CHEMSPRAY™ 690

Spray applied, pure polyurea protective coating and waterproofing membrane

Product Description

A fast curing, two-part, spray applied, elastomeric pure polyurea membrane for long-life protection of structures against water, many chemicals and the local environment. It is a premium grade, low VOC, high build coating, formulated using the latest polyurea technology to provide a protective barrier on commercial, civil and infrastructure projects.

Product Uses

CHEMSPRAY 690 is specifically designed for use as a robust, high build protective coating and waterproofing membrane on non-exposed or exposed vertical, horizontal and overhead substrates.
The extremely high physical properties of the product make it well suited where continuous immersion resistance to water, potable water, desalination permeates, sewage, and many chemicals.
In foot trafficable areas or where aesthetics are important, CHEMSPRAY 690 may be overcoated with SILCOR Top Coat 80 as UV colour stable protection.

Typical applications include:

- Potable and non-potable water processing and storage plants
- Desalination and waste water processing plants
- Secondary containment chemical bunding
- Primary chemical containment tanks
- Chlorinated swimming lagoons and theme parks
- Fresh and sea water aquariums and animal husbandry facilities
- Non-potable water storage tanks, fire services and thermal energy storage tanks
- Cut & cover tunnel roof decks and walls
- Bored tunnel smoke duct sealing

Advantages & Features

- Very fast cure – tack free in 20 seconds; light foot trafficable in 5 minutes; flood test / open to other trades in 4 hours
- Certified Class III – compliant with AS 4654.1-2012 for use as external, non-exposed waterproofing, installed to the requirements of AS 4654.2-2012
- Potable water certified
- Spray applied using only high output plural spray machinery - Graco Reactor E-XP2 / H-XP3; not suitable for E-10 HP
- Very Low VOC – <55g/L – reduced EH&S issues on site
- High physical properties; >300% elongation and >19MPa tensile strength
- Seamless – liquid applied and monolithic, eliminating vulnerable joins, seams, and laps

- Fully Bonded – no water tracking between membrane and substrate
- Accommodates typical structural movements encountered in well-designed construction
- Bridges non-structural concrete shrinkage cracks

Product Properties

PROPERTY	TYPICAL VALUE	TEST METHOD
Liquid Membrane Properties		
Membrane Chemistry	100% solids, 2-part reaction curing pure polyurea	
Appearance (mixed)	Grey flowing liquid	
Mix Ratio (by volume)	100 : 100 v/v	
Specific Gravity[1] (g/ml)	Polyol = 1.02; Iso = 1.12 Mixed Membrane = 1.07	
Brookfield Viscosity (mPa.s)	Polyol = 800; Iso = 1000	
Solids Content (%w/w)	100	
VOC (g/L)	<55	ASTM D3960
Gel Time[1] (seconds)	4	
Tack Free[1] Time[1] (seconds)	20	
Min. Recoat Time[1] (minutes)	Immediate recoat or wait 30 minutes	
Max. Recoat Time[1] (hours)	2	
Min. Through Cure Time[1] (minutes)	13	
Min. Cure Time[1] (seconds) Rain resistant	6	
Min. Cure Time[1] (hours) Ready for top coating or wear coating	4	
Min. Cure Time[1] (hours) Ready for flood testing, topping or backfilling	6	
Fully Cured Membrane Properties		
Shore A Hardness (°A)	90	ASTM D2240
Tensile Strength (MPa)	> 19.0	AS 4654.1
Elongation (%)	> 300	AS 4654.1
Classification	Class III High Extensibility – AS 4654.1-2012	AS 4654.1
Resistance to Cyclic Movement	Pass – No fatigue cracking exhibited	AS 4654.1

Bond Strength to Primed Concrete (N)	>60	AS 4654.1
Water Vapour Transmission Rate (g/m²/24h)	4.52	AS 4654.1
Resistance to Water Immersion	Pass	AS 4654.1
Resistance to Detergent Immersion	Pass	AS 4654.1
Resistance to Heat Ageing	Pass	AS 4654.1
Resistance to UV Ageing	Pass	AS 4654.1
Service Temperature (Continuous)	-40°C to +100°C	

The above values and properties do not constitute a specification.

1 – Tested at 23°C / 60% RH. Values will vary dependent on temperature and/or humidity at time of use.

