

**0621P DUROTECH WATERPROOFING – WET AREAS****Branded worksection**

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**Worksection abstract**

This branded worksection *Template* is applicable to DUROTECH liquid membrane waterproofing systems for wet areas and is written with reference to AS 3740 and AS/NZS 4858. DUROTECH liquid membrane waterproofing systems for wet areas, decks and balconies, comprise polyurethane and polymer/cementitious material and flashing tape to wall-to-wall and floor-to-wall junctions to accommodate movement.

**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](http://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:

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

**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](http://acumen.architecture.com.au), the Australian Institute of Architects' practice advisory subscription service, 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

Durotech Construction Supplies is a leading manufacturer and supplier of products and equipment to the Australian and New Zealand concrete and construction markets. Through all of its divisions and heritage, Durotech has built over 50 years' experience in servicing the construction, civil, and concrete industries. Durotech brings solid experience and technical expertise in the supply and manufacture of construction and decorative concrete products, equipment and tools.

### 1.1 RESPONSIBILITIES

#### General

Requirement: Provide DUROTECH 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

#### DUROTECH technical contacts

Website: [www.durotechindustries.com.au/contact/](http://www.durotechindustries.com.au/contact/)

### 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

#### Technical manuals

Website: [www.durotechindustries.com.au/technical-literature/](http://www.durotechindustries.com.au/technical-literature/)

### 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 and materials

Documentation: Submit copies of product manufacturer's:

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

### Records

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

- Date.
- Portion of work.
- Substrate preparation.
- After primer application.
- After membrane application.
- 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

General: Submit names and contact details of proposed installers.

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.
- Following primer application.
- 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 that 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 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

Store and handle to Durotech's recommendations and as follows:

- Protect materials from damage.

#### Marking

Identification: Marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.
- Product reference code and batch number.
- Date of manufacture.
- Material composition and characteristics such as volatility, flash point, light fastness, colour and pattern.

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

## 2.2 DUROTECH MEMBRANE SYSTEMS

### Duromastic ACS-3

Description: Flexible two part high solids liquid/cement copolymer fibre reinforced waterproofing membrane.

Application: Wet areas and shower alcoves. Foot trafficable tiled external areas, including decks, balconies, walkways and podiums (when over coated with Durarmour) for UV protection.

### Duromastic P15

Description: Flexible modified urethane waterproofing membrane.

Application: Wet areas and shower alcoves. Foot trafficable tiled external areas, including decks, balconies, walkways, roofs and podiums (when over coated with Duro mastic AC) for UV protection and slip resistance.

### Duroprime SSP

Description: Solvent free primer.

Application: Primer with adhesion enhancing properties for metal, non-porous, dense and smooth substrates. For use on both vertical and horizontal surfaces, and for the application of Duroprime SSP membrane coatings, adhesives and mortars.

### Duromastic SBR Latex

Description: Flexible micro fibre reinforced latex/copolymer waterproofing membrane.

Application: Wet areas and shower alcoves. Foot trafficable tiled external areas, including decks and balconies.

### Durotech ARW

Description: Single component water based primer.

Application: Water based primer to concrete, masonry and fibre cement sheeting substrates. Used with the application of internal water based membranes.

### Duro Flashing Tape

Description: Hydrophobic non-woven polypropylene fleece adhesive tape.

Application: For use in internal wet areas to create a visco-elastic seal on wall/floor interfaces, and externally as an overflashing in planter boxes balconies and roofs.

### Duroseal Hyperflex 25 sealant

Description: Low modulus, hybrid polyurethane, flexible joint sealant and adhesive.

Application: For sealing and joint filling. Used as an adhesive to aluminium, timber, concrete fibreglass substrates. See AS 3740 clause 2.6.

### Durolasto Tape bond breaker

Description: Tape band system.

Application: For use as bond breaker at wall/floor junctions, substrate abutments, control joints, movement and expansion joints. See AS 3740 Table 3.2 for appropriate bond breaker tape widths.

### Durotile Mastik adhesive

Description: Cement based tile adhesive.

Application: For large format wall and floor tile adhesion to concrete, render, screed, Durotech waterproofing membrane substrates. See AS 3740 clause 2.7.

### 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.

Application: For use at joints, corners and other details. Reinforcement to be fully wetted out with no wrinkles or bubbles.

### 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 Durotech Membrane System. 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.

**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 remove 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:
  - . Remove excessive projections.
  - . Fill voids and hollows greater than 10 mm with abrupt edges with a cement:sand mix not stronger than the substrate nor weaker than the bedding.
  - . Fill depressions less than 10 mm with a polymer modified cementitious product with feathering eliminated by scabbling the edges.
  - . Cover cracks in substrates wider than 1.5 mm.
  - . Concrete substrates: Cure for more than 28 days.

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.

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

**Falls**

Membrane is 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**

General: Prime the substrates with a primer compatible with the membrane system and suited to the substrate surface.

**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.

Sealant bond breakers: If using a sealant as the bond breaker, apply the sealant before priming the surfaces as follows:

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

Oversized bond breakers can interfere with finishes.

**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.

Edge protection: Protect edges of the membrane.

See AS 3740 clause 3.13.8.

**Flashings**

All flashed areas: Install **Duro Flashing Tape** to accommodate any potential movement between the nominated surfaces.

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.

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 **Duro Flashing Tape** to provide critical movement reinforcement.

