

TECHNICAL BULLETIN – TB219

APPLICATION OF CERAMIC TILES ONTO DINCEL[®] COREFILLED PLASTIC PANELWORK

Date, Wednesday, 9 November 2016

INTRODUCTION & SCOPE

The core filled Dincel[®] formwork system is based upon an exoskeleton of PVC plastic panels (1800-7950mm long) that have a proprietary locking system to hold the individual panel panels together. The internal cavity of the wall contains steel bars and is filled with poured concrete.

This technical bulletin lists the approved ARDEX products for direct tiling of *internal* walls constructed from the Dincel[®] system and also application of a waterproof membrane system to the wall-floor junction. Waterproofing can also be applied to wet area walls if required by the construction specification or design.

QUALIFICATIONS

This bulletin describes the adhesive systems that were found to bond to the PVC surface of the Dincel[®] wall itself. It does not offer recommendations for detailing the individual panel joints in the wall, nor for the types of rendering materials that may be applied to the surface to smooth it.

Where an acrylic modified sand-cement render has been applied to the Dincel[®] wall face (for example to smooth the joints or provide a homogenous flat surface), most types of ceramic tile adhesive are likely to be suitable for bonding tiles to the rendered surface. The ultimate bond performance in these cases is purely related to the bond of the render to the wall face, rather than the tile adhesive to the wall face.

The tiles adhered must be of a type suitable for the recommended adhesive systems.

With regards to waterproofing, the Dincel panel joints are stated to be waterproof in their literature. Recommendations for waterproofing in wet areas, are therefore only included in this bulletin where the specification for the site requires a formal waterproofing system to be installed. The wall floor joint description for areas such as below grade parking is the result of ARDEX bench trials at the request of Dincel.

RECOMMENDED ADHESIVES

The surface of the panel must be clean and free of contamination. Sanding of the smooth and slightly glossy surface with 40-60 grit abrasive to a CSP1 equivalent profile will improve the system performance.

Class C2 Improved cement based adhesive systems

Primers –

- a) ARDEX P82 Ultraprime applied at 6-10m²/litre with a brush or a short nap/foam roller and allowed to dry for a minimum of 3 hours and maximum of 24 hours or
- b) ARDEX WPM300 applied to the sanded surface and blinded with clean dry broadcast quartzose sand (0.3-0.5mm) and allowed to cure for >12 hours.
- c) ARDEX P9 or Aba Abaprime applied at 6m²/litre with a brush or a short nap/foam roller and allowed to dry for approximately 1- 3 hours depending on the temperature.

Class C adhesives for adhesion for primed surfaces –

ARDEX Optima

ARDEX STS8W + ARDEX E90 liquid.
ARDEX S28 + ARDEX E90 liquid
ARDEX X77 + ARDEX E90 liquid
ARDEX X18 + ARDEX E90 liquid
ARDEX Quickbond + Abalastic liquid.

Class R reactive resin adhesive systems for sanded surfaces without priming

ARDEX WA100
ARDEX WA
ARDEX Abapoxy

Combined systems using Abapoxy as a wet on wet surface primer for ARDEX class C2 adhesives would also be suitable.

ARDEX C class cement based grouts ARDEX FG8, ARDEX FSDD and ARDEX WJ50 shall use ARDEX Grout Booster to provide extra flexibility and adhesion.

WATERPROOFING SYSTEMS

This is divided into two basic approaches, the wall-floor junction for car parks etc., and the standard wet area waterproofing systems.

Wall-Floor Junctions (car parks and below grade areas negative side wall)

External walls (positive side) may require a system suitable for soil contact.

The junction between the Dincel panel and the concrete floor is detailed as per the general schematic on the following page.

1. The area to be treated requires light sanding, de-dusting and to be dry.
2. The Dincel wall above the limit of the Detail tape (see point 4) shall be primed with ARDEX P9/Aba Abaprime, and the concrete floor primed with ARDEX WPM265 water based primer or ARDEX P9/Aba Abaprime.
3. A bead of neutral cure sealant is applied along the wall-floor junction, and CA20P is applied up the vertical joints.
4. ARDEX Construction Detail Tape is applied across the joint equidistantly on the wall and floor, and the mesh wings embedded in Abapoxy (resin only). The outer embedding coat shall be sand seeded. After the epoxy has dried (next day) the excess sand is removed.
5. Two coats of ARDEX WPM002 waterproofing is applied over the junction extending at least 50mm either side of the Detail tape. The final dry film thickness shall be a minimum of 1.2mm.
6. The WPM002 can be tiled over (adhesives above except S16) or coated with a protective finish such as ARDEX WPM310.

