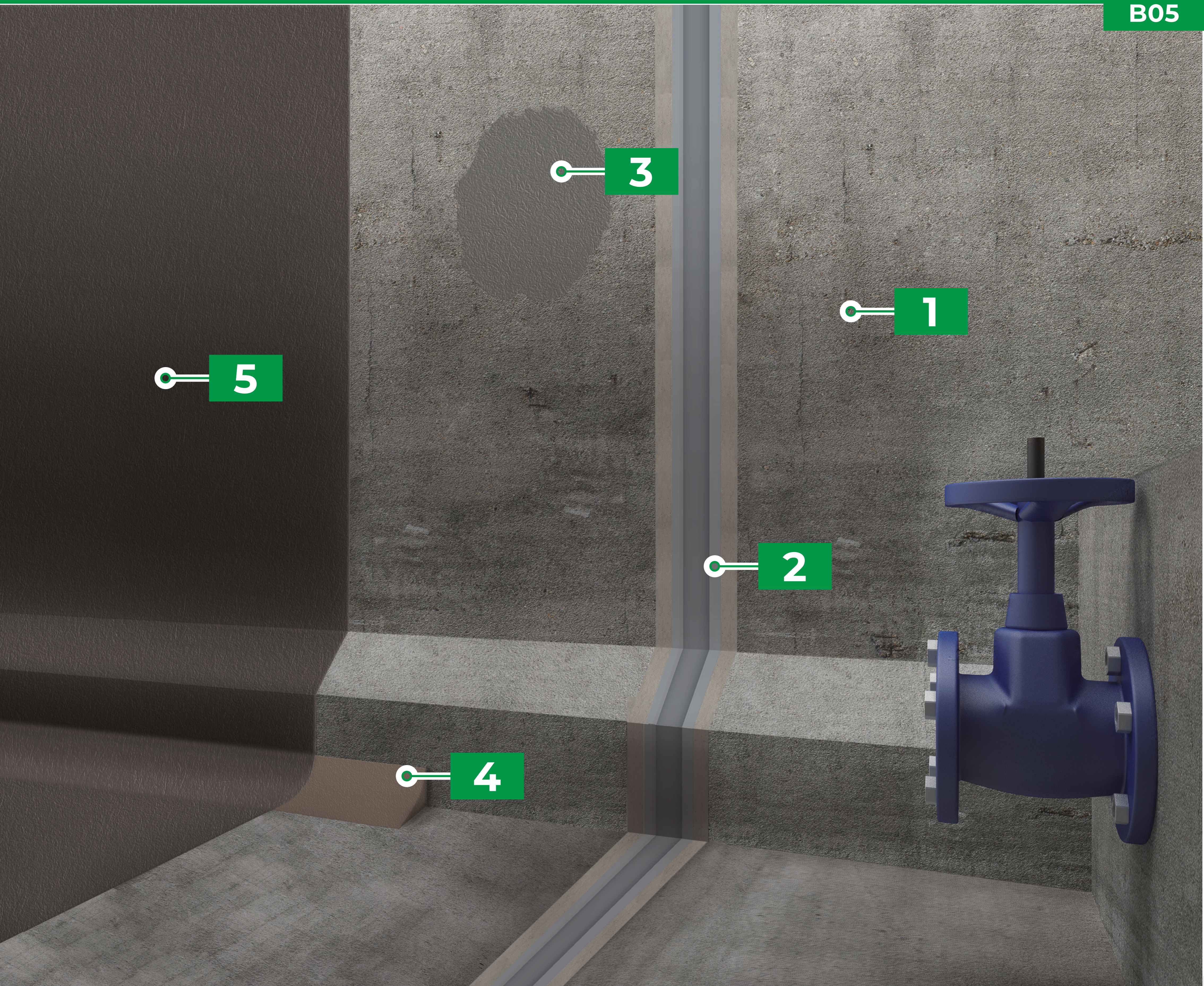


WATERPROOFING SYSTEM FOR POTABLE WATER STORAGE TANKS



B05



concrete

waterproofing bandage
**Adesilex PG4 +
Mapeband Flex Roll**

1



smoothing mortar
Planitop Smooth & Repair R4 OR
Planitop Fast 330

3



cove fillet
**Mapegrout T40 +
Eporip**

4



waterproofing membrane
Mapelastick Smart OR
Planiseal 88

5

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 the systems for waterproofing concrete and masonry water storage tanks, in accordance with AS/NZS 4020:2018 for products in contact with potable water, industry best practice and as per MAPEI technical data sheets (TDS).

1.2 REFERENCES

Mapei Technical documentation:

1. [Technical Design Waterproofing](#)

AS/NZS 4020:2018 - Test reports available on request:

2. Test report AAD74663 – Mapeband Flex Roll + Adesilex PG4
3. Test report AAD47762 – Mapelastix Smart
4. Test report AAD94949 – Planiseal 88

1.3 SUBSTRATE PREPARATION

All substrates must be structurally sound, dry, solid and stable. Any laitance, dust, grease, oil, paint, curing compounds or protruding mortar present on the surface of the concrete/masonry substrate that may inhibit bond or interfere with the application of a consistent film thickness, 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).

