



# **SOLUTIONS FOR POTABLE WATER**

Mapei products suitable for  
contact with drinking water

as per AS/NZS 4020:2018





## Potable Water Certification

In Australia, water can only be consumed if the products used to store the water are **potable water certified**. This certification ensures that construction products **do not impact** the quality of the water intended for human consumption.

The **AS/NZS 4020:2018 standard** specifies the testing procedures and performance criteria for products and materials that come into contact with drinking water.

## Mapei Solution

Ensuring the **integrity and safety** of potable water reservoirs and tanks requires more than just long-term watertightness; these structures must also be easy to maintain, food-safe, and harmless to health.

With **over 5,500 products** globally, including adhesives, sealants, grouts, admixtures, and waterproofing materials, Mapei offers a comprehensive range of products and systems.

These solutions are designed and adapted to meet the **specific needs and requirements** of water reservoir owners, architects, engineers, and contractors on site.

Mapei produces a diversified range of high-quality chemical building products which are **tested and certified** as safe for use with drinking water in accordance with the requirements of AS/NZS 4020:2018.



## Planitop LSN R3

Medium strength (40 MPa), concrete repair mortar designed for general structural elements.



**APPLICATION** hand or spray applied

**CONSUMPTION** 20 kg bag yields 10.55 litres of mortar

**PACKAGING** 20 kg bags

**CERTIFICATIONS AND MARKINGS**



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## Planitop LSN R4

High-build, concrete repair mortar designed for major structural elements requiring high-strength repairs.



**APPLICATION** hand or spray applied

**CONSUMPTION** 20 kg bag yields 10.7 litres of mortar

**PACKAGING** 20 kg bags

**CERTIFICATIONS AND MARKINGS**



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## Planitop Smooth & Repair R4

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



**APPLICATION** trowel or gauging trowel

**CONSUMPTION** 20 kg bag yields 11.7 litres of mortar

**PACKAGING**

- 20 kg bag
- 1 box with 4 bags of 5 kg

**CERTIFICATIONS AND MARKINGS**



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## Mapefill SP

Premium super flow non-shrink cementitious grout for precision anchoring of machinery and metallic structures.

**APPLICATION**

pouring

**CONSUMPTION**

20kg bag yields 10–11 litres of grout

**PACKAGING**

20 kg bags

**CERTIFICATIONS  
AND MARKINGS**



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## Mapefill Deep Pour

High performance dual shrinkage compensated structural cementitious grout.

**APPLICATION**

form and pour for thicknesses from 20 to 500 mm

**CONSUMPTION**

20 kg bag yields 10.2 - 10.3 litres of grout

**PACKAGING**

20 kg bags

**CERTIFICATIONS  
AND MARKINGS**



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## Primer SN

Two-component fillerized epoxy primer, in compliance with the Radon gas tightness standards.



APPLICATION      roller or trowel

CONSUMPTION      0.3-0.7 kg/m<sup>2</sup> per coat

PACKAGING      5 kg kit & 20 kg kit

CERTIFICATIONS  
AND MARKINGS



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## Lamposilex

Ultra-fast setting and curing hydraulic binder for stopping water leaks.



CONSUMPTION      1.8 kg/dm<sup>2</sup> of cavity to be filled

PACKAGING      1 box with 4 bags of 5 kg

CERTIFICATIONS  
AND MARKINGS



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## Adesilex PG4

Two-component thixotropic epoxy adhesive for installing **Mapeband TPE**, **Mapeband FlexRoll** and forming structural bonds.



APPLICATION      trowel

CONSUMPTION      1.60-1.65 kg/m<sup>2</sup> per mm of thickness

PACKAGING      6 kg kit (component A = 4.5 kg; component B = 1.5 kg)

CERTIFICATIONS  
AND MARKINGS



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## Mapeband Flex Roll

Tape for flexible sealing and waterproofing of expansion joints and cracks.