Design

- All horizontal substrates to have a minimum 1:100 fall to drainage and/or not retain water other than residual due to substrate surface tension.
- Drainage outlets / puddle flanges must be at low point of falls, installed flush or recessed to surrounding substrate.
- Drainage outlets must allow correct drainage both below and above screeds. Consult your GCP representative for specific requirements on your project.
- Where bonded screeds, renders, bedded pavers or direct stick tiles are to be installed to CHEMSPRAY 690 membrane, a tie coat must be installed to the cured membrane prior, consisting of an additional layer of SILCOR® 580 membrane, coarse aggregate blinded to refusal. See details below for further information. Note – aggregate broadcasting of the finished membrane (without incorporating the tie coat) is unacceptable and unachievable.

Safety and Handling

- Installers must read and understand the product label and Safety Data Sheet (SDS) for each product.
- All users should acquaint themselves with this information prior to working with the products, follow the precautionary statements and be equipped with the required PPE.
  Individuals and other trades not involved with the application, or not equipped with the required PPE should be prevented from approaching the spray area by less than 20m.
- SDSs can be obtained by contacting your local GCP representative or office.

Storage & Shelf Life

- Store in original packaging between 15° and 25°C, under cover and protected from all sources of heat, ignition, moisture, frost and direct sunlight.
- Shelf life is twelve (12) months from date of manufacture when stored at these conditions in original, unopened packaging.

Limitations of Use

- Minimum applied membrane thickness required is specified by GCP and is dependent on intended areas of use and Product Warranty period desired. Consult your local GCP representative for further information
- Not to be installed as a negative pressure membrane
- Not to be installed to damp, wet, contaminated or unprepared substrates
- Must not be applied if it is raining or rain is imminent
- Not to be installed when ambient humidity is above 85%
- Cure rate, drying time, recoat time etc. are affected by temperature:
  - High temperature substrates will accelerate cure and reduce tack free times
  - Low temperature substrates will extend cure and tack free times
- Information in this document does not cover all possible application scenarios, limitations, or imply product suitability for an application. Please contact your local GCP representative for further information and to discuss your requirements prior to proceeding with installation
- This PDS does not constitute a GCP Product Specification, Project Specification, Work Method Statement or Scope of Works. Please contact your local GCP representative for project specific installation information

System Components

PRODUCT	DESCRIPTION	PACKAGE SIZE
CHEMSPRAY™ 690	2-part, 100% solids, pure polyurea protective coating / waterproofing membrane	410 kg set
SILCOR® Primer BS 117	1-part, penetrating, solvent-based polyurethane primer for dry concrete, masonry, CFC sheet, CCS, many metals, PVC and ABS plastics	17 kg pail
EPOCOTE™ F100W	2-part, water-based epoxy primer for dry, green or damp concrete, masonry, CFC sheet, water resistant plasterboard, many metals, PVC and ABS plastics	20 L kit
SILCOR® LM PU Sealant	1-part, low modulus polyurethane sealant for detailing	600 ml foil sausage
SILCOR® Top Coat 75	2-part, membrane protective, aliphatic polyurethane top coat for non-traffic and foot traffic use	18 kg kit
SILCOR® Top Coat 80	2-part, membrane protective, aliphatic polyurethane top coat for heavy foot traffic and light vehicle traffic use	18 kg kit
PROTECTOBOARD™	High crush strength, fluted polypropylene, membrane protection board	1830 x 1220 x 3mm sheet
RAPID-DRAIN™	High crush strength, dimpled polypropylene, drainage and membrane protection board	15240 x 1220 x 10mm roll

Estimating

Please contact your local GCP representative for information specific to your project estimating needs.

General Guidance:

MINIMUM TOTAL DFT (MM)	MINIMUM TOTAL WFT (MM)	MAXIMUM TOTAL APPLICATION RATE (KG/M²)	MAXIMUM TOTAL APPLICATION RATE (M²/LITRE)	NUMBER OF COATS	MINIMUM DFT PER COAT (MM)	MINIMUM WFT PER COAT (MM)	APPLICATION RATE PER COAT (KG/M²)	APPLICATION RATE PER COAT (M²/LITRE)	MAXIMUM COVERAGE PER SET (M²)
External Above Ground Areas – AS 4654.1									
1.50	1.50	1.65	0.67	1	1.50	1.50	1.65	0.67	248
2.00	2.00	2.20	0.50	1	2.00	2.00	2.20	0.50	186
3.00	3.00	3.30	0.33	1	3.00	3.00	3.30	0.33	124
Note – The above values do not include wastage or overspray losses.									

