

0621P MAPEI IN WATERPROOFING – WET AREAS**Branded worksection**

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Worksection abstract

This branded worksection *Template* is applicable to Mapei liquid membrane waterproofing systems for wet areas and is written with reference to AS 3740 and AS/NZS 4858.

Guidance text

All text within these boxes is provided as guidance for developing this worksection and should not form part of the final specification. This *Guidance* text may be hidden or deleted from the document using the NATSPEC Toolbar or the hidden text *Hide* and *Delete* functions of your word processing system. For additional information visit FAQs at www.natspec.com.au.

Optional style text

Text in this font (blue with a grey background) covers items specified less frequently. It is provided for incorporation into *Normal* style text where it is applicable to a project.

Related material located elsewhere in NATSPEC

If a listed worksection is not part of your subscription package and you wish to purchase it, contact NATSPEC.

Related material may be found in other worksections. See for example:

- 0181p MAPEI in adhesives, sealants and fasteners.
- 0315 Concrete finishes.
- 0411p MAPEI in waterproofing – external and tanking.
- 0612p MAPEI in cementitious toppings.
- 0613 Terrazzo in situ.
- 0631 Ceramic tiling.
- 0632 Stone and terrazzo tiling.
- 0802 Hydraulic design and install.

Material not provided by Mapei

This Branded worksection *Template* includes generic material which may not be provided by the Product Partner.

Documenting this and related work

You may document this and related work as follows:

- Locate extent of membrane and relevant details on the drawings. See BCA 3.8.1.2 for Class 1 buildings.
- Plan structural control joints to avoid wet areas.

The *Normal* style text of this worksection may refer to items as being documented elsewhere in the contract documentation. Make sure they are documented.

Search acumen.architecture.com.au for notes on the following:

- Warranties and guarantees.
- Waterproofing.

Specifying ESD

The following may be specified by including additional text:

- Low VOC emitting and/or solvent free materials.
- Recycled material content.
- Materials which can be used on supplementary cementitious materials, e.g. fly ash and slag.
- Materials recyclable at the end of service life.

Refer to the NATSPEC TECHreport TR 01 on specifying ESD.

1 GENERAL

Mapei is a world leader in the manufacture of innovative products for the construction industry. Products include adhesives, grouts, waterproofing membranes, levelling compounds, repair mortars and quality related building products. Numerous projects executed all around the world are testimony to the outstanding quality of Mapei products that are preferred by architects, designers and building contractors. Mapei products are manufactured in Brisbane and distributed through an extensive network of distributors.

1.1 RESPONSIBILITIES

General

Requirement: Provide Mapei wet area waterproofing systems, as documented.

Documented is defined in *0171 General requirements* as meaning contained in the contract documents.

Performance

Requirements:

- Grade to floor wastes, to dispose of water without ponding.
- Prevent moisture entering the substrate or adjacent areas.

The following are characteristics of the product and should be considered when making selections:

- Ability to accommodate anticipated environmental conditions.
- Ability to remain serviceable after material shrinkage and loss of elastic properties.
- Resistance to traffic and falling objects.
- Chemical compatibility with the surrounding building materials.
- Capable of permanent immersion (e.g. tanking, tiled areas).

1.2 COMPANY CONTACTS

Mapei technical contacts

Website: www.mapei.com/AU-EN/contacts.asp

1.3 CROSS REFERENCES

General

Requirement: Conform to the following:

- *0171 General requirements*.

0171 General requirements contains umbrella requirements for all building and services worksections.

List the worksections cross referenced by this worksection. *0171 General requirements* references the *018 Common requirements* subgroup of worksections. It is not necessary to repeat them here. However, you may also wish to direct the contractor to other worksections where there may be work that is closely associated with this work.

NATSPEC uses generic worksection titles, whether or not there are branded equivalents. If you use a branded worksection, change the cross reference here.

1.4 STANDARDS

Waterproofing wet areas

Standard: To AS 3740.

AS 3740 specifically applies to waterproofing domestic wet areas – those in Class 1, Class 2 and Class 4 buildings as defined in the BCA. The Note to AS 3740 clause 1.2 states that the standard is not intended to apply to communal or group wet areas such as shower areas in swimming pool complexes, sporting facilities and similar situations.

AS 3740 Section 3, illustrates detailing of waterproofing for typical situations. Nonetheless, it is recommended that project specific details be provided to eliminate any conflict in interpretation.

