

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

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Worksection abstract

This branded worksection *Template* is applicable to FOSROC liquid membrane waterproofing systems for wet areas and is written with reference to AS 3740 (2021) and AS/NZS 4858 (2004). FOSROC liquid membrane waterproofing systems for wet areas comprise polyurethane and polymer/cementitious material and elastic joint band, pre-formed corners, wall-to-wall and floor-to-wall junctions to accommodate movement.

How to use this worksection

Customise this worksection *Template* for each project. See A guide to NATSPEC worksections (www.natspec.com.au) for information on *Template* structure, word styles, and completing a worksection.

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.*
- *0612 Cementitious toppings.*
- *0613 Terrazzo in situ.*
- *0631 Ceramic tiling.*
- *0632 Stone and terrazzo tiling.*
- *0802 Hydraulic design and install.*

Related branded worksections include:

- *0411p FOSROC waterproofing – external and tanking.*
- *0657p FOSROC resin based seamless flooring.*

Documenting this and related work

You may document this and related work as follows:

- Show the location, extent and type of membrane including details of junctions with flashings on the drawings. See BCA (2022) F2D2 for Class 2 to 9 buildings and BCA (2022) H4D2 for Class 1 buildings.
- Plan structural control and expansion 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, the Australian Institute of Architects' practice advisory subscription service, for notes on the following:

- Guarantees and warranties.
- Waterproofing.

Specifying ESD

The following may be specified by including additional text:

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

Refer to NATSPEC TECHreport TR 01 on specifying ESD.

1 GENERAL

Fosroc is a world leader in construction solutions. We deliver tailored functional construction solutions for virtually any building or infrastructure project. New or old construction, above or below ground, we combine high quality products, expert technical support, customer service and innovation to give you the best solution for your project. Parchem Construction Supplies is the licensed manufacturer and distributor of Fosroc products in Australia.

1.1 RESPONSIBILITIES

General

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

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

Performance

Requirements:

- Graded to floor wastes, to dispose of water without ponding.
- Able to 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 and expected movement of joints in the substrate.
- Ability to remain serviceable after material shrinkage and loss of elastic properties.
- Resistance to damage from traffic and falling objects.
- Chemical compatibility with the surrounding building materials.
- Suitability for permanent immersion (e.g. tanking, tiled areas).

1.2 COMPANY CONTACTS

FOSROC technical contacts

Website: www.fosroc.com.au/specification-services

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 (2021).

AS 3740 (2021) specifically applies to waterproofing of wet areas as defined in the NCC. The Note to AS 3740 (2021) clause 1.1 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 (2021) Section 4 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 (2017)* is a useful source of details and advice on good installation practice.

1.5 MANUFACTURER'S DOCUMENTS

Technical manuals

Website: www.fosroc.com.au

1.6 INTERPRETATION

Definitions

General: For the purposes of this worksection, the definitions given in AS 3740 (2021) and the following apply:

- Membranes (waterproof): Impervious barriers to liquid water, which may be:
 - . Installed below floor finishes.
 - . Installed behind the wall sheeting or render.
 - . Installed to the face of the wall sheeting or render.
 - . Applied in liquid or gel form and air cured to form a seamless film.
 - . Applied in sheet form with joints lapped and sealed.
- Waterproofing system: Combinations of membranes, flashings, drainage and accessories that form waterproof barriers and that may be:
 - . Loose-laid.
 - . Bonded to substrates.
- 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

Manufacturer's data: Submit product data sheets.

Type tests: Submit certificates verifying conformance to AS/NZS 4858 (2004) Table 8.1.

Type tests are carried out off-site. However, submission of evidence of a successful type test may be called up here for requirements specified in SELECTIONS or PRODUCTS, when there are no SELECTIONS.

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

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

Prototypes

General: Apply waterproofing to 10 m² of substrate to demonstrate surface preparation, crack and joint treatment, corner treatment, and execution quality. Install final surface finish to demonstrate aesthetic affects, physical properties, and quality of materials and execution as applicable.

Nominate an approval process and indicate if the prototype is to be retained, Indicate location, size, and other details of prototypes on drawings. Delete if not required.

Records

General: Submit photographic records to EXECUTION, **GENERAL, Reporting**.

Flood tests: Submit photographic records to **TESTING, Flood tests**.

Samples

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

Delete if not required.

Shop drawings

Requirement: Submit shop drawings showing the following:

- Junctions with vertical surfaces and upstands.
- Junctions at perimeters.
- Drainage details.
- Control joints.
- Flashings.
- Penetrations.
- Corners.
- Terminations and connections.
- Membrane layers.

