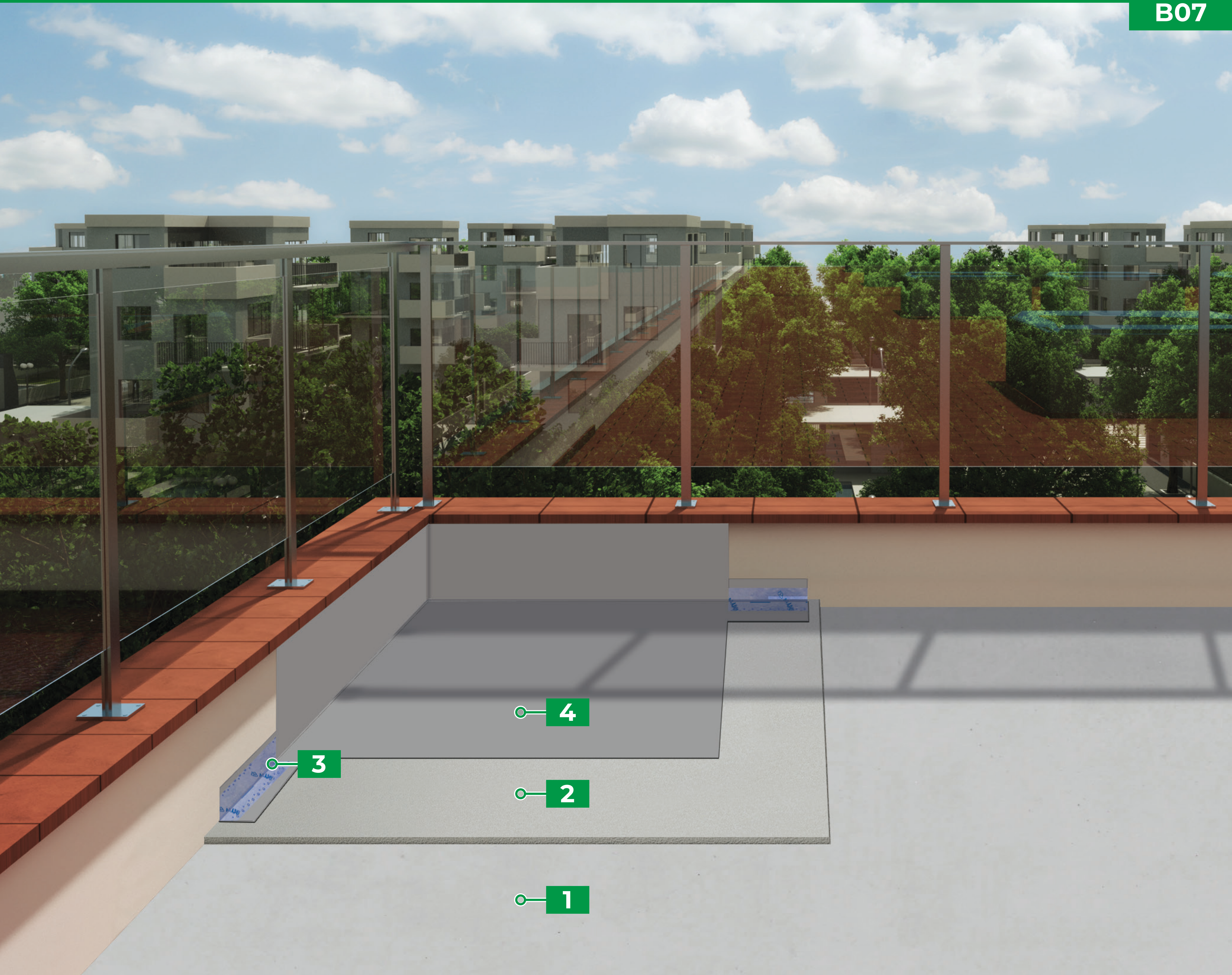


SYSTEM FOR **WATERPROOFING AN EXPOSED ROOFTOP**



B07



concrete

1



concrete patching compound
Mapecem Quickpatch

or

2



engineered screed
Topcem Pronto



rubber tape
Mapeband Easy

3



waterproofing membrane
Aquaflex Roof

or

4



waterproofing membrane
Aquaflex WPU

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

PART 1 SYSTEM

1.1 SCOPE

This work method statement covers liquid applied waterproofing systems for exposed rooftops in accordance with relevant standards, industry best practice and as per MAPEI technical data sheets (TDS).