The Master Builders Association of NSW *Guide to internal wet area waterproofing* is a useful source of details and advice on good installation practice.

1.5 MANUFACTURER'S DOCUMENTS

Mapei Technical manuals

Data sheets: www.mapei.com/AU-EN/products.asp

Systems: www.mapei.com/AU-EN/systems.asp

1.6 INTERPRETATION

Definitions

General: For the purposes of this worksection the definitions given in AS 3740 and the following apply:

- Bond breaker: A system preventing a membrane bonding to the substrate, bedding or lining.
- Membranes (waterproof): Impervious barriers to liquid water which may be:
 - . Installed below floor finishes.
 - . Installed behind the wall sheeting or render and termed External.
 - . Installed to the face of the wall sheeting or render and termed Internal.
 - . Applied in liquid or gel form and air cured to form a seamless film.
 - . Applied in sheet form with joints lapped and sealed.
- Preformed shower base: A preformed, prefinished vessel (including integral upstands) installed as the finished floor of a shower compartment, and provided with a connection point to a sanitary drainage system.
- Shower tray: An internal or external liquid applied or sheet membrane system used to waterproof the floor and the wall/floor junctions of a shower area.
- Substrate: The surface to which a material or product is applied.
- Waterproof (WP): The property of a material that does not allow moisture to penetrate through it.
- Waterproofing systems: Combinations of membranes, flashings, drainage and accessories which form waterproof barriers and which may be:
 - . Loose-laid.
 - . Bonded to substrates.
- Water resistant (WR): The property of material that restricts moisture movement and will not degrade under conditions of moisture.
- Wet area: An area within a building supplied with a floor waste.

Edit the **Definitions** subclause to suit the project or delete if not required. List alphabetically.

1.7 SUBMISSIONS

Products

Documentation: Submit copies of product manufacturer's:

- Product technical data sheets.
- Safety data sheets (SDS).
- Type tests certificates verifying conformance to AS/NZS 4858 Table 8.1.

Evidence of delivery: Submit delivery docket as evidence of delivery of [complete/delete]

If evidence of delivery to site is required, consider including this *Optional* style text by changing to *Normal* style text.

Records

Placing records: Photographically record the application of membranes and information as follows:

- Date.
- Portion of work.
- Substrate preparation.
- Protection provided from traffic.
- **Personnel:** Employ a suitably qualified person to monitor the placing and protection of the membrane and prepare a daily report.

For large or complex projects, consider including this *Optional* style text by changing to *Normal* style text.

Samples

General: Submit 300 x 300 mm samples of each type of membrane.

Delete if not required.

Shop drawings

Submit shop drawings showing:

- Junctions with vertical surfaces and upstands.
- Junctions at perimeters.

- Drainage details.
- Control joints.
- Flashings.
- Penetrations.
- Corners.
- Terminations and connections.

An alternative is to prepare these details in consultation with the membrane supplier. Delete as appropriate.

Subcontractors and suppliers

General: Submit names and contact details of proposed suppliers and installers as recommended by Mapei.

Evidence of experience: [complete/delete]

Delete if supplier/installer details are not required.

Warranties

Requirement: Submit warranties to **COMPLETION, Warranties.**

1.8 INSPECTION

Notice

Inspection: Give notice so that inspection may be made of the following:

- Substrate preparation completed.
- Secondary layers preparation completed.
- Before membranes are covered up or concealed.
- After flood testing, if applicable.

Amend to suit the project, adding critical stage inspections required.

Hold points, if required, should be inserted here, e.g. to make sure the membrane is fully cured before it is covered.

2 PRODUCTS

2.1 GENERAL

Product substitution

Other products: Conform to PRODUCTS, **GENERAL, Substitutions** in *0171 General requirements*.

The *0171 General requirements* clause sets out the submissions required if the contractor proposes alternative products. Refer also to NATSPEC TECHnote GEN 006 for more information on proprietary specification.

Standards

Standard: To AS/NZS 4858.

AS/NZS 4858 is cited in AS 3740. Refer to AS/NZS 4858 Table 8.1 for the required membrane properties.

See AS 3740 clause 2.3 and Appendix A (informative) for design considerations with regard to movement.

Storage and handling

General: Store and handle to the manufacturer's recommendations and as follows:

- Protect materials from damage.

Product identification

General: Marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.
- Product reference code and batch number.
- Date of manufacture.

Edit the list to suit the project or delete if not required.