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 suppliers and installers as recommended by the manufacturer.

Evidence of experience: [complete/delete]

Delete if supplier/installer details are not required.

Substrate acceptance: Submit evidence of installer's acceptance of the flooring substrate before starting installation.

Tests

Detail the tests required in PRODUCTS or EXECUTION, as appropriate, and list the submissions required here.

Site tests: Submit results, as follows:

- Substrate moisture content test.
- Flood test.
- Electronic leak detection test.
- Seam probe test.

Warranties

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

1.8 INSPECTION**Notice**

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

- Substrates prepared and ready for installation of the wet area waterproofing systems.
- Following primer application.
- Membranes after installation and before concealment.
- 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.

AS 3740 (2021) Appendix D also includes a suggested checklist of items to be reviewed following installation of waterproofing.

2 PRODUCTS**2.1 GENERAL****Product substitution**

Other products: Conform to **SUBSTITUTIONS** in *0171 General requirements*.

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

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 MEMBRANES**Standards**

Standard: To AS/NZS 4858 (2004).

AS/NZS 4858 (2004) is cited in AS 3740 (2021). Refer to AS/NZS 4858 (2004) Table 8.1 for the required test criteria for membrane properties.

See AS 3740 (2021) Appendix A (informative) for design considerations.

Total VOC limits

Requirement: Conform to the following maximum TVOC content:

- Waterproof membrane: 250 g/L.

Limiting VOC levels improves indoor air quality. Edit to more stringent values if required.

Compliance with this subclause targets the Waterproof membranes requirement within the Minimum Expectation level of the Exposure to Toxins credit in Green Star Buildings (2021).

Conformance testing: To SCAQMD Rule 1168 (1989).

Consider editing and changing this *Optional* style text to *Normal* style text if required as a general quality standard.

2.3 FOSROC LIQUID MEMBRANE SYSTEMS

FOSROC provides three alternative design options in SELECTIONS, **SYSTEMS**. FOSROC products meet a number of Australian and International Standards including AS 3740 (2021) and DIN 53504 (2017).

Fosroc Nitoproof 410

Description: Flexible, polymer/cementitious, two part liquid waterproofing membrane.

Class III membrane system.

Typical application: Wet areas and shower alcoves, podiums, terraces, balconies and deck areas – under toppings, tiles and other UV protected environments. Foot trafficable (when over coated with Nitoproof Top Coat UV) for UV exposed roof top membrane, UV exposed balcony decks, UV exposed walkways, subject to regular density foot traffic etc. (See Nitoproof 410 Technical Data Sheet).

Fosroc Nitoproof 310

Description: Latex-based, fibre enhanced, single component, waterproofing membrane.

Class III membrane system.

Typical application: Wet areas and shower alcoves, under tile balcony areas, under tile terrace areas, sandwich seal between existing and new substrates, e.g. Old to new concrete, cement screeds over concrete and CFC surfaces.

Fosroc Nitoproof 810

Description: Highly flexible, water based polyurethane liquid waterproofing membrane.

Class III membrane system.

Typical application: Wet areas and shower alcoves, podiums, terraces, balconies and deck areas – under toppings, tiles and other finishes. Foot trafficable (when over-coated with Nitoproof Top Coat UV) for UV exposed rooftop membrane, UV exposed balcony decks, UV exposed walkways, subject to regular density foot traffic, etc. (See Nitoproof 810 Technical Data Sheet).

Fosroc Nitoband Elastic Joint Band System

Description: Flexible bond breaking tape of acrylonitrile butadiene rubber and detailing accessories for sealing critical movement zones, including the following:

- Fosroc Nitoband Elastic Joint Band Tape for floor to wall, wall to wall applications.
- Fosroc Nitoband Elastic Joint Band Corners: 270° external, 90° internal and adjustable internal corners.
- Fosroc Nitoband Elastic Joint Band Pipe Penetration Detailing Squares: For pipes up to 50 mm, 110 and 150 mm.
- Fosroc Nitoband Butyl Square Floor Waste Detailing Collars of various sizes.

Fosroc Nitoprime 120

Description: Water-based, single component, fast drying primer.

Typical application: Fosroc Nitoprime 120 is a suitable primer for Fosroc Nitoproof 310, Fosroc Nitoproof 410 and Fosroc Nitoproof 810.

Fosroc Nitoprime 115

Description: Water-based solvent free primer for non-porous substrates.