1.4 HYDROPHILIC WATER-STOP – NEW BUILDS

A. IDROSTOP (411-9-2008 GB)

Hydrophilic expandable rubber section for watertight construction joints.

• **APPLICATION:**

- ◇ Measure the section length needed and cut **IDROSTOP** to this length to enable both extremities of the section to create either a butt joint or a staggered overlapped section.
- ◇ Apply **IDROSTOP** in accordance with the TDS.

1.5 SMOOTHING MORTAR - IF REQUIRED

- **WHERE TO USE:** To fill all mortar joints, and to smooth over any rough areas to create a sufficiently even substrate

Smoothing mortar to be chosen from the following options:

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

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.

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

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:**

- ◇ Saturate the substrate with water (Surface saturate dry, SSD), then wait until any excess water has evaporated.
- ◇ Apply the mortar with a smooth trowel in a single layer at the thickness prescribed for the chosen product.
- ◇ Once repair work is complete and the material has hardened, keep the mortar damp for at least 24 hours using a water spray, especially in hot and windy environments.



1.6 JUNCTION DETAILING – OPTION A: COVE FILLET

Junction detailing product to be chosen from the following options:

A. MAPEGROUT T40 (308-10-2017 AUS) – Normal Set

Medium strength (40 MPa), shrinkage compensated, fibre reinforced, thixotropic mortar for repairing concrete.

B. MAPEGROUT FAST-SET (307-10-2013) – Rapid Set

Fast setting and drying, shrinkage compensated, fibre reinforced mortar for concrete repair.

- **APPLICATION:**

- ◇ Saturate the substrate with water (SSD) and allow excess/free-standing water to evaporate. As an alternative to improve the system, use **EPORIP** (366-7-2013) as a wet on wet bonding bridge to achieve a monolithic bond, refer to the TDS for further detail.
- ◇ Apply the mortar as a fillet with dimensions of 40 x 40 mm with a float or trowel at all wall/wall, wall/floor junctions, and any other point of expected movement.

- **NOTE: PLANITOP SMOOTH & REPAIR R4** may also be used in lieu of **MAPEGROUT T40** or **MAPEGROUT FAST-SET**.

1.7 JUNCTION DETAILING – OPTION B: WATERPROOFING TPE BANDAGE

A. MAPEBAND FLEX ROLL (2151-10-2017 GB) + ADESILEX PG4 (370-4-2016 GB)

TPE tape for the flexible waterproofing of expansion joints and cracks. Bonded using a two-component epoxy adhesive.

- **APPLICATION:**

- ◇ Apply a 1 to 2 mm thick, uniform layer of **ADESILEX PG4** (370-4-2016 GB) onto the clean, dry substrate with a smooth spatula.
- ◇ Lay **MAPEBAND FLEX ROLL** into the wet adhesive by pressing lightly along the sides of the tape, ensuring all wrinkles and creases are eliminated and that air bubbles are not formed.
- ◇ Apply a second layer of the **ADESILEX PG4** whilst the first layer is still fresh, completely covering the sides of the tape with the new layer of adhesive before smoothing off the product with a flat trowel.
- ◇ Broadcast the second layer of **ADESILEX PG4** with fine **QUARTZ 0.5** to create a keyable finish to promote adhesion of the subsequently applied waterproofing membrane.



1.8 WATERPROOFING SYSTEM

- **NOTE:** Prior to the application of the waterproofing system:
 - ◇ Round off all sharp edges.
 - ◇ If the water tank is below grade and negative hydrostatic pressure is expected, first prime the substrate with **PLANISEAL MR** (7478-10-2018 AUS), in accordance with the TDS. In which case the subsequent application of the waterproofing membrane is to be between 24 – 72 hours.
 - ◇ Ensure structural joints are treated and sealed with **MAPEBAND FLEX ROLL** (2151-10-2017 GB) as per point 1.7 above and in strict accordance with the TDS.

Waterproofing system to be chosen from the following options:

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

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

- **NOTE:** **PLANISEAL 88** is a rigid waterproofing mortar. If flexibility in the waterproofing layer is required or if pipe penetrations are present, use **MAPELASTIC SMART**.
- **APPLICATION:**
 - ◇ Apply mortar with a brush or trowel in a minimum of 2 coats.
 - ◇ Ensure previous coat is sufficiently dry before subsequent applications.
 - ◇ The final thickness should be approximately 2-3 mm.

B. MAPELASTIC SMART (2013-03-2018 AUS)

Two component, Class II high flexibility cementitious mortar (with crack-bridging capacity >2 mm) applied by trowel or roller for waterproofing balconies, terraces, bathrooms and swimming pools. Mapelastic Smart is potable water certified.

- **APPLICATION:**
 - ◇ Ensure all pipe penetrations are primed with **EPORIP** (366-7-2013) and broadcast with **QUARTZ 0.5** to create a suitable mechanically keyed surface prior to the waterproofing.
 - ◇ Waterproofing membrane must be applied in at least two coats of 1 mm by trowel or roller within 60 minutes of it being mixed to form a continuous waterproof membrane.
 - ◇ Ensure the membrane is protected from abrasion, turbulent flow, point loading and other potential causes of damage.

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.

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.