Waterproofing system to be chosen between water-based membranes (part 2) and solvent-base (part 3) membranes. The water-based membranes are suitable for maintenance and service traffic only. For general traffic or where a product with higher mechanical strengths is required, use the solvent-based membrane. Otherwise, membrane choice in accordance with designer specification followed by applicator preference.

1.2 REFERENCES

1. AS 4654.2-2012 – Waterproofing membranes for external above-ground use – Part 2: Design and installation

1.3 SUBSTRATE PREPARATION

1. All substrates must be structurally sound, dry, solid, stable and well cured. Any laitance, dust, grease, oil, paint or curing compounds present on the surface of the 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).
2. Check product TDS for full list of suitable substrates and requirements.
3. Concrete or screed surfaces should have a minimum surface roughness equivalent to a wood float or light broom finish (CSP #1-3) to aid in adhesion of subsequently applied products.
4. Assess the temperature of the substrate and avoid application on excessively hot surfaces during the day. Application during the afternoons is advised.

1.4 CONCRETE LEVELLING MATERIAL – WHERE REQUIRED

- **NOTE:** Ensure substrate has adequate falls in accordance with AS 4654.2 - clause 2.5.2. If not, one of the below options should be utilised to create falls.

Levelling material to be chosen from the following options:

A. **MAPECEM QUICKPATCH (PR4914, 2017) – Recommended <10 mm thickness**

High performance, high flow concrete patch.

- **APPLICATION:**

- ◇ Immediately after mixing, pour mix onto the surface and work it in to obtain an excellent mechanical bond, in thicknesses from 1 to 40 mm as required.

B. **TOPCEM PRONTO (209-04-2018 AUS) – >10 mm thickness**

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

- **APPLICATION:**

- ◇ If the entire area of the roof is to receive a screed, Mapei recommends adding a primary waterproofing membrane prior to screeding with **MAPELASTIC SMART** (2013-03-2018 AUS).
- ◇ Ensure a slurry coat of **PLANICRETE SP** (700-6-2016) mixed with **TOPCEM PRONTO SLURRY** (2639-8-2019 AUS) has been applied. Refer to the TDS for mixing details.
- ◇ Mix water and **TOPCEM PRONTO** in strict accordance with the ratios described in the TDS.
- ◇ Ensure screed is applied over the slurry coat whilst the slurry coat is still wet.
- ◇ Ensure a minimum thickness of 10 mm is applied.



1.5 WATERPROOF DETAILING

A. **MAPEFLEX PU 45 FT** (8102-10-2016 GB) or **MAPEFLEX PU 40** (422-05-2017 AUS)

One component, paintable, thixotropic polyurethane sealant and adhesive.

• APPLICATION:

- ◇ To seal joints (Non-structural movement joints) and cracks.
- ◇ To seal structural movement joints prior to **MAPEBAND TPE** (2033-11-2010).
- ◇ To detail wall/wall, wall/floor junctions and drainage outlets to avoid edges and angles which could damage the membrane.
- ◇ Ensure polyurethane is fully cured before applying the waterproofing membrane.
- ◇ For water based membranes as an alternative junction treatment, **MAPEBAND EASY** (7631-6-2017 GB, seal bandage overlaps with a Mapei sealant) or **MAPEBAND SA** (2179-10-2013) can be used.

