

PART 1 SYSTEM

1.1 REFERENCES

A. Australian Standard(s):

1. AS 3958.1-2007 – Ceramic Tiles; Part 1: Guide to the Installation of Ceramic Tiles

B. MAPEI Technical Notebook(s):

1. [Waterproofing Baths and Swimming Pools](#)
2. [Guide for the Installation of Ceramic Materials](#)
3. [MAPEI Ceramic Substrate Preparation Guide](#)

1.2 CONCRETE SUBSTRATE PREPARATION

All substrates must be structurally sound, dry, solid and stable. Any laitance, dust, grease, oil, paint or curing compounds present on the surface of the concrete substrate that may inhibit bond, shall be mechanically removed. The substrate should then be cleaned and prepared in accordance with the relevant standards and as per the MAPEI technical data sheets (TDS). Exposed steel should have the surrounding concrete removed, also any rust, and subsequently treated with **MAPEFER 1K** (453-8-2013) in accordance with the TDS.

1.3 SCREED – FLOOR

- **NOTE:** Prior to the application of the screed, ensure all pipe penetrations, light fittings, water circulation and filtration units are appropriately detailed. Contact Mapei Technical Assistance for more information if required.

Screed to be chosen from the following options:

A. TOPCEM PRONTO (209-7-2017 AUS) - GOOD SOLUTION

1. Ready-to-use normal setting, controlled-shrinkage mortar for quick-drying screeds.

B. MAPECEM PRONTO (210-07-2017 AUS) - BEST SOLUTION

1. Pre-blended, ready-to-use, quick-setting and drying (24 hours), controlled-shrinkage mortar for screeds.

- **APPLICATION:**

- ◇ Ensure a slurry coat of **PLANICRETE SP** (700-6-2016) mixed with either **MAPECEM** (201-02-2017 AUS) or **TOPCEM** (207-02-2017 AUS) has been applied depending on which product is chosen. Refer to the TDS for mixing details,
- ◇ Ensure screed is applied over the slurry coat whilst the slurry coat is still wet.
- ◇ Mix in and apply strict accordance with the TDS, paying particular attention to the surrounding environmental conditions. Ensure a minimum thickness of 10 mm is applied.

1.4 SMOOTHING MORTAR – WALL

- **NOTE:** Prior to the application of the smoothing mortar, ensure all pipe penetrations, light fittings, water circulation and filtration units are appropriately detailed.

Smoothing mortar to be chosen from the following options:

A. PLANITOP FAST 330 (2608-3-2017 GB) - GOOD SOLUTION

1. Quick setting, fibre reinforced cementitious mortar for internal and external floors and walls, applied at a thickness from 3 to 30 mm to smooth out irregularities.

- **APPLICATION:**

- ◇ Apply a feather edge layer to the substrate and then immediately apply a layer at the thickness required.

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B. PLANITOP SMOOTH & REPAIR R4 (1136-9-2014) - BEST SOLUTION

1. Structural R4-class, rapid setting, shrinkage compensated, thixotropic, fibre reinforced, cementitious mortar, applied in a single layer from 3 to 40 mm thick for repairing and smoothing concrete.

- **APPLICATION:**

- ◇ Ensure substrate is prepared in accordance with the TDS to have a roughened surface that has been saturated and left for excess water to evaporate.

1.5 WATERPROOFING MEMBRANE

- **NOTE:** Prior to the application of the waterproofing membrane:

- ◇ **Junctions Option A:** Apply a bond breaker/tape with **MAPEBAND** (337-3-2018 GB) or **MAPEBAND EASY** (7631-6-2017 GB) at wall/wall, wall/floor junctions and all other areas where movement is expected.
- ◇ **Junctions Option B:** Apply a flexible fillet with **MAPEFLEX PU 45 FT** (8102-10-2016 GB) with the membrane reinforced with **MAPETEX SEL** (911-12-2016 GB) at all junctions and other areas where movement is expected.

A. MAPELASTIC SMART (2013-8-2017 GB)

1. Two component, high flexibility cementitious mortar (with crack-bridging capacity >2 mm) applied by trowel or roller for waterproofing balconies, terraces, bathrooms and swimming pools.

B. MAPELASTIC FOUNDATION (2069-5-2017 GB) – For negative hydrostatic pressure

1. Two component, flexible cementitious membrane for waterproofing concrete surfaces subject to both positive and negative water pressure.

- **NOTE:** Before applying the **MAPELASTIC FOUNDATION**, apply a coat of **PRIMER 3296** (2069-4-2014) with a brush or roller, diluted 1:1 with water.

- **APPLICATION:**

- ◇ Waterproofing membrane must be applied in at least two coats by trowel or roller within 60 minutes of it being mixed. Waterproofing membrane applied at a thickness of at least 1 mm per coat.
- ◇ It is recommended to lay **MAPENET 150** (914-2-2017 GB) alkali-resistant glass fibre mesh or a reinforcement fabric with **MAPETEX SEL** (911-12-2016 GB), into the wet first coat of the waterproofing membrane, ensuring it is completely embedded, in strict accordance with the TDS.
- ◇ Floor waterproofing membrane to be returned up wall substrates over the bond breaker/tape or flexible fillet in accordance with the TDS.
- ◇ Wall waterproofing membrane to be returned down across the floor substrate over the cured bond breaker/tape or flexible fillet.

1.6 OSMOTIC CEMENTITIOUS MORTAR – SCUM GUTTERS, IF REQUIRED

A. IDROSILEX PRONTO (306-4-2014 GB) [Also known as PLANISEAL 88]

1. Osmotic cementitious mortar suitable for contact with drinking water, for rigid waterproofing masonry and concrete structures.