**SIZE** 200 mm, 300 mm, 400 mm, 600 mm and 800 mm  
(thickness: 2 mm thickness)

**PACKAGING** 20 m rolls

**CERTIFICATIONS AND MARKINGS**



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## Mapeflex PU35 CR

Polyurethane sealant with high modulus of elasticity, resistant to chemicals.



**APPLICATION** extrusion gun

**CONSUMPTION** 6.0 meters per 600 ml sausage (10 x 10 mm section)

**COLOUR** grey 113

**PACKAGING** 600 ml sausage

**CERTIFICATIONS AND MARKINGS**



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## Mapelastic Smart

Two-component, high-flexibility cementitious mortar for waterproofing.



**CONSUMPTION** 18.75 litres per 30 kg kit

**PACKAGING** 30 kg kit (component A = 20 kg; component B = 10 kg)

**CERTIFICATIONS AND MARKINGS**

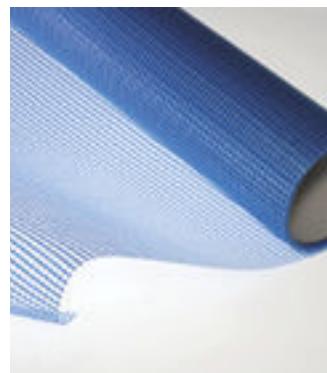


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## Mapenet 150

Alkali-resistant glass fibre mesh for reinforcing protective waterproofing layers, anti-fracture membranes and thermal insulation systems.



**PACKAGING** 50 m x 1 m rolls

**CERTIFICATIONS AND MARKINGS**



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## Planiseal 88

Osmotic cementitious mortar for waterproofing masonry and concrete structures.



**CONSUMPTION** approx. 1.5 kg/m<sup>2</sup> per mm of thickness.

**PACKAGING** 20 kg bags

**CERTIFICATIONS AND MARKINGS**



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## Purtop 1000

Two-component, solvent-free pure polyurea membrane with a high-pressure, bi-mixer type pump, to form waterproof coatings for hydraulic works, roofs and bridge decks directly on site.

AS 4654.1 certified.



**APPLICATION** spray using a high-pressure, bi-mixer type pump

**CONSUMPTION** 2.2 kg/m<sup>2</sup> per 2 mm of thickness

**PACKAGING** 450 kg kit (component A = 225 kg; component B = 225 kg)

**CERTIFICATIONS AND MARKINGS**



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## Resfoam 1KM IT

One-component, flexible, ultra-fluid polyurethane resin for waterproofing, structures, soils and rocks subject to intense water seepage, with adjustable reaction times.

AS 4020:2018 certified.



**APPLICATION** injection

**CONSUMPTION** in open air, 1 kg of **Resfoam 1KM IT** + 0.1 kg of **Resfoam 1KM IT AKS** produces 50 litres of expanded foam on contact with 0.1 litre of water

**PACKAGING**

- **Resfoam 1KM IT** (resin): 20 kg plastic drums
- **Resfoam 1KM IT AKS** (accelerator): 1 kg plastic bottle