PART 2 WATER BASED MEMBRANES

2.1 PRIMER

Primer to be chosen from the following options:

- **CONDITION A:** Cementitious substrates with **AQUAFLEX ROOF** or **AQUAFLEX ROOF HR**, prime with a coat of the membrane diluted with 10% water.
- **CONDITION B:** Cementitious substrates with **AQUAFLEX WPU**, prime with **PLANISEAL MR** (7478-10-2018 AUS) in accordance with the TDS.
- **CONDITION C:** For old existing bitumen membranes, prime with **AQUAFLEX PRIMER** (2936-8-2020 GB) in accordance with the TDS.
- **CONDITION D:** For existing tiles, PVC, and metal surfaces, prime with **ECO PRIM GRIP** (2916-2-2018 GB) in accordance with the TDS.

2.2 WATERPROOFING MEMBRANE

Waterproofing membrane to be chosen from the following options:

A. **AQUAFLEX ROOF** (2121-08-2017 AUS)

Ready-to-use flexible liquid membrane with fibres for continuous waterproofing layers on exposed surfaces.

B. **AQUAFLEX ROOF HR** (2152-2-2018 GB)

Fibre-filled liquid membrane in water emulsion with high solar reflectance and thermal emittance with a solar reflectance index (SRI) of 105.

C. **AQUAFLEX WPU** (7671-06-2018 AUS)

Ready-to-use, quick drying and flexible Class III water-based hybrid polyurethane membrane for internal and external waterproofing applications.

• APPLICATION:

- ◇ If using **AQUAFLEX ROOF** or **AQUAFLEX ROOF HR**: Apply two undiluted coats at a minimum 0.4-0.5 mm wet film thickness (WFT) per coat with roller, brush or airless spray. Once the previous coat has dried, apply the second coat diagonally to the first.
- ◇ If using **AQUAFLEX WPU**: Apply three coats at a minimum 0.75 mm WFT per coat with a brush or roller. Once the previous coat has dried, apply the second coat diagonally to the first.



- ◇ It is recommended (required when micro cracks are present) to lay **MAPETEX 50** (956-10-2016 GB) reinforcement mesh into the wet first coat of the waterproofing membrane, ensuring it is completely embedded, in strict accordance with the TDS.
- ◇ Install as per requirements of AS 4654.2.

PART 3 SOLVENT BASED MEMBRANE

3.1 PRIMER

Primer to be chosen from the following options:

- **CONDITION A:** Cementitious and ceramic substrates, prime with **PRIMER SN** (531-11-2017 GB) in accordance with the TDS, ensuring the primer is broadcasted with **QUARTZ 0.5 AU**.
- **CONDITION B:** Old bitumen membranes primed with **MAPECOAT I 600 W** (2017-1-2019 GB) in accordance with the TDS.

3.2 WATERPROOFING MEMBRANE

A. **PURTOP EASY (7482-6-2019-1 GB)**

One-component elastic polyurethane waterproofing membrane.

- **APPLICATION:**

- ◇ Horizontal surfaces: apply with a trowel or roller at a minimum wet film thickness (WFT) of 0.6 mm per coat for a total of 2 coats. Alternatively, mix **PURTOP EASY** with **PURTOP ADY** and apply in 1 even coat by trowel or roller at a minimum WFT of 1.2 mm.
- ◇ Vertical surfaces: Mix with 3.6% by weight of **ADDITIX P** and apply at least 2 even coats with a trowel or roller at a minimum 0.6 WFT per coat.
- ◇ When applying a second coat or overlapping (including the subsequent topcoat), do not exceed a 48-hour overcoat window.
- ◇ Install as per requirements of AS 4654.2.

3.3 ALIPHATIC TOPCOAT

A. **MAPECOAT PU 20 N (7487-6-2019 GB)**

Two-component coloured aliphatic polyurethane topcoat for Purtop membranes.

- **APPLICATION:**

- ◇ Apply two coats with a roller by spreading out evenly and rolling in a criss-cross pattern. Make sure the total consumption rate is never less than 0.3 kg/m³.

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.