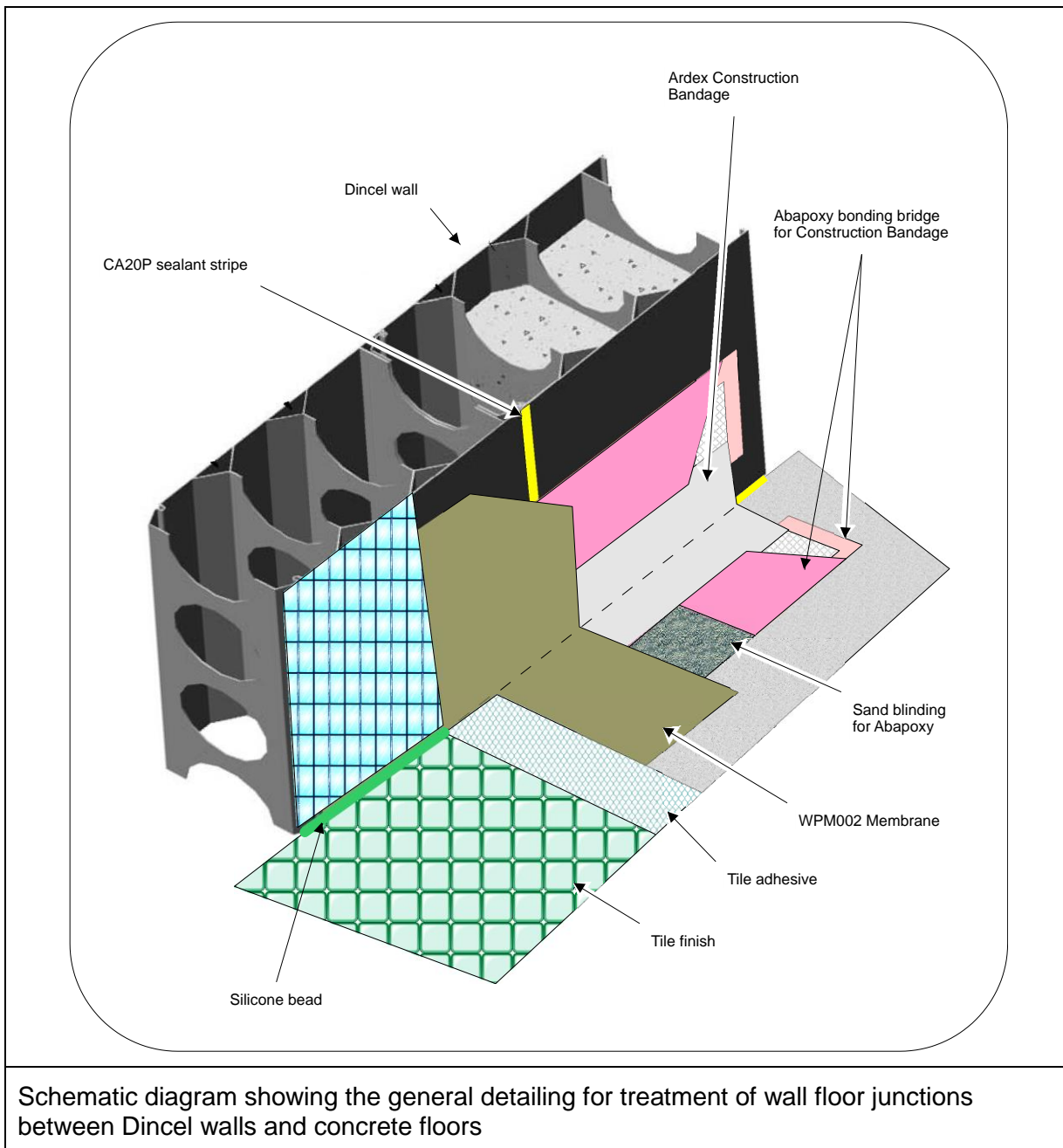
Standard Wet Areas

Priming for the walls shall be done with ARDEX P9/Aba Abaprime and the floors (typically a screed placed on slab to create falls) or ARDEX WPM265 or Multiprime.

The vertical panel joints, wall-floor junctions and penetrations can see prepared with a bead of neutral cure sealant and the covered with ARDEX STB Tape.

ARDEX WPM155R or ARDEX WPM001 waterproof membrane applied over the full surface including tape in two coats to a final dry thickness of 1.0mm.

The waterproofed area can be tiled with the above recommended adhesives except S28.



ATTACHMENT OF PLASTERBOARD FACING SHEETS

In certain internal wall situations, it may be necessary to attach plasterboard sheets to the surface of the Dincel panels.

The sheets can be held in place on the clean PVC surface of the Dincel panel with an ARDEX siliane-urethane adhesive while the sheet is correctly fixed with the recommended mechanical fasteners (screws) for the system specified by Dincel.

The appropriate ARDEX materials supplied in sealant tubes are:

ARDEX CA 20P in either white or black

DUNLOP Tile All PLUS (white)

DUNLOP Roof, Gutter and Pond Repair (grey)

Note: These materials are not intended to be used as the sole fixing system, only to hold the sheets in place prior to final fastening.

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

Addition of reference to installation of plasterboard walls.

Deletion of S16 and replacement with S28

DOCUMENT REVIEW REQUIRED

24 months from issue

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