**CERTIFICATIONS AND MARKINGS**

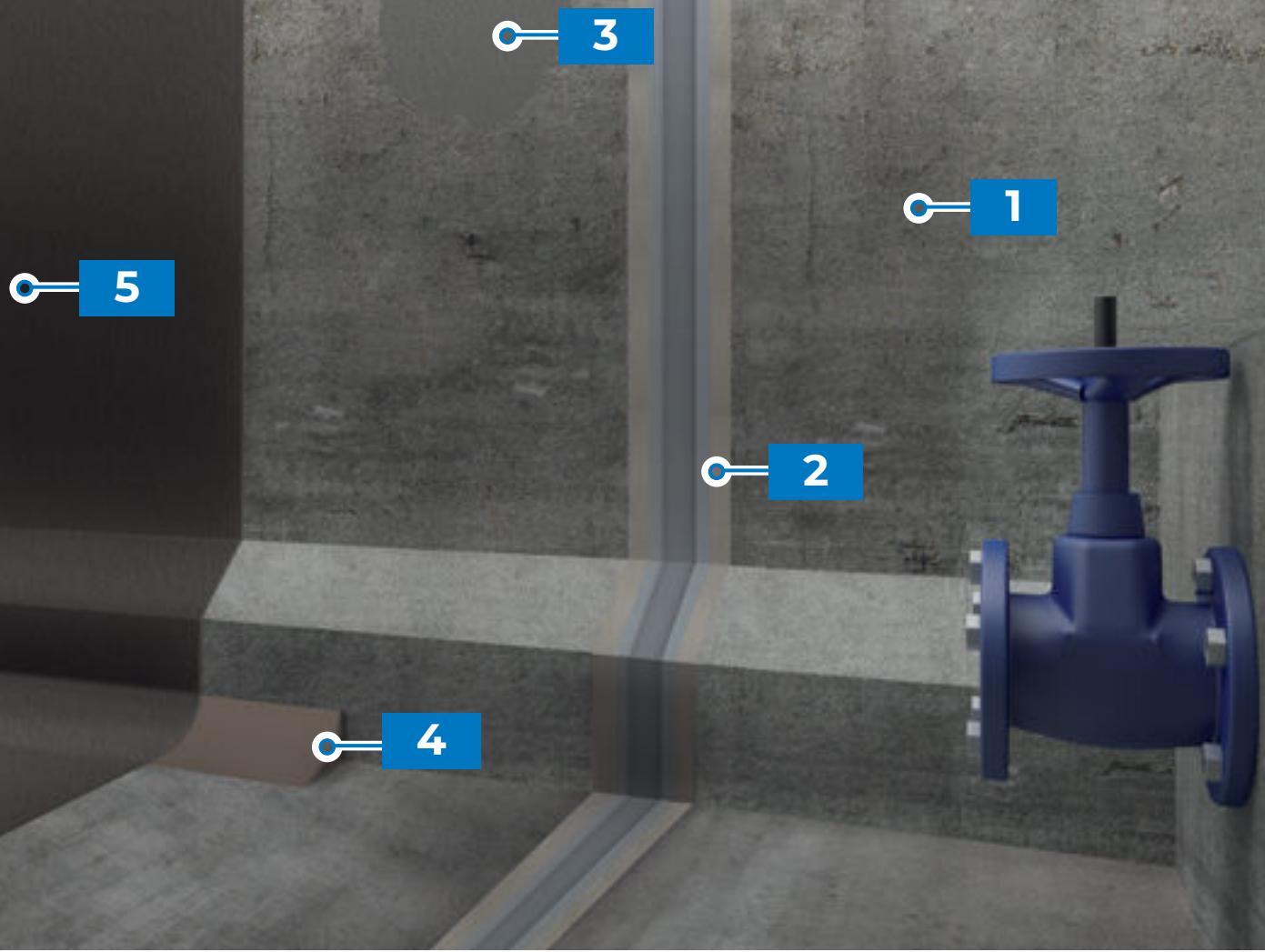


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## SYSTEM FOR THE REPAIR OF CONCRETE AND WATERPROOFING OF **POTABLE WATER STORAGE TANKS**

B05



concrete	 waterproof bandage Adesilex PG4 + Mapeband Flex Roll	 or Planitop LSN R3 or Planitop LSN R4	 or Planitop LSN R3 or Planitop LSN R4	 or Mapelastic Smart or Planiseal 88
1	2	3	4	5

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

# WORK METHOD STATEMENT

SYSTEM FOR THE REPAIR OF CONCRETE AND WATERPROOFING

OF POTABLE WATER TANKS

B05

## PART 1 SCOPE OF WORK

### 1.1 SCOPE

The 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).