2.2 MAPEI SUBSTRATE PREPARATION

Mapecem Pronto

Description: Pre-blended ready-to-use, quick-setting (24 hours) and drying, controlled shrinkage mortar with a hydraulic binder base, admixtures and selected aggregates.

VOC content: 0.01 g/l.

Application: For internal and external floating and bonded screeds on old and new floor slabs, for laying wood, PVC, linoleum, carpet, ceramic, natural stone where immediate laying of the floor covering is required, Mapecem Pronto is not suitable for screeds subject to rising damp.

Topcem Pronto

Description: Ready to use normal setting controlled-shrinkage mortar for quick-drying screeds (4 days).

VOC content: 0.01 g/l.

Application: For forming unbonded and bonded screeds on new and existing slabs in interiors and exteriors before installing wood, PVC, linoleum, ceramic tile, natural stone, carpet or other floor coverings in areas where fast-drying screeds are required to lay floorings in a short time.

Planicrete SP

Description: Multipurpose latex additive for mortar and cementitious adhesive.

VOC content: 0.11 g/l.

Application: For the preparation of screeds and levelling compounds with high-resistance for interior and exterior use and cement slurry with high adhesion for bonding new screed on to existing screeds and concrete.

Mapecem Quickpatch

Description: High performance, high flow, fast-setting ramping and patching compound.

VOC content: 0.01 g/l.

Application: Versatile product for internal and external use. Can be applied from feather-edge up to 75 mm.

Planiprep SC

Description: High performance, rapid-setting, fibre-reinforced skim-coating and patching compound.

VOC content: 0.01 g/l.

Application: Internal use.

2.3 MAPEI LIQUID APPLIED MEMBRANES

Mapelastic AquaDefense

Description: Ready-to-use, ultra-quick drying, solvent-free, flexible, liquid waterproofing membrane.

Classification to AS/NZS 4858: Class III.

VOC content: 54 g/l.

Application: For internal and external waterproofing applications. Ceramic and stone material may be applied after only 4 hours.

Mapegum WPS

Description: Ready-to-use, fast drying, solvent-free, liquid waterproofing membrane for interior waterproofing.

- Classification to AS/NZS 4858: Class III.

- VOC Content: 5.1 g/l.

Application: For interior surfaces provided they are not continually immersed in water or subject to rising damp. Mapegum WPS can be used on all types of substrates such as gypsum board walls, gypsum and cementitious renders, light-weight concrete blocks, wood, existing ceramic tiles, cementitious and anhydrite substrates, wood substrates, magnesite, hot poured asphalt.

Mapelastic Smart

Description: Two-component, high flexibility cementitious liquid waterproofing membrane, used with Mapenet 150, Mapeband SA or Mapetex Sel.

Classification:

- To AS/NZS 4858: Class II.

- To AS 4654.1: Non-exposed waterproofing membrane.

VOC content: 0 g/l.

Application: For protection and waterproofing in both internal and external applications and may also be used on surfaces particularly stressed or crazed to help improve both elongation at break and crack bridging. Certified for use with Potable Water in accordance with AS/NZS 4020.

2.4 MAPEI JOINT AND FILLET TAPE

Mapeband

Description: Rubber tape with alkali-resistant fabric for cementitious waterproofing systems.

Application: Waterproofing corners between adjacent walls and between walls and floors, flexible waterproofing of expansion joints on terraces and balconies, sealing pipes and drains in bathrooms, showers and kitchens in conjunction with Mapeband gaskets and sealing expansion joints in precast panels.

Mapeband SA

Description: Self-adhesive butyl tape with alkali-resistant, non-woven fabric for elastic waterproofing systems.

Application: Waterproofing fillets between horizontal and vertical surfaces on terraces, balconies and in bathrooms and showers, sealing different types of material (bitumen membranes, metal, ceramic and cementitious screeds), sealing small, hard-to-reach fillets such as those between window and door fittings, ledges and substrates.

Mapeband TPE

Description: TPE tape for flexible sealing and waterproofing structural joints subject to movements.

Application: For expansion joints in road-works, water tunnels and covering areas subject to movements up to 5 or 10 mm.

2.5 MAPEI SEALANTS

Mapesil AC

Description: 100% acetic silicone sealant, high strength, mould resistant, solvents free with a low modulus of elasticity and high thermal and chemical resistance.

VOC content: 25.8 g/l.

Colour: [complete/delete]

Application: For use with glass, ceramic, sanitary wares and varnished surfaces. Ideal for floor joints and grouting tiles in damp environments and swimming pools. May be used on concrete, wood, metal, plastics and rubber after treating with Primer FD. Available in 34 colours and transparent.