Typical application: Fosroc Nitoprime 115 is a suitable primer for Fosroc Nitoproof 310, Fosroc Nitoproof 410 and Fosroc Nitoproof 810.

Tile adhesive

Description: A rubber modified, cement-based, flexible tile adhesive.

See AS 3740 (2021) clause 2.7 on adhesives used in a waterproofing system.

2.4 ACCESSORIES

Shower tray

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

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

Waterstop angles

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

Flashings

This term is used to describe additional overlapping coats of liquid applied membranes or overlapping pieces of sheet membranes.

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

Sealants

Requirement: Waterproof or water resistant, flexible, mould-resistant and compatible with the waterproofing system and to the manufacturer's recommendations.

See AS 3740 (2021) clause 3.5.

The compatible sealants for Nitoproof 310 membrane are Nitoseal PU250 and Nitoseal PU400. The compatible sealants for Nitoseal 810 membrane are Nitoseal PU250 and Nitoseal PU400.

3 EXECUTION

See AS 3740 (2021) Appendix A (informative) for design considerations.

3.1 GENERAL

Reporting

General: Make progressive photographic records of the waterproofing installation. Label photographs with the date and location.

Timing: Record at the following stages:

- After substrate preparation.
- After primer application.
- After membrane installation.
- After protection from traffic provided.

Liquid applied membranes:

- Record wet film thickness once every 10 m² and compare to the manufacturer's requirements.
- On completion of every 100 m² of each coat, compare the amount of membrane used with the manufacturer's application rate and record the result.

Personnel: Employ an appropriately qualified person to monitor the application and protection of the membranes and prepare a daily report.

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

3.2 PREPARATION

Substrates

Suitable wall substrates include:

- Concrete.
- Cement render.
- Fibre cement sheeting.
- Water resistant plasterboard sheeting.
- Masonry.
- Structural plywood.

Suitable floor substrates include:

- Concrete.
- Compressed fibre cement sheeting.
- Structurally supported fibre cement sheeting.
- Structural plywood.

See AS 3740 (2021) clause 3.3.2 for details of associated standards.

Water resistant plasterboard sheeting may not be suitable for areas of high water volumes, e.g. shower recesses.

General: Prepare substrates as follows:

- Clean and remove any deposit or finish that may impair adhesion of membranes.
- If walls are plastered, remove loose sand.
- If walls or floors are framed or discontinuous, make sure 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 with Fosroc Nitoband Expansion Joint Band System or Fosroc Nitoseal compatible with the respective Fosroc Nitoproof.

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 the recommendations of AS 3740 (2021) Appendix F.

Refer to NATSPEC TECHnote DES 008 for preparation of concrete substrates. Refer also to CCAA Data Sheet on Moisture in concrete and moisture-sensitive finishes and coatings (2007).

Falls

Membrane applied to substrate: Make sure the fall in the substrate conforms to the fall documented for the finish.

Document required falls on the drawings and update text above adding minimum fall to non-shower areas if required.

BCA (2022) H4D2 for Class 1 buildings and BCA (2022) F2D4 for Class 2, 3 or 4 buildings require falls for certain bathrooms or laundries to the following:

- Minimum continuous fall of the floor plane to the floor waste: 1:80.
- Maximum continuous fall of the floor plane to the floor waste: 1:50.

Refer to AS 3740 (2021) for Class 5 to 9 buildings where there are no NCC Deemed-to-Satisfy provisions. AS 3740 (2021), a referenced standard in the NCC, requires a minimum fall of 1:80 in shower areas including bathrooms with an integral shower area and a minimum fall of 1:100 to other areas with a floor waste.

For accessible areas, AS 1428.1 (2009) requires a fall between 1:60 and 1:80 in shower recesses and a fall between 1:80 and 1:100 to the remainder of the sanitary facility. The NCC cites AS 1428.1 (2001) and AS 1428.1 (2009). The current edition is AS 1428.1 (2021).

Sheet substrate fastening

Requirement: Provide fasteners compatible with the substrate. Mechanically fasten to the supporting structure.

See AS 3740 (2021) clause 3.6.

Waterstop angles

Requirement: Provide waterstop 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 waterstop angle to conform to the requirements of AS 3740 (2021).

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

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

Priming

Compatibility: If required, prime the substrates with compatible primers for adhesion of the membrane system.