- **APPLICATION:**

- ◇ Apply mortar with a brush or trowel in a minimum of 3 coats.
- ◇ Ensure previous coat is sufficiently dry before subsequent applications.
- ◇ Observe the area to determine if a fourth coat is required.
- ◇ The final thickness should be a minimum of approximately 2-3 mm.



1.7 ADHESIVE

- **NOTE: KERAPOXY OR KERAPOXY DESIGN** is recommend as an adhesive for finger grips where applicable.
- **NOTE:** Efflorescence is a natural process with all products that contain Portland cement. With moisture transportation being the driving force, to assist in mitigating the potential for efflorescence it is recommended to use a two-component adhesive (mixed with a latex) to reduce the porosity of the system. Furthermore, voids behind the tile must be avoided by maximising adhesive coverage.

Adhesive to be chosen from the following options:

Normal set

- A. KERAFLEX MAXI S1 (74-04-2017 AUS) - GOOD SOLUTION**
1. High performance, deformable cementitious adhesive with an extended open time and no vertical slip, for ceramic tiles. Especially suitable for the installation of large porcelain tiles and natural stone (non-moisture sensitive).
- B. ULTRALITE S1 (71-07-2016 AUS) - GOOD SOLUTION**
1. One-component, high-performance, flexible, lightweight, cementitious adhesive with no vertical slip and long open time and extremely high yield. Easy to apply by trowel with excellent wetting properties, very low emission of volatile organic compounds for ceramic tiles, stone and thin porcelain tiles.
- C. KERABOND PLUS + ISOLASTIC (87-02-2017/112-1-2018 GB) - BETTER SOLUTION**
1. Cement based powder with superior bond strength suitable for all types of tiles and natural stones with a latex additive to elasticize the adhesive.

Rapid set

- D. KERAQUICK S1 (103-06-2016 AUS) - GOOD SOLUTION**
1. High performance, deformable, fast setting cementitious adhesive with no vertical slip, for ceramic tiles and stone material.
- E. KERAQUICK S1 + LATEX PLUS (103-06-2016 AUS, 114-3-2014) - BETTER SOLUTION**
1. High performance, deformable, fast setting cementitious adhesive with no vertical slip, for ceramic tiles and stone material (Class A/B* stones) with a latex additive to further elasticize the adhesive.

Resin-based

- F. KERAPOXY ADHESIVE (144-11-2017 GB) - BEST SOLUTION**
1. Two-component, epoxy adhesive with no vertical slip for ceramic tiles and stone material.

• **APPLICATION:**

- ◇ Prepare and mix adhesive in strict accordance to the packaging and TDS.
- ◇ To ensure good adhesion, apply with pressure a thin coat of the adhesive with the straight edge of the trowel. Immediately follow this with a layer of adhesive at the correct thickness using a suitable notched trowel.
- ◇ Adhesive should also be pressure applied to the back of the tile/stone with a thin coat using the straight edge of the trowel (*back-buttering*).
- ◇ Ensure the adhesive stays “fresh” and does not form a skin, especially in hot environments, prior to the application of the tile/stone.
- ◇ Place the tile/stone firmly into position wet-on-wet with a slight back and forward motion perpendicular to the trowel lines to collapse the notches.
- ◇ It is recommended to periodically remove and assess adhesive coverage. Continue if acceptable, otherwise reassess trowel and application technique.



1.8 GROUT

- **NOTE:** Prior to the application of the grout, ensure the joints are clean, free of dust and empty down to at least 2/3 of the thickness of the tiles. It is then suggested to carry out a 1 m² sample area for approval by the architect.
- **NOTE:** **KERAPOXY** is especially recommended in spill over, wet edges, and exposed wall areas.
- **NOTE:** Efflorescence is a natural process with all products that contain Portland cement. To assist in mitigating efflorescence, it is recommended to use **ULTRACOLOR PLUS** or **KERAPOXY** as they both do not contain Portland cement, which is the source of efflorescence.

Grout to be chosen from the following options:

- A. KERACOLOR RANGE** - **GOOD SOLUTION**
1. High performance, polymer-modified, cement-base grouts.
- B. ULTRACOLOR PLUS (2801-3-2018 GB)** - **BETTER SOLUTION**
1. High-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar with water-repellent technology
- C. KERAPOXY (141-11-2016)** - **BEST SOLUTION**
1. Two component, acid resistant epoxy grout for joints of at least 3 mm. May also be used as a tile adhesive.
- **APPLICATION:**
 - ◇ Fill the joints completely with the grout using the appropriate trowel or rubber float, ensuring the joints are completely compacted with no unevenness.
 - ◇ Remove excess grout while still fresh from the surface of the tile/stone by moving the float diagonally across the joints.

1.9 SILICONE

- **NOTE:** Prior to application of the silicone, it is recommended that the silicone is applied in a test area to be approved by the client and to ensure it doesn't stain the tile.
- A. MAPESIL AC (401-4-2017 GB)**
1. Solvent-free, acetic crosslinking mildew resistant silicone sealant.
- **APPLICATION**
 - ◇ Movement joints should be installed in accordance with AS 3958.1.

MAPEI provides technical data sheets (TDS) for all products which should be read in conjunction with this WMS. The TDS can be obtained from www.mapei.com.au or by clicking directly on the listed products within the PDF.

This Work Method Statement (WMS) provides general recommendations only and is not intended to be interpreted as a generic specification for the application/installation of the listed products. As each project differs in exposure and site conditions, specific recommendations may vary from the information contained above. For recommendations for specific applications/installations please contact MAPEI Australia Pty Ltd.

When adding chemicals to the spa and/or pool, ensure they are diluted with water, and are NOT poured directly onto any sections of the covering (e.g. tiles, grout, joints etc.), as this can damage the integrity of the product.