Suitable Substrates

CHEMSPRAY 690 may be applied to the following dry, cured, stable, prepared & primed substrates:

- Concrete or reinforced and core filled blockwork with compressive strength ≥25 MPa
- Cementitious screed, render or toppings with compressive strength ≥25 MPa
- Engineered screeds with compressive strength ≥25 MPa
- Compressed Fibre Cement sheet (CFC), Cement Composite Sheet (CCS)
- Water resistant plywood or water-resistant structural timber
- Many types of metals, PVC, and ABS plastics

Substrate Quality

Substrates must be structurally sound, smooth, clean and dry.

Concrete

- Well compacted, moisture cured as required by AS 3600
- Minimum concrete age = 14-28 days, dependent on concrete thickness, moisture content and primer
- Compressive strength - minimum strength grade 25 MPa
- Concrete surface pull-off strength - minimum 1.0 MPa for foot trafficable / non-trafficable surfaces; minimum 1.5 MPa for light vehicle trafficable areas
- Concrete finish – only steel trowel, light power float or off-form, well compacted (not burnished), free of honeycombing, voids or excessive porosity. Porous, low surface strength, tamped, bull float or broom finishes are unacceptable and must be rectified prior to primer and membrane application.
  Where non-ponding external surfaces are specified, in accordance with AS 4654.2, concrete provided to the applicator shall be set to falls and be free of ponding depressions.
- Curing compounds - only non-permanent, degrading acrylic types. Must be removed by water blasting or grinding prior to priming

Concrete Block Masonry

- Sound, flush pointed mortar joints with no gaps or voids, reinforced and fully core filled. Excessively porous block work may require sealing with high strength (minimum 20 MPa) fairing compound prior to primer and membrane application.

Screeds, Toppings and Renders

- Structurally sound, fit for purpose, minimum 20 MPa compressive strength grade and reinforced or resistant to fracture or break-up in use. Formulated, mixed and installed to provide a smooth surface without voids or excessive porosity. Minimum 3 days cure dependent on formulation, moisture content and GCP primer being used.

Compressed Fibre Cement (CFC) Cement Composite Sheet (CCS) & W/R Plasterboard

- Installed to stable, structural framing. Installed and finished in accordance with manufacturer's directions. Free of all surface sealers, coatings, and primers

Metals

- Free of corrosion, gaps, holes and defects

Substrate Preparation

Concrete, Masonry, Screeds and Renders

- Remove all dirt, dust, concrete spillage, weak material, laitance, oil, grease, coatings, curing compounds, form release agents, rubber tyre marks, rain damage, corrosion marks and other contaminants / defects by an appropriate method, including brooming, vacuuming, scraping, water blasting (4000 psi with RotorJet head), captive shot blasting or grinding
- Remove ridges, sharp edges, deep broom finishes and chamfer external corners 12mm
- Repair concrete masonry defects including bug holes, honeycombing and gross pin holing using a low shrinkage PMC repair mortar, fairing compound or epoxy repair mortar, having equivalent compressive strength as the substrate. Allow all repairs to cure fully and dry to a moisture content below the maximum allowable for the GCP primer being used (see relevant primer PDS)
- Chase construction joints minimum 10mm x 10mm (square cut only). Chase static shrinkage cracks greater than 1.0mm width a minimum 6mm x 6mm (square cut recommended). All structural and dynamic cracks must be repaired by suitable means prior to chasing

Note - Outgassing occurs naturally in concrete and masonry surfaces as daily temperature increases and can lead to pin hole formation in applied primers, membranes, and coatings. Rectification of rain damaged or burnished concrete by grinding or sand blasting can expose high porosity concrete, leading to increased outgassing. The applicator must assess the prepared substrate for porosity and adjust repair and priming methods accordingly to minimise the effects of outgassing and pin hole formation in primers and membranes.

Compressed Fibre Cement Sheet (CFC)

Ensure sheeting materials used are free of all surface sealers, coatings and acrylic