Bond breakers - Fosroc Nitoband Elastic Joint Band System

Requirement: Use Fosroc Nitoband Elastic Joint Band System as the bond breaker after the membrane priming of surfaces, provide bond breakers at all wall/floor, hob/wall junctions, corners, pipe penetration locations and floor wastes, and at control joints where the membrane is bonded to the substrate.

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

- Application: 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.
- Width: Conform to AS 3740 (2021) clause 4.10.

3.3 INSTALLATION

Ambient conditions

Requirement: Do not install in conditions outside the manufacturer's recommendations.

Protection

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

This includes making sure liquid applied membranes have fully cured.

Extent of waterproofing

Waterproof or water resistant surfaces: To the requirements of BCA (2022) F2D2 or BCA (2022) H4D2, as applicable.

The NCC defines the extent of surfaces within wet areas required to be waterproof or water resistant.

Flashings

All flashing areas: Install Fosroc Nitoband Elastic Joint Band system 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 waterstop angles.

See AS 3740 (2021) clause 4.9.1 and Figure 4.9.1.

Vertical flashings: Provide vertical corner flashings continuous across wall/wall junctions to at least 1800 mm above finished floor level of the shower or base of the bath or tray, or 50 mm above the shower rose, whichever is the higher.

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 (2021) clause 4.11.2.

Reinforcement: At coves, corners and wall/floor junctions with gaps greater than 3 mm reinforce liquid applied membranes with Fosroc Nitoband Elastic Joint Band System to provide critical movement reinforcement.

Drainage connections

Floor wastes: Provide floor wastes of sufficient height to accommodate the thickness of floor finishes and bedding at the outlet position. Position leak control flange to drain at membrane level. Turn membrane down 50 mm minimum into the floor waste leak control flanges, and adhere to form a waterproof connection. Embed the Fosroc Nitoband Elastic Joint Band Waste Detailing Collar into the nominated Fosroc Nitoband.

Priming: Fosroc Nitoband Elastic Joint Band Waste Detailing Collar sticks to smooth surfaces without priming. Prime porous surfaces with Fosroc Nitoprime 120.

See AS 3740 (2021) clause 4.3.1 and Figure 4.3.1. Rebate the leak control 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 (2021) clause 4.3.1.

Preformed drainage channels:

- With continuous leak control flanges: Provide a continuous waterproof connection between the membrane and the channel.
- Without leak control flanges: Provide continuous waterproofing under the channel and terminate the membrane at a floor waste with a recessed leak control flange.

See AS 3740 (2021) clause 4.3.2 and Figure 4.3.2.

AS 3740 (2021) uses the term leak control flanges while the NCC uses the term drainage flange.

Membrane terminations

Upstands:

- Shower areas with hobs and step-downs: Minimum 150 mm above the highest finished tile level of the shower area or 25 mm above the maximum retained water level, whichever is the greater.
- Shower areas without hobs: Minimum 150 mm above the highest finished tile level of the floor within the shower area.
- Shower areas with ceiling mounted shower rose: To the full height of the wall.
- Bath without an integral upstand edge without showers over: Minimum 150 mm above the shower rose connection.
- Bath with an integral upstand edge, bath with a shower over or bath adjoining an unenclosed shower: Minimum 150 mm above the bath edge.

Edge protection: Protect edges of the membrane.

See AS 3740 (2021) clause 4.6.3.

Showers with hobs

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

Masonry or concrete hob: Extend membrane over the hob and into the room at least 50 mm.

- Autoclaved aerated concrete hobs: Prime before applying the membrane.

Metal hob: Provide metal angle with height at least 15 mm above the finished floor level of the floor outside the shower. Terminate the membrane within 5 mm from the top of the angle. Seal the gap between the shower screen and the angle.

See AS 3740 (2021) clause 4.6.2 and Figure 4.6.2.

Showers with step-downs

Level of shower area: At least 15 mm below the finished floor level outside the shower.

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 waterstop angle fixed securely to the substrate.

Frameless shower screens:

- Install a waterstop angle where the base of the shower screen will be installed and across the opening of the shower.
- Install membranes on both sides of the waterstop angle and turn the membranes up against the angle. Extend the membrane at least 50 mm into the adjacent area
- Finish membrane flush with the underside of tiles.
- Provide a sealant joint between the waterstop angle and tiles.
- Install the shower screen with the inside face flush with the step-down.

See AS 3740 (2021) clause 4.8.2 and Figures 4.8.2(B) and 4.8.2(C).