Mapesil LM

Description: Neutral silicone sealant, odourless, non-staining on stone surfaces, with high bond strength without primer on a wide range of substrates and excellent resistance to inclement weather and ageing.

VOC Content: 50.6 g/l.

Colour: [complete/delete]

Application: For sealing materials sensitive to acids and plasticising agents, marble, granite, sandstone and quartz and forms an excellent bond on non-absorbent surfaces such as glass, ceramic and metals. Available in white (100), silver grey (111), cement grey (113), grey (114), black (120), Jasmine (130), beige 2000 (132).

Mapeflex PU45 FT

Description: One component, rapid-hardening, paintable without primer, thixotropic polyurethane sealant and adhesive with a high modulus of elasticity, high resistance to traffic.

VOC Content: 0.6 g/l.

Classification to ISO 11600: Class F25 LM.

Colour: [complete/delete]

Application: Sealing expansion and distribution joints in horizontal and vertical surfaces, including those which are subject to occasional chemical attack provoked by hydrocarbons. It is also recommended for flexible bonds between similar and different materials most commonly used in the building industry for both internal and external applications and as a replacement or to integrate mechanical fasteners. Compatible with all absorbent mineral substrates, metal surfaces, varnished surfaces, wood, stone, brickwork and glass. Complies with EN 15651-1 and EN 15651-4.

Mapeflex PU 40

Description: Paintable polyurethane sealant with a low modulus of elasticity for movement up to 25%.

VOC Content: 2.1 g/l.

Classification to ISO 11600: Class F20 HM.

Colour: [complete/delete]

Application: For sealing expansion and contraction joints in horizontal and vertical surfaces, both internal and external. Complies with EN 15651-1 and EN 15651-4.

2.6 ACCESSORIES

Shower tray

General: Purpose-made jointless shower tray, with wall upstands at least 50 mm higher than the hob upstands. Set hob masonry on the inside of the tray upstands.

A shower tray is not required to complete the Mapei system. However, if a shower tray is documented, contact Mapei for suitable sealants and caulking.

Typical materials include PVC, copper and stainless steel. Do not use Autoclaved Aerated Concrete (AAC) for hobs located within the tray. Delete if a preformed shower base is scheduled in 0811 Sanitary fixtures.

Water stop angles

Material: Rigid, corrosion resistant angles compatible with the waterproof membrane system.

Bond breakers

Requirement: Compatible with the extensibility class of the membrane to be used.

Material: Purpose made bond breaker tapes and closed cell foam backing rods or fillets of sealant.

See AS 3740 Table 3.2 for appropriate bond breaker tape widths.

Flashings

This term is used to describe an additional overlapping coat of liquid membrane.

Requirement: Flexible waterproof flashings compatible with the waterproof membrane system.

Liquid membrane reinforcement

Requirement: Flexible fabric compatible with the waterproof membrane system.

Sealants

Requirement: Waterproof, flexible, mould-resistant and compatible with host materials.

Adhesives

Requirement: Waterproof and compatible with host materials.

See AS 3740 clause 2.7.

3 EXECUTION

See AS 3740 Appendix A (informative) for design considerations.

3.1 PREPARATION

Substrates

Suitable wall substrates include:

- Concrete.
- Cement render.
- Fibre cement sheeting.
- Water-resistant plasterboard sheeting.

Suitable floor substrates include:

- Concrete.
- Compressed fibre cement sheeting.
- Structurally supported fibre cement sheeting.
- Flooring grade particleboard sheeting.
- Structural plywood.

See AS 3740 clause 2.4.2 for details of associated standards.

General: Make sure substrates are as follows:

- Clean and free of any deposit or finish which may impair adhesion of membranes.
- If walls are plastered, remove loose sand.
- If walls or floors are framed or discontinuous, support members are in full lengths without splicing.

- If floors are solid or continuous:
 - . Excessive projections are removed.
 - . Voids and hollows greater than 10 mm with abrupt edges are filled with a cement:sand mix not stronger than the substrate nor weaker than the bedding.
 - . Depressions less than 10 mm are filled with a latex modified cementitious product with feathering eliminated by scabbling the edges.
 - . Cracks in substrates wider than 1.5 mm are filled with a filler compatible with the membrane system.

Concrete substrates: Cure for more than 28 days.