This 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 in this document. For recommendations for specific applications/installations please contact Mapei Australia Pty Ltd.

### 1.2 REFERENCES

#### A. Product TDS & SDS

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 product's correct and safe use. These documents can be obtained from [www.mapei.com.au](http://www.mapei.com.au), or by clicking directly on the **PRODUCT** name listed within the PDF.

#### B. Australian Standard(s):

1. AS/NZS 4020:2018 Testing of products for use in contact with drinking water

**NOTE:** All the products listed below that may come into direct contact with water or be within 2 mm range of water surface are certified as potable according to AS/NZS 4020:2018. Test reports are available upon request.

#### C. Other References

1. SA HB 84-2018 — Guide to concrete repair and protection
2. EN 1504 — Products and systems for the protection and repair of concrete structures
3. [Mapei Standard 10 Year Warranty](#)

### 1.3 SUBSTRATE PREPARATION

- Prior to the removal of any concrete, it is essential to conduct a thorough assessment of the cause and extent of damaged, deteriorated, or defective concrete. Professional advice may be required to determine the severity of the deterioration, the stability of the structure and suitability of repair works.
- 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).

# WORK METHOD STATEMENT

SYSTEM FOR THE REPAIR OF CONCRETE AND WATERPROOFING

OF POTABLE WATER TANKS

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## PART 2 CONCRETE PREPARATION AND DETAILING

### 2.1 HYDRAULIC BINDER — WHERE REQUIRED

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#### A. **LAMPOSILEX**

*Ultra-fast setting and curing hydraulic binder for stopping water leaks.*

##### **APPLICATION:**

1. **NOTE:** The hydraulic binder sets extremely quickly and can even set during the mixing process in warm climatic conditions. Only prepare enough of the mix for use within one minute.
2. Mix **LAMPOSILEX** in strict accordance with the TDS and apply directly to the required areas without delay.

### 2.2 STRUCTURAL REPAIR & COVING MORTAR — WHERE REQUIRED

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Product to be chosen from the following options:

#### A. **PLANITOP LSN R3**

*Medium strength (40 MPa), low shrinkage, fibre-reinforced, sulphate resistant thixotropic mortar. Applied in layers from 6 to 50 mm.*

#### B. **PLANITOP LSN R4**

*Sulphate-resistant, fibre-reinforced shrinkage compensated thixotropic mortar for the repair of concrete. Applied in layers up to 100 mm on vertical and horizontal surface, and 40 mm on ceilings.*

##### **APPLICATION:**

1. Prior to the application of any repair mortar, ensure the substrate is surface saturated dry (SSD), as per SA HB 84:2018 — Clause 6.7.2. Any excess/free-standing water must then be allowed to evaporate. As an alternative to water, use **EPORIP** as a wet on wet bonding bridge to achieve a monolithic bond, refer to the TDS for further detail.
2. Mix and apply the mortar in accordance with the TDS.
3. Once repair work is complete and the material has hardened (8-12 hours), keep the mortar damp for the first 48 hours, especially in hot and windy environments.
4. **NOTE:** If choose any of the above mortar to treat junctions with cove fillet, then mix and apply the mortar as a fillet with dimension of 40 x 40 mm with a float or trowel at all wall/wall, wall/floor junctions, and any other point of expected movement.

# WORK METHOD STATEMENT

SYSTEM FOR THE REPAIR OF CONCRETE AND WATERPROOFING

OF POTABLE WATER TANKS

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## 2.3 SMOOTHING MORTAR — WHERE REQUIRED

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### A. PLANITOP SMOOTH & REPAIR R4

*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.*

**NOTE:** **PLANITOP SMOOTH & REPAIR R4** can also be used as a fast-setting repair mortar, serving as an alternative to the options listed in Section 2.2 of this document. Do not use **EPORIP** with **PLANITOP SMOOTH & REPAIR R4**.