Showers without hobs or step-downs

Framed shower screens:

- Install a waterstop angle directly below where the base of the shower screen sill will be installed.
- 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 over the waterstop angle and extend the membrane at least 50 mm into the adjacent area.

See AS 3740 (2021) clause 4.8.4 and Figure 4.8.4.

Frameless shower screens:

- Install a waterstop angle directly below where the base of the shower screen will be installed.
- Support and adhere the membrane over the waterstop angle and extend the membrane at least 50 mm in to the adjacent area.
- Install a capping angle over the membrane and vertical leg of the waterstop angle to protect the exposed membrane.
- Install the shower screen over the capping angle.

See AS 3740 (2021) clause 4.8.3 and Figure 4.8.2(D).

Framed or frameless shower screens with trench drain located below screen:

- Install a waterstop 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 waterstop 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 (2021) clause 4.8.2.

Preformed shower bases

Preformed shower bases with integral perimeter upstands:

- Support shower bases to prevent distortion or cracking.
- 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 (2021) clause 4.14 and Figure 4.14. Schedule preformed shower bases in 0811 Sanitary fixtures. AS 3588 (1996) 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.

Baths with integral upstands:

- Recess bath edges into walls or batten off wall lining sufficiently to allow water resistant wall finishes to overlap the integral upstands.
- Maintain the structural integrity of walls that are rebated.

Baths without integral upstands or with showers over:

- Form a rebate in the wall to receive the bath edge.
 - . Rendered masonry walls: Form or chase in the render.
 - . Framed and lined walls: Form in the wall lining with a corrosion-resistant lipped channel.
- 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 (2021) clause 4.13 and Figures 4.13.2.2 and 4.13.3. 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:

- 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, top of the plinth and exterior of the enclosure, 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.
- Minimum dimension from wall or free edge of the plinth to insert bath: 100 mm.

See AS 3740 (2021) clauses 4.13.3 and 4.13.6 and Figures 4.13.3(E) and 4.13.6.

Installing showers over this type of bath installation is not recommended due to issues with water drainage.

Taps and spouts

Requirement: Waterproof penetrations for taps and spouts with Fosroc Nitoband Elastic Joint Band Pipe Penetration Detailing Squares or a membrane compatible sealant.

Provision for servicing: Install taps so tap washers or ceramic discs can be serviced without damaging the waterproofing or seal.

See AS 3740 (2021) clause 4.12.

Wall recesses

Requirement: 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 (2021) clause 4.12.4 and Figure 4.12.4.

Curing of liquid membrane 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.

Overlying 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 (2021).

Suitable materials for walls include:

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

Suitable materials for floors include:

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

See AS 3740 (2021) clause 2.4.3 for details of associated standards. See also AS 3740 (2021) clauses 4.16 and 4.17 for vinyl floor and wall coverings and polished concrete.

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

3.4 TESTING

0171 General requirements defines different tests in **INTERPRETATION, Definitions** and calls for an inspection and testing plan in **TESTING - GENERALLY, Inspection and testing plan**.

AS 3740 (2021) Appendix C includes three methods for membrane continuity testing. Delete testing methods not used here and in **SUBMISSIONS**.

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

Substrate tests

Moisture content: Test substrate for suitability for the installation of membranes to AS 3740 (2021) Appendix F.

- Maximum relative humidity of concrete or cementitious screeds: To AS 3740 (2021) Appendix F2.4.
- Moisture content of timber and plywood substrates: To AS 3740 (2021) Appendix F2.3.

Flood tests

Requirement: To AS 3740 (2021) Appendix C2.

Records:

- Make photographic records of the flooded areas and adjacent areas.
- Label photographs with the date and location.

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 membrane system failures may occur due to damage caused on site after the flood test is conducted. Delete if not required.

Fosroc Nitoproof 810 can be flood tested after 48 hours of curing (at 23°C/50% humidity).

Electronic leak detection test

Requirement: To AS 3740 (2021) Appendix C3.

AS 3740 (2021) Appendix C3 notes where electronic leak detection testing can be used and includes a testing procedure.

See also ASTM D8231 (2019), which details the standard procedures for electronic leak detection testing.

Seam probe test

Requirement: To AS 3740 (2021) Appendix C4.

A seam probe test can only be conducted on sheet membranes.

3.5 COMPLETION

Reinstatement

Extent: Repair or replace faulty or damaged work. If the work cannot be repaired satisfactorily, replace the whole area affected.

Warranties

Requirement: 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: As offered by the supplier.