- Concrete substrates for Mapei products: Uniformly dry, solid, sound, and free of dust, loose particles, cracks, paint, wax, oil, rust, traces of gypsum and other products that can interfere with bonding. Prepare to the Mapei Technical Data Sheets (TDS).

External corners: Round or arris edges.

Moisture content

Requirement: Verify that the moisture content of the substrate is compatible with the water vapour transmission rate of the membrane system by testing to AS 1884 Appendix A.

Refer to NATSPEC TECHnote DES 008 for preparation of concrete substrates. Refer also to CCAA Data Sheet Moisture in concrete and moisture-sensitive finishes and coatings.

Falls

Membrane directly under the floor finish: Make sure the fall in the substrate conforms to the fall documented for the finish.

Recommended minimum falls to floor finishes:

- 1:100 for general bathroom floor areas and enclosed showers.
- 1:80 for unenclosed, hobless shower areas.

See AS 3740 clauses 3.3, 3.4 and Appendix B.

Sheet substrate fastening

Requirement: Fasten or adequately fix to the supporting structure.

See AS 3740 clause 2.8.

Control joints

Finishes: Align control joints in finishes and bedding with control joints or changes in materials in the substrate.

See AS 3740 clause 2.3.

Water stop angles

Requirement: Provide water stop angles at door thresholds and shower enclosures to support the waterproof membrane at junctions between waterproofed and non-waterproofed areas.

Sizing: Size the vertical leg of the water stop angle to conform to the requirements of AS 3740.

Corners: Cut the horizontal leg and bend the vertical leg at corners instead of forming vertical joints between separate lengths of angle.

Fixing: Fix water stop angles to the substrate with compatible sealant or adhesive and corrosion-resistant countersunk or wafer head screws.

Priming

Substrates: Aluminium and PVC surfaces.

Primer: Lightly sand and apply Mapei Eporip (broadcast with sand) or Mapei Eco Prim Grip.

Contact Mapei for priming requirements to shower trays.

Bond breakers

Requirement: After the priming of surfaces, provide bond breakers at all wall/floor, hob/wall junctions and at control joints where the membrane is bonded to the substrate.

See AS 3740 clause 3.13.7, Table 3.2 and Figure 3.7. The lack of an effective bond breaker is the most common single source of waterproofing system breakdown.

Product: Mapei Mapeband/Mapeband SA.

Alternatively Mapeflex PU45 polyurethane sealant or Mapesil AC as a bond breaker.

Sealant fillet bond breakers:

- Application: Form a triangular fillet or cove of sealant to internal corners within the period recommended by the membrane manufacturer after the application of the primer.
- Widths: 5 x 5 mm to vertical corners. 6 x 6 to 9 x 9 mm to horizontal corners.

Oversized bond breakers can interfere with finishes.

Backing rod bond breakers: Retain in position with continuous length of tape pressed firmly in place against the surfaces on each side of the rod.

Only use with Class I membranes. Backing rod bond breakers have a limited ability to withstand movement and are not generally recommended. See AS 3740 clause 3.13.7.

3.2 APPLICATION

Protection

Damage: Protect membrane from damage during installation and for the period after installation until the membrane achieves its service characteristics that resist damage.

For example, until liquid applied membranes have fully cured.

Extent of waterproofing

Waterproof or water resistant surfaces: To the requirements of BCA F1.7 for Class 2, 3 and 4 buildings, or BCA 3.8.1.2 for Class 1 buildings.

BCA 3.8.1.2 defines the extent of surfaces within Class 1 building wet areas required to be waterproof or water-resistant. Refer to AS 3740 Appendix C indicating the extent of waterproofing based on the NCC.

Vertical membrane terminations

Upstands: At least 150 mm above the finished tile level of the floor or 25 mm above the maximum retained water level, whichever is the greater.

Anchoring: Secure sheet membranes along the top edge.

Edge protection: Protect edges of the membrane.

See AS 3740 clause 3.13.8.

Flashings

Junctions between waterproof surfaces: Provide a bond breaker at internal corners behind flashings.

Junctions between waterproof surfaces and other surfaces: Provide a bead of sealant at the following junctions:

- Waterproof and water-resistant surfaces.
- Water-resistant and water-resistant surfaces.
- Water-resistant and non water-resistant surfaces.

Perimeter flashings: Provide continuous flashings to the full perimeter of waterproof areas at wall/floor junctions and to water stop angles.

See AS 3740 clause 3.9.1 and Figure 3.3.

