-cement sheets and pressing them together at ~130psi, to form a single sheet which is then autoclaved. The final sheet is harder, stronger, and *approx.30%* denser than standard fibre-cement sheets, or the newer low density thick flooring sheets. This bulletin is only appropriate for >15mm thick compressed fibre-cement sheeting manufactured from Portland Cement and ground silica sand with an internal fibre-reinforcement which is typically fibrillated cellulose (*see also TB220 re fibre-cement sheet generally*)

ARDEX requires substrates to have a tensile strength of 1.5MPa. In general, the tensile strength of these compressed sheeting materials is sufficient to take smoothing cements.

*\*This relates specifically to screeds as in AS1884-2021; however, it is a good rule of thumb for all substrates intended to take smoothing cement and/or hard resin-based (e.g., epoxy) coatings.*

The types of internally installed sheets suitable for this system are:

James Hardie – Hardipanel Compressed Sheet flooring.

BGC Compressed Fibre-Cement Sheeting

CSR Cemintel Compressed Sheet

It **does not apply** to the following types of materials.

- a) Any of the fibre-cement sheet underlay sheets applied over any form of timber floor. These underlays are usually described as vinyl and cork underlays or ceramic tile underlays. When applied to this type of sheet, there will be cracking at the sheet edges and the risk of sheet edge curling.
- b) The specialised ‘low density’ – light weight wet area or decking sheets that have seal coats applied and use sealant filled or non-filled butt joints. At the present time, examples of these materials are;



- a. James Hardie Scyon™ Secura™
- b. CSR Cemintel - Constructafloor™
- c. BGC Durafloor™

*Note: These are covered by Technical Bulletin TB240.*

- c) Any forms of this flooring sheet based on Magnesia or Magnesium Oxychloride or Oxysulphate cements (c.f. 'Magnesite'). These have appeared in the market in the last few years for floors and are unacceptable for smoothing cements.

## PREPARATION

1. Compressed fibre-cement butt joints must be supported by a batten/joist etc., and firmly fixed in accordance with the manufacturer's installation recommendations to allow no movement.
2. **Sheets will be edge-adhered with ARDEX RA88 Plus epoxy adhesive and crack filler between panels. Open joints are not acceptable.**
  - a. *Note: the sheet manufacturer may supply materials of equivalent type.*
3. Compressed fibre cement must be free from dust, dirt, grease, oil, paint, etc. Mechanically prepare (progress, drum, or belt sand) to provide a roughened surface and remove all adhering foreign matter. Vacuum the surface to remove all dust and dirt, etc.
4. *Note: Avoid breathing dust and wear approved personal protective equipment. Refer to sheet manufacturer advice in this area. Do not sand old compressed asbestos cement sheeting.*
5. Prime with ARDEX P82 solvent-free primer in accordance with the manufacturer's instructions. ARDEX P51 diluted 1:2 with water or ARDEX P9 can also be used, however *the low surface porosity of the compressed fibre-cement sheet can delay drying of the primer.*
6. Apply ARDEX K15/K12 mixed with admixture ARDEX E25, or ARDITEX NA to a minimum thickness of 3mm.
7. **Mix designs with ARDEX E25 as follows: -**
  - 20 kg ARDEX K15 - 1.6 litres ARDEX E25 plus 4.0 litres water**
  - 20kg ARDEX K12 – 1.25 litres ARDEX E25 plus 3.75 litres water**
8. Minimum installation and substrate temperature is +15°C.
9. Allow 24 hours curing at 20°C and 48 hours at 15°C before subjecting the area to loads and applying floor coverings.

## FLOORING ADHESIVES

The recommended adhesives for resilient flooring are ARDEX AF171 / AF180 MS. These adhesives are also suitable for sheet vinyl and vinyl planks. ARDEX AF271 can be used for VCT or vinyl-backed carpet tiles.

ARDEX AF271 is the adhesive recommended for textile floor coverings and carpet tiles. For more details, refer to the relevant product datasheets or contact ARDEX Technical Services. Material



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Safety Datasheets are available on request. Other systems may apply where the floor covering is to be ceramic tiles.

**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-ISSUER**

Change of slogan and address

**DOCUMENT REVIEW REQUIRED**

36 months or whenever third-party suppliers change their recommendations.

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