#### **Door jambs and architraves**

Requirement: If the bottom of door jambs 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.

Priming: Prime porous surfaces with Durotech ARW primer.

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 documented 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 a membrane compatible 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 recommendations.

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

0136 General requirements (Construction) defines site and completion tests in **INTERPRETATION**, **Definitions** and calls for an inspection and testing plan under **SUBMISSIONS, Tests**.

### 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 before 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.

Duro Mastic P15 can be flood tested after 72 hours of curing (at 25°C/50% relative humidity).

**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**

Waterproofing: Cover materials and workmanship in the terms of the warranty in the form of interlocking warranties from the supplier and the applicator.

- Form: Against failure of materials and execution under normal environment and use conditions.

Period: [complete/delete]

DUROTECH offers 10 to 15 years warranty for each of the available design options.

10 years (maximum): Where sealant is used as the bond breaker.

12 years (maximum): Where a joint band system is used as the bond breaker.

15 years (maximum): Contact Durotech for details.

**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.

Refer to the Master Builders Association of NSW *Guide to internal wet area waterproofing* for guidance on waterproof membrane system selection.

**4.1 SYSTEMS****Durotech liquid applied membrane systems schedule**

Durotech waterproofing systems are Class II membrane systems as classified by AS/NZS 4858 which also includes:

- Class I (Low extensibility): Resin-based (Fibreglass).
- Class I (Low extensibility): Water-based epoxy.
- Class II (Medium extensibility): Acrylic, urethane modified acrylic.
- Class II (Medium extensibility): Modified bitumen based emulsions – Water-based and solvent-based. Not recommended for use in wet areas due to bitumen bleeding through some tiles and most grout joints.
- Class II (Medium extensibility): Water-based polymer/cementitious.
- Class III (High extensibility): Water-based polyurethane.
- Class III (High extensibility): Solvent-based polyurethane.

| Property  | 1A   | 1B   | 1C   |
|---|--|--|--|
| Proprietary system  | Durotech   | Durotech   | Durotech   |
| Material type   | Latex/pu Hybrid-based, single component, fibre enhanced membrane | Fast drying two part, polymer/cementitious membrane        | Water based polyurethane liquid applied membrane           |
| Tensile strain (elongation at the break) (%)                          | 400  | 800  | 800  |
| Tensile stress at break (MPa)   | > 1.1  | 1.5  | 1.74   |
| Shore A hardness  | 65   | 65   | 70   |
| Colour  | Light grey   | Grey   | Green/grey   |
| Priming: Porous surfaces (e.g. masonry)                               | Duromastic ARW Primer  | Duromastic ARW Primer                                      | Duromastic ARW Primer                                      |
| Priming: Non-porous surface (e.g. ceramic tile, metals, and plastics) | DuroPrime SSP  | DuroPrime SSP  | DuroPrime SSP  |
| Number of coats (minimum)   | 2  | 2  | 2  |
| Membrane first coat   | Duromastic SBR Latex   | Duromastic ACS-3   | Duromastic P15   |
| Membrane second coat  | Duromastic SBR Latex   | Duromastic ACS-3   | Duromastic P15   |
| Method of application   | Thick brush or roller  | Thick brush or roller                                      | Thick brush or roller                                      |
| Application rate/coat (L/m <sup>2</sup> )                             | 0.75   | 0.75   | 0.75   |
| Dry film thickness (total) (mm)                                       | 1.2  | 1.2  | 1.2  |
| Water stop angles   |  |  |  |
| Bond breakers   | Durolasto Tape joint band system or, Duroseal Hyperflex 25       | Durolasto Tape joint band system or, Duroseal Hyperflex 25 | Durolasto Tape joint band system or, Duroseal Hyperflex 25 |
| Tile adhesive   | Durotile Mastik  | Durotile Mastik  | Durotile Mastik  |

System 1A: Latex based, single component, fibre enhanced waterproofing membrane.

System 1B: Flexible, fast drying two part, polymer/Cementitious.

System 1C: Water based polyurethane liquid applied membrane.

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.

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

Proprietary system: If the system is specified by proprietary name, some of the other schedule items may be unnecessary and can be deleted.

Material type: The defaults are general waterproofing design options. Contact Durotech to discuss which option is most suitable for your project. Delete options which are not appropriate.

CSIRO moving joint test: AS/NZS 4858 Appendix B is based on this test which measures the resistance of the membrane to cyclic movement. Results are reported by reference to the number of cycles required to induce failure. If failure has not occurred after 50 cycles this is reported along with the types of defects present and the number of cycles at which onset of the defect occurred.

Water stop angles: Specify size of angle and material, e.g. aluminium, brass, stainless steel, rigid plastic.

### Shower tray schedule

Typical shower trays as classified by AS 3740 include:

- Class I (Low extensibility): Metal trays, e.g. copper, stainless steel.

| Product | A | B | C |
|---------|---|---|---|
|---------|---|---|---|

| Product                   | A | B | C |
|---------------------------|---|---|---|
| Material                  |   |   |   |
| Dimensions                |   |   |   |
| Surface protection/finish |   |   |   |

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.

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

#### 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/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          |

**The following documents are mentioned only in the *Guidance* text:**

|                    |      |   |
|--------------------|------|---|
| AS 3588            | 1996 | Shower bases and shower modules                                   |
| 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  |