Vertical flashings: Provide vertical corner flashings continuous across wall/wall junctions to at least 1800 mm above finished floor level.

Vertical liquid applied flashings:

- Return legs at least 40 mm on each wall.
- Overlap the vertical termination of the floor waterproofing membrane at least 20 mm.

Vertical sheet flashings:

- Return legs at least 50 mm on each wall.
- Overlap shower tray upstands at least 50 mm.
- Do not penetrate flashing with wall lining fasteners.

See AS 3740 clause 3.9.2.

Reinforcement: At coves, corners and wall/floor junctions with gaps greater than 3 mm reinforce liquid applied membranes with reinforcement fabric tape recommended by the membrane manufacturer. Fold the tape in half lengthways and imbed it in the first flashing coat of membrane with one half of the tape on each side of the corner or joint. Apply a second coat of liquid membrane to seal the fabric.

Door jambs and architraves

Requirement: If the bottom of doorjambes and architraves do not finish above the floor tiling, waterproof their surfaces below tile level to provide a continuous seal between the perimeter flashing to the wall/floor junction and the water stop angle.

See AS 3740 clause 3.17 and Figure 3.3.

Drainage connections

Floor wastes: Provide floor wastes of sufficient height to accommodate the thickness of floor finishes and bedding at the outlet position. Position drainage flange to drain at membrane level. Turn membrane down 50 mm minimum into the floor waste drainage flanges, and adhere to form a waterproof connection.

See AS 3740 clause 3.14 and Figure 3.8. Rebate the drainage flange into the substrate so that its upper surface is no higher than the adjacent surface.

Floor wastes in shower trays: Provide drainage of the tile bed and a waterproof connection between the tray and the drain.

See AS 3740 clause 3.14.1.

Preformed drainage channels:

- With continuous drainage flanges: Provide a continuous waterproof connection between the membrane and the channel.

See AS 3740 clause 3.14.3.

- Without drainage flanges: Provide continuous waterproofing under the channel and terminate the membrane at a floor waste with a recessed drainage flange.

See AS 3740 clause 3.14.3 and Figure 3.9.

Enclosed showers with hobs

General: Construct from masonry, concrete or corrosion-resistant metal. Fix securely to the floor, seal against walls and make flush all gaps, joints and intersections before applying of the membrane.

Autoclaved aerated concrete hobs: Do not use for external membrane systems. Prime before applying the membrane.

Internal membranes: Extend membrane over the hob and into the room at least 50 mm.

See AS 3740 clause 3.15 and Figure 3.10.

External membranes (hob located inside membrane tray): Dress membrane up outside of hob and finish at the underside of tiles capping the top of the hob.

See AS 3740 clause 3.16 and Figure 3.12.

Enclosed showers with step-downs

Levels: Conform to AS 3740 Figure 3.5 and as follows:

- Finish the highest level of the shower area at a level at least 15 mm below the finished floor level outside the shower.
- Extend the membrane at least 10 mm above the maximum retained water level in the area outside the shower or 150 mm above the finished floor level of the shower area, whichever is the greater.

With framed shower screens: Terminate the membrane directly below the floor tiles below the shower screen sill mounted on the upper level of the step-down. Support and adhere the membrane to a water stop angle fixed securely to the upper level substrate.

With frameless shower screens: Install the shower screen with the inside face flush with the step-down. Terminate the membrane outside the shower screen at least 1500 mm from the shower rose outlet on the wall. Support and adhere the membrane to a water stop angle fixed securely to the substrate. Finish membrane flush with the underside of tiles.

See AS 3740 clause 3.13.2.

Enclosed hobless showers with framed shower screens

Requirement: Conform to AS 3740 Figure 3.6 and as follows:

- Turn the membrane up against a water stop angle fixed securely to the substrate directly below the shower screen sill.
- Size the angle so that the vertical leg finishes at least 5 mm above the level of the tiles.

Amend the finishing height of the membrane above the tile level to at least 10 mm for a more secure installation.

- Support and adhere the membrane to the angle and finish it flush with the top of the vertical leg.

See AS 3740 clause 3.13.4.

Enclosed hobless showers with trench drain located below screen

Framed or frameless shower screens: Install a water stop angle where the outer edge of the trench drain to the perimeter of the shower will be installed. Size the angle so that the vertical leg finishes at the underside of the tiles. Support and adhere the membrane over the water stop angle and terminate the membrane at floor wastes as described in **Drainage connections**. Install the trench drain with the shower screen located vertically above it.