Period: [complete/delete]

FOSROC 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 Fosroc Nitoband Elastic Joint Band System is used as the bond breaker.
- 15 years (maximum): Contact FOSROC for details.

4 SELECTIONS

Schedules are a tool to specify properties required for products or systems. If the principal permits documentation of the product or system by proprietary name, some of the properties may be unnecessary and can be deleted. Document the product or system's location or application here and/or on the drawings with a matching project code. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

4.1 SYSTEMS

FOSROC liquid applied membrane systems schedule

FOSROC waterproofing systems are Class II or Class III membrane systems as classified by AS/NZS 4858 (2004), 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.

	14A	14B	14C
Proprietary system	FOSROC Nitoproof 310	FOSROC Nitoproof 410	FOSROC Nitoproof 810
Material type	Latex-based, single component, Class III, fibre enhanced membrane	Fast drying two part, Class II, polymer/cementitious membrane	Solvent-free, single component, Class III, polyurethane liquid applied membrane
Tensile strain (elongation at the break) (%)	> 500	320	> 300
Tensile stress at break (MPa)	> 2	1.3	> 3
VOC content (g/litre)	17	9	< 2
Colour	Light grey	Grey	Green
Priming: Porous surfaces (e.g. masonry)	Fosroc Nitoprime 120	Fosroc Nitoprime 120	Fosroc Nitoprime 120
Priming: Non-porous surface (e.g. ceramic tile, metals, and plastics)	Fosroc Nitoprime 115	Fosroc Nitoprime 115	Fosroc Nitoprime 115
Number of coats (minimum)	2	2	2
Membrane first coat	Fosroc Nitoproof 310	Fosroc Nitoproof 410	Fosroc Nitoproof 810
Membrane second coat	Fosroc Nitoproof 310	Fosroc Nitoproof 410	Fosroc Nitoproof 810
Method of application	Thick brush or roller	Thick brush or roller	Thick brush or roller
Application rate/coat (L/m ²)	0.75	0.75	0.75
Dry film thickness (total) (mm)	1.2	1.2	1.0
Bond breakers	Fosroc Nitoband Elastic Joint Band System	Fosroc Nitoband Elastic Joint Band System	Fosroc Nitoband Elastic Joint Band System
Tile adhesive	Polymer modified cement based tile adhesive	Polymer modified cement based tile adhesive	Polymer modified cement based tile adhesive
Waterstop angles			

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

System 14A: Latex-based, single component, fibre enhanced waterproofing membrane.

System 14B: Flexible, fast drying two part, polymer/cementitious.

System 14C: Highly flexible, solvent-free polyurethane.

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 Parchem to discuss which option is most suitable for your project. Delete options that are not appropriate.

Waterstop 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 (2021) include:

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

	A	B	C
Material			
Dimensions (mm)			
Surface protection/finish			

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

Material: e.g. PVC, copper and stainless steel.

Dimensions (mm): Specify the length and width, e.g. 900 x 900 mm.

Surface protection/finish: Nominate the protection or finish.

REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS 3740	2021	Waterproofing of domestic wet areas
AS/NZS 4858	2004	Wet area membranes
BCA F2D2	2022	Health and amenity - Wet areas and overflow protection - Wet area construction
BCA H4D2	2022	Class 1 and 10 buildings - Health and amenity - Wet areas
SCAQMD Rule 1168	1989	South Coast Air Quality Management District Rule 1168 - Adhesive and sealant applications (California, U.S.)

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

AS 1428		Design for access and mobility
AS 1428.1	2001	General requirements for access - New building work
AS 1428.1	2009	General requirements for access - New building work
AS 1428.1	2021	General requirements for access - New building work
AS 3588	1996	Shower bases and shower modules
BCA F2D4	2022	Health and amenity - Wet areas and overflow protection - Floor wastes
CCAA Data Sheet MC	2007	Moisture in concrete and moisture-sensitive finishes and coatings
GBCA Buildings	2021	Green Star Buildings
MBA (NSW) Book 1	2017	Guide to internal wet area waterproofing (Book 1)
NATSPEC DES 008		Preparation of concrete substrates
NATSPEC GEN 006		Product specifying and substitution
NATSPEC GEN 024		Using NATSPEC selections schedules
NATSPEC TR 01		Specifying ESD
ASTM D8231	2019	Standard practice for the use of a low voltage electronic scanning system for detecting and locating breaches in roofing and waterproofing membranes
DIN 53504	2017	Testing of rubber. Determination of tensile strength at break, tensile stress at yield, elongation at break and stress values in a tensile test