

TECHNICAL BULLETIN – TB087:AV005

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BONDING CERAMIC TILE TO WET-SEAL WATERPROOFING MEMBRANE SYSTEMS

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INTRODUCTION

The Wet-seal Group operates in Australia as a group of independent franchisees of a waterproofing system designed for residential applications in wet areas.

ARDEX Australia Pty Ltd has carried out extensive testing to determine the effectiveness of a number of ceramic tile adhesives when applied over the different types of 'Wet-seal' waterproofing membrane systems.

'WET-SEAL' WATERPROOFING SYSTEMS EVALUATED

1. Polyester fibreglass membrane overcoated with Wet-seal Top-coat 300
2. Wet-seal Pyure-coat 400 System
 - 2.1 Wet-seal Top-coat 300 as primer over concrete under aliphatic PU Pyure-coat 400.

CERAMIC TILE ADHESIVES EVALUATED

1. ARDEX X77 – Polymer modified cementitious type
2. ARDEX X56 – Polymer rubber modified cementitious type
3. ARDEX Optima – High polymer premium type
4. ARDEX STS8 + Ardex E 90 – Polymer modified cementitious type
5. ARDEX Abaflex – Polymer modified cementitious type
6. ARDEX Glue – Polymer rubber modified type

TEST PROCEDURES

Dry and wet adhesion properties were evaluated in accordance with Australian Tile Adhesive Standard AS 4992.1-2006

The Wet-seal waterproofing systems were applied to standard concrete blocks by the Representative of the Wet-seal Group and allowed to cure for the specified periods.

The polyurethane systems were tested over primed concrete.



RESULTS & DISCUSSION

1. Wet-seal Fibre Coat System

a) Polyester Fibreglass Membrane Overcoated with Wet-seal Top-coat 300

The use of the Wet-seal Top-coat 300 produced improved adhesion results.

ARDEX Optima, ARDEX STS 8 plus ARDEX E 90, ARDEX Abaflex and ARDEX Glue all conformed to wet adhesion requirements as per AS4992.1, with ARDEX Optima showing the best results.

b) Heating Coil Installation Over Wet-seal Top-coat 300

When heating coils are going to be installed on top of Wet-seal Top-coat 300, ARDEX X77, ARDEX Abaflex, STS8 + ARDEX E 90, ARDEX Optima can be used to embed the heating coil. Apply the adhesive using flat trowel and screed off at least 2 mm above the heating coil. Allow to cure for overnight prior to installation of ceramic tiles.

2. Wet-seal Pyure-coat 400

Improved adhesion results of the ceramic tile adhesives were achieved when applied over the aliphatic PU Pyure-coat 400 that had been applied directly to the concrete substrate. ARDEX OPTIMA, ARDEX X56 and ARDEX X77 produced wet adhesion results conforming to the requirements of AS4992.1.

It appears that the priming will slow down the drying of the PU membrane. Therefore it is important that the PU membrane is allowed to cure for 48 hours prior to fixing tiles using ARDEX X56 or ARDEX X77

If ARDEX Optima is to be used, the PU membrane has to be cured for at least 7 days prior to fixing tiles over.

Good adhesion was achieved between the aliphatic PU Pyure-coat 400 and the Wet-seal Top-coat 300 when Wet-seal Top-coat 300 was used as primer over the concrete.

CONCLUSION

1. Wet-seal Top-coat 300 is recommended for use as the barrier coating to be applied between the polyester fibreglass and the ceramic tile adhesive. Apply the Top-coat 300 as soon as the fibreglass is dried (preferably within 30 min to 1 hours under 23°C, 50% RH) and in any even within same day of application of fibreglass at wet film thickness of 300 microns.
2. ARDEX Optima, ARDEX STS8 + ARDEX E 90, ARDEX Abaflex, and ARDEX Glue are recommended for the installation of ceramic tiles over the Wet-seal polyester/fibreglass system with a single coat of Wet-seal Top-coat 300. ARDEX X77, ARDEX Abaflex, ARDEX STS8+ARDEX E 90, and Optima can also be used to embed heating coil over Wet-seal Top-coat 300 prior to fixing tiles.
3. Allow the Top-coat 300 to cure overnight prior to fixing the tiles with ARDEX tile adhesives. At all times the surface of Wet-seal Top-coat 300 has to be thoroughly cleaned of all foreign matters at all times (Refer to Wet seal's Wall & Floor Stickers on site).
4. ARDEX X56, ARDEX OPTIMA and ARDEX X77 Ceramic Tile Adhesives are recommended for the installation of ceramic tiles over the aliphatic PU Pyure 400. In this case, Wet-seal Top-coat 300 has to be used as primer/moisture barrier over



concrete substrate. The aliphatic PU Pyrure-coat 400 has to be allowed to cure for 48 hours prior to tile installation.

5. The recommendations contained in items 1, 2, 3 & 4 above all produce tensile bond strength results conforming to AS 4992.1.
6. The conclusions drawn within this bulletin are limited to the waterproofing systems tested. Any product formulation or installation changes in the Wet-seal products will render this recommendation null and void.

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.

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