Unenclosed showers

Requirement: Extend membrane at least 1500 mm into the room from the shower rose outlet, on the walls and floor.

See AS 3740 clause 3.13.5 and Appendix C Figure C1.

Preformed shower bases

Support: Fully support shower bases without causing distortion or cracking.

Junction with walls for bases with integral perimeter upstands: Conform to AS 3740 Figure 3.1 and as follows:

- Recess shower base into walls or batten off wall lining sufficiently to allow water-resistant wall finishes to overlap the integral upstands along the top edge of the shower base.
- Maintain the structural integrity of walls that are rebated.

See AS 3740 clause 3.6. Schedule preformed shower bases in 0811 Sanitary fixtures – the cited standard, AS 3588, covers acrylic, fibreglass and stainless steel bases.

Baths and spas

If ventilation of the enclosed space under baths or spas is required, specify openings and grilles in the appropriate worksections.

Junction of walls with baths: Conform to AS 3740 Figure 3.2 and as follows:

- Baths with integral upstands: Recess bath edges into walls or batten off wall lining sufficiently to allow water-resistant wall finishes to overlap the bath's integral perimeter upstands. Maintain the structural integrity of walls that are rebated.
- Baths without integral upstands or with showers over – rendered masonry walls: Form or chase a rebate in the render to receive the bath edge. Waterproof the wall above and below the rebate, including the rebate, and the floor area under the bath. Seal the edge of the bath into the rebate.
- Baths without integral upstands or with showers over – framed and lined walls: Form a rebate in the wall lining with a corrosion-resistant lipped channel to receive the bath edge. Waterproof the wall above and below the rebate, including the rebate, and the floor area under the bath. Seal the edge of the bath into the rebate.

See AS 3740 clauses 3.7 and 3.8. Do not use small mosaic tiles where the sealant joint exceeds 25% of the surface area of the mosaic tiles.

Plinth-mounted insert baths and spas: Conform to AS 3740 Figure 3.2 and as follows:

- Line framed enclosures for insert baths.
- Form an upstand on the inside edge of the enclosure opening to receive the bath with an angle or compressible foam rod.
- Waterproof walls abutting the enclosure, the top of the plinth and the interior and exterior of the enclosure.
- After tiling the walls, outside of the enclosure and plinth top, install the bath with its downturn edge lip outside the upstand formed on the edge of the opening and seal the lip to the tiles.

See AS 3740 clause 3.8. Do not install showers over this type of bath installation.

Taps and spouts

Requirement: Waterproof penetrations for taps and spouts with proprietary flange systems or a sealant.

Provision for servicing: Install taps in a manner that allows tap washers or ceramic discs to be serviced without damaging the waterproofing seal.

See AS 3740 clause 3.10.1 for tap and shower nozzle penetrations in shower areas.

Recessed soap holders

Construction: Support all faces of the recess and line with the same sheet material as the adjacent wall. Fall base of recess towards the shower area. Flash all junctions and waterproof all surfaces.

See AS 3740 clause 3.10 and Figure 3.4.

Curing of liquid applied systems

General: To the manufacturer's instructions.

Curing: Allow membrane to fully cure before tiling.

Membranes must be allowed to cure fully before tiling to prevent failure. Conform to manufacturer's recommendations.

Overlaying finishes on membranes

Requirement: Protect waterproof membranes with compatible water-resistant surface materials that do not cause damage to the membrane.

Suitable materials: Conform to AS 3740.

Suitable materials for walls include:

- Thermosetting laminated sheet.
- Predecorated fibre cement sheeting.
- Ceramic tiles.
- Sanitary grade acrylic wall linings.
- Water-resistant flexible sheet wall material (e.g. vinyl and linoleum) with sealed joints.

Suitable materials for floors include:

- Ceramic tiles.
- Water-resistant flexible sheet flooring material (e.g. sheet vinyl and linoleum) with sealed joints.

See AS 3740 clause 2.4.3 for details of associated standards.

Bonded or partially bonded systems: If the topping or bedding mortar is required to be bonded to the membrane, provide sufficient control joints in the topping or bedding mortar to reduce the movement over the membrane.

3.3 TESTING**Flood test**

A flood test may be required where the waterproofed wet area is over a habitable space particularly that of another occupant. However, it should be noted that most membrane failures are due to damage caused on site after the flood test is conducted. Delete if not required.

Application: Perform a flood test before the installation of surface finishes.