#### APPLICATION:

1. Prior to the application of the smoothing mortar ensure the substrate is saturated (SSD), as per SA HB 84:2018. Any excess/free standing water must then be allowed to evaporate.
2. Add the powder slowly to the water while mixing in accordance with the TDS.
3. Apply the mortar and finish the surface with a trowel or a damp sponge float a few minutes after the application.
4. 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.

## 2.4 JOINT/JUNCTION DETAILING

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### A. MAPEBAND FLEX ROLL + ADESILEX PG4

*Tape for the flexible waterproofing of expansion joints and cracks applied with two-component thixotropic, epoxy adhesive with modified-rheology for bonding.*

#### APPLICATION:

1. Apply a 1 to 2 mm thick, uniform layer of **ADESILEX PG4** onto a clean, dry substrate with a smooth spatula.
2. 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.
3. Apply a second layer of **ADESILEX PG4** while the first layer is still fresh, completely covering the sides of the tape with a flat trowel.
4. Broadcast the second layer of **ADESILEX PG4** with fine **QUARTZ 0.5 AU** to create a keyable finish to promote adhesion to the subsequently applied waterproofing membrane.

# WORK METHOD STATEMENT

SYSTEM FOR THE REPAIR OF CONCRETE AND WATERPROOFING

OF POTABLE WATER TANKS

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## PART 3 WATERPROOFING SYSTEM

### OPTION 1: CEMENTITIOUS

#### 3.1 WATERPROOFING MEMBRANE

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Product to be chosen from the following options:

**A. MAPELASTIC SMART**

*Two-component, high-flexibility cementitious mortar (with crack-bridging capacity up to 2 mm) applied by trowel or roller.*

**APPLICATION:**

1. Round off all sharp edges.
2. Ensure all pipe penetration are primed with **EPORIP** and broadcast with fine **QUARTZ 0.5 AU** to create a keyable finish to promote adhesion to the subsequently applied waterproofing membrane.
3. Lightly dampen the substrate with water prior to application.
4. Mix components A & B in strict accordance with the TDS.
5. 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.
6. In areas with hairline cracks or which are highly stressed, insertion of **MAPENET 150** in the first layer of fresh applied first coat is recommended.

**B. PLANISEAL 88**

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

**APPLICATION:**

1. Round off all sharp edges.
2. Apply mortar with a brush or trowel in a minimum of 2 coats. The final thickness should be approximately 2-3 mm.
3. Ensure previous coat is sufficiently dry before subsequent applications.

# WORK METHOD STATEMENT

SYSTEM FOR THE REPAIR OF CONCRETE AND WATERPROOFING

OF POTABLE WATER TANKS

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## OPTION 2: POLYUREA

### 3.1 PRIMER

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#### A. PRIMER SN

*Two-component fillerized epoxy primer.*

##### APPLICATION:

1. Mix two components in accordance with the product TDS and apply with a straight trowel or roller.
2. While the surface is still fresh, sprinkle it with **QUARTZ 0.5 AU**. Allow to dry and remove all loose sand.

### 3.2 WATERPROOFING MEMBRANE

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#### B. PURTOP 1000

*Two-component, solvent-free pure polyurea membrane applied by spray with a high-pressure, bi-mixer type pump, to form waterproof coatings for hydraulic works.*

##### APPLICATION:

1. Round off all sharp edges.
2. Ensure the bi-mixer pump temperature and pressure settings are set in accordance with the TDS.
3. Mix part A until it has an even colour before use.
4. Ensure temperature of the substrate is at least 3°C above dew point and the residual moisture is above 4%.
5. Apply continuously at a consumption rate of approximately 2.2 kg/m<sup>2</sup> per 2 mm of thickness.
6. If application is interrupted by more than 2 hours, apply a coat of **PRIMER PU 60** before recommencing spraying. An overlap of at least 300 mm must be achieved.



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# EVERYTHING'S OK, WITH MAPEI

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