SYSTEM FOR THE **INSTALLATION OF MOISTURE SENSITIVE STONES IN NON-SUBMERGED WET AREAS**

1	2	3	4	5	6	7	8
waterproofing **Mapelastic Smart**	*bonding slurry* **Topcem Pronto Slurry + Planicrete SP**	*screed* **Topcem Pronto**	*waterproofing* **Mapelastic Smart**	*adhesive* **Granirapid**	*red marble*	*grout* **Ultracolor Plus**	*silicone* **Mapesil LM**

Please refer to the corresponding Work Method Statement for complete list of suitable products and installation information

08/21 REV 1

PART 1 SYSTEM

1.1 INFORMATION

- This work method statement covers the system to install moisture sensitive stones in non-submerged wet areas, in accordance with industry best practice, relevant standards and as per MAPEI technical data sheets (TDS).
- MAPEI provides technical data sheets (TDS) and safety data sheets (SDS) for all products which should be read in conjunction with this Work Method Statement (WMS). Where necessary, conduct a chemical risk assessment and SWMS to ensure each products' correct and safe use. These documents can be obtained from ***www.mapei.com.au***, or by clicking directly on the products listed within the PDF.
- Products in this WMS can contribute towards satisfying the relevant Green Star credits. The VOC content of products can be found under section 9 on the product SDS, while VOC emissions certificates can be found on the product webpage.

1.2 USER NOTES

1.3 RELEVANT DOCUMENTATION

A. Australian Standard(s):

1. AS 3958.1-2007 – Ceramic Tiles; Part 1: Guide to the Installation of Ceramic Tiles
2. AS 4654.2-2012 – Waterproofing membranes for external above-ground use – Part 2: Design and installation
3. AS 3740-2021 – Waterproofing of Domestic Wet Areas

B. MAPEI Technical Notebook(s):

1. Installation of Heated Screeds and Substrates for Laying Floors
2. Waterproofing Terraces and Balconies
3. Ceramic Substrate Preparation Guide
4. Guide for the Installation of Ceramic Materials
5. Grout Troubleshooting Guide
6. Laying Stone Materials

C. Other References:

1. ASAA Natural Stone Manual

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.

1.4 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).

1.5 WATERPROOFING MEMBRANE - BELOW SCREED

- **NOTE:** Prior to the application of the waterproofing membrane:
  - ◊ Ensure all pipe penetrations & angles are primed with **ECO PRIM GRIP PLUS**. Ensure penetrations are appropriately detailed.
  - ◊ Use a **MAPEFLEX** product as general sealant/adhesive where required.
  - ◊ Ensure all wall/wall & wall/floor junctions are treated with a bandage or flexible fillet, and all structural joints are detailed using the options in the below table:

	JUNCTIONS / JOINTS			STRUCTURAL JOINTS
	BANDAGE		FLEXIBLE FILLET	
PRODUCT	**MAPEBAND EASY**	**MAPEBAND SA**	**MAPEFLEX**	**MAPEBAND TPE**
A.	☐	☐	☐ - 35 mm reinforced with **MAPETEX SEL**	☐
B.	☐ - overlaps sealed with **MAPEFLEX**	☐	☐ - 12 mm	☐
C.	☐ - overlaps sealed with **MAPEFLEX**	☐	☐ - 12 mm	☐

Waterproofing membrane to be chosen from the following options:

A. **MAPELASTIC SMART**

Two component, Class II high flexibility cementitious mortar applied by trowel or roller for waterproofing balconies, bathrooms and swimming pools. Applied at 1 mm per coat. Certified to AS/NZS 4858:2004 and AS 4654.1-2012.

B. **MAPELASTIC AQUADEFENSE**

Ready-to-use, ultra-quick drying, Class III flexible liquid membrane for internal and external waterproofing applications. Applied at 0.4 mm per coat. Certified to AS/NZS 4858:2004 and AS 4654.1-2012.

C. **AQUAFLEX WPU**

Ready-to-use, quick drying and flexible Class III water-based hybrid polyurethane membrane for internal and external waterproofing. Applied at 0.75 mm per coat. Certified to AS/NZS 4858:2004 and AS 4654.1-2012.

- **APPLICATION:**
  - ◊ Waterproofing membrane must be applied to walls and floors in a minimum of two even coats to form a final flexible, continuous dry film thickness in accordance with which membrane was used.

1.6 ENGINEERED SCREED

Engineered screed to be chosen from the following options:

A. **TOPCEM PRONTO** - ☐

Pre-blended, normal setting, controlled shrinkage engineered screed. Allow 24-48 hours of drying before applying subsequent product.

B. **MAPECEM PRONTO** - ☐

Pre-blended, rapid-setting, controlled shrinkage engineered screed. Allow 3-4 hours of drying before applying subsequent product.

- **APPLICATION:**
  - ◊ Ensure a slurry coat of **PLANICRETE SP** mixed with either **MAPECEM** or **TOPCEM PRONTO SLURRY** has been applied depending on chosen product. Refer to the TDS for mixing details.
  - ◊ Mix engineered screed in strict accordance with the TDS, paying particular attention to the surrounding environmental conditions.
  - ◊ Ensure screed is applied over the slurry coat whilst the slurry coat is still wet at thickness of 10 – 70 mm.
  - ◊ Ensure screed has adequate falls are installed.