Moisture content measurement method: Conform to AS 1884 Appendix A.

Set-up:

- Measure the wall/floor junction of adjacent spaces and the floor soffit below for dryness.
- Record the result for each area.
- Dam the doorway(s) and seal floor wastes and drainage outlets to allow 50 mm water level.
- Fill space with clean water and leave overnight.

Evaluation:

- Make a visual inspection after a minimum period of 2 hours of the wall/floor junction of adjacent spaces and of the floor soffit below for obvious water or moisture.
- Test the same areas for dryness and compare the results to the measurements taken prior to flooding.

Compliance:

- Evidence of water from the visual test: Failure.
- No visual evidence of water: Proceed with moisture measurements.
- Test results indicating an increase in moisture before and after flooding: Failure.

Records:

- Submit records of all flood tests.

Specify here the approval criteria set up for the project. If necessary nominate a **Hold point**.

3.4 COMPLETION

Protection

General: Keep traffic off membrane surfaces until bonding has set or for 24 hours after laying, whichever period is the longer.

Reinstatement: Repair or replace faulty or damaged work.

Warranties

Materials:

- Form: Mapei product warranty.
- Period: 10 years.

Workmanship:

- Form: Against failure of execution under normal environment and use conditions.
- Period: As offered by the supplier.

4 SELECTIONS

Schedules are a way of documenting a selection of proprietary or generic products or systems by their properties. Indicate their locations here and/or on the drawings. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

4.1 MAPEI PRODUCT SCHEDULES

Wet area floors schedule

Property	A	B	C
Bonding slurry	Planicrete SP mixed with Mapecem in 1:1 ratio		
Screed additive	Mapecem		
Abutment seal			
Waterproofer			

A, B, C: These designate each instance or type or location of the item scheduled. Edit to align with the project's codes or tags.

Ceramic tile adhesive, grout and sealant: Refer to the *0181p MAPEI in adhesives, sealants and fasteners* worksection.

Edit codes in the **Schedule** to match those on drawings.

Abutment seal: Select Mapeband rubber tape and/or Mapeflex PU 45 sealant and adhesive.

Waterproofer:

- Class 3 to AS 3740: Two coats Mapelastic AquaDefense.
- In conjunction with an alkaline-resistant bandage: Two coats Mapegum WPS.

Wet area walls schedule

Property	A	B	C
Repair mortar	Mapecem Quickpatch		
Abutment seal			
Waterproofer			

A, B, C: These designate each instance or type or location of the item scheduled. Edit to align with the project's codes or tags.

Ceramic tile adhesive, grout and sealant: Refer to the *0181p MAPEI in adhesives, sealants and fasteners* worksection.

Edit codes in the **Schedule** to match those on drawings.

Abutment seal: Select Mapeband rubber tape and/or Mapeflex PU 45 sealant and adhesive.

Waterproofer:

- Class 3 to AS 3740: Two coats Mapelastic AquaDefense.
- In conjunction with an alkaline-resistant bandage: Two coats Mapegum WPS.

REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS 1884	2012	Floor coverings - Resilient sheet and tiles - Installation practices
AS 3740	2010	Waterproofing of domestic wet areas
AS 4654		Waterproofing membranes for external above-ground use
AS 4654.1	2012	Materials
AS/NZS 4858	2004	Wet area membranes
BCA 3.8.1.2	2016	Acceptable construction - Health and amenity - Wet areas and external weatherproofing - Wet areas
BCA F1.7	2016	Health and amenity - Damp and weatherproofing - Water proofing of wet areas in buildings
ISO 11600	2002	Building construction - Jointing products - Classification and requirements for sealants
The following documents are mentioned only in the <i>Guidance</i> text:		
AS 3588	1996	Shower bases and shower modules
AS/NZS 4020	2018	Testing of products for use in contact with drinking water
CCAA Data Sheet MC	2007	Moisture in concrete and moisture-sensitive finishes and coatings
MBA (NSW)	2017	Guide to internal wet area waterproofing (Book 1)
NATSPEC DES 008	2015	Preparation of concrete substrates
NATSPEC GEN 006	2007	Product specifying and substitution
NATSPEC GEN 024	2015	Using NATSPEC selections schedules
NATSPEC TR 01	2018	Specifying ESD
EN 15651		Sealants for Non-structural use in Joints in Buildings and Pedestrian Walkways
EN 15651-1	2017	Sealants for Facade Elements
EN 15651-4	2017	Sealants for Pedestrian Walkways