1.7 WATERPROOFING MEMBRANE - ABOVE SCREED

- **NOTE:** Prior to the application of the waterproofing membrane:
  - ◊ Ensure all pipe penetrations & angles are primed with **ECO PRIM GRIP PLUS**. Ensure penetrations are appropriately detailed.
  - ◊ Use a **MAPEFLEX** product as general sealant/adhesive where required.
  - ◊ Ensure all wall/wall & wall/floor junctions are treated with a bandage or flexible fillet, and all structural joints are detailed using the options in the below table:

	JUNCTIONS / JOINTS			STRUCTURAL JOINTS
	BANDAGE		FLEXIBLE FILLET	
PRODUCT	**MAPEBAND EASY**	**MAPEBAND SA**	**MAPEFLEX**	**MAPEBAND TPE**
A.	☐	☐	☐ - 35 mm reinforced with **MAPETEX SEL**	☐
B.	☐ - overlaps sealed with **MAPEFLEX**	☐	☐ - 12 mm	☐
C.	☐ - overlaps sealed with **MAPEFLEX**	☐	☐ - 12 mm	☐

Waterproofing membrane to be chosen from the following options:

A. **MAPELASTIC SMART**

Two component, Class II high flexibility cementitious mortar applied by trowel or roller for waterproofing balconies, bathrooms and swimming pools. Applied at 1 mm per coat. Certified to AS/NZS 4858:2004 and AS 4654.1-2012.

B. **MAPELASTIC AQUADEFENSE**

Ready-to-use, ultra-quick drying, Class III flexible liquid membrane for internal and external waterproofing applications. Applied at 0.4 mm per coat. Certified to AS/NZS 4858:2004 and AS 4654.1-2012.

C. AQUAFLEX WPU

Ready-to-use, quick drying and flexible Class III water-based hybrid polyurethane membrane for internal and external waterproofing. Applied at 0.75 mm per coat. Certified to AS/NZS 4858:2004 and AS 4654.1-2012.

- **APPLICATION:**
  - ◊ Waterproofing membrane must be applied to walls and floors in a minimum of two even coats to form a final flexible, continuous dry film thickness in accordance with which membrane was used.

1.8 ADHESIVE

- **NOTE:**
  - ◊ Some natural and engineered stones can be prone to warping (moisture sensitivity) and staining. Therefore, Mapei recommends when using stone materials to consult the manufacturer/supplier for any recommendations or guidelines. Please refer to the Mapei technical notebook 'Laying Stone Materials' for more information.

Adhesive to be chosen from the following options:

	PRODUCT	CLASSIFICATION (AS ISO 13007-1)	MAPEI STONE CLASSIFICATION
☐	**KERAQUICK MAXI S1**	C2 FT S1	B*
☐	**KERAQUICK MAXI S1 + LATEX PLUS**	C2 F S2	B*
☐	**GRANIRAPID**	C2 F S1	B*
☐	**KERAPOXY ADHESIVE**	R2 T	B* & C**
☐	**KERALASTIC T**	R2 T	B* & C**

- **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 in straight lines.
  - ◊ 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.

1.9 GROUT

- **NOTE:** To estimate the consumption rate according to specific project data, use the **MAPEI GROUTS AND SEALANTS CALCULATOR**.

Grout to be chosen from the following options:

A. **ULTRACOLOR PLUS** - ☐ **- GOOD SOLUTION**

High-performance, anti-efflorescence, quick-setting and drying polymer-modified mortar with water-repellent technology.

B. **KERAPOXY** - ☐ **- BEST SOLUTION**

Two component, acid resistant epoxy grout for joints of at least 3 mm.

- **APPLICATION:**
  - ◊ Mix the grout and fill the joints completely using a 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.
- **CLEANING:**
  - ◊ **ULTRACOLOR PLUS***:* When the grout loses plasticity and becomes opaque, clean excess grout with a hard, damp sponge working diagonal to the joints. Rinse sponge regularly using clean water.
  - ◊ **KERAPOXY***:* After grouting, cleaning should commence immediately before the product dries. Wet the surface thoroughly and emulsify with an abrasive pad, taking care to not wash-out the joints. **KERAPOXY CLEANER** is recommended for removing grout haze. Refer to TDS for further information.

1.10 SILICONE

Silicone to be chosen from the following options:

A. **MAPESIL LM** - ☐

Neutral mould resistant silicone sealant for stone and marble.

- **APPLICATION**
  - ◊ Movement joints should be installed in accordance with AS 3958.1-2007.

NOTES

- PRODUCTS FOR CERAMICS AND STONE MATERIAL
- PRODUCTS FOR RESILIENT AND TEXTILE MATERIALS
- PRODUCTS FOR TIMBER FLOORING
- PRODUCTS FOR CEMENTITIOUS AND RESIN FLOOR COVERING
- BUILDING SPECIALTY PRODUCTS
- ADMIXTURES FOR CONCRETE
- PRODUCTS FOR STRUCTURAL STRENGTHENING
- PRODUCTS FOR MASONRY RESTORATION
- WALL PROTECTIVE AND DECORATIVE COATINGS
- WATERPROOFING
- PRODUCTS FOR UNDERGROUND CONSTRUCTIONS (UTT)
- ELASTIC SEALANTS AND ADHESIVES
- PRODUCTS FOR SPORTS FLOORING
- CEMENT ADDITIVES (C-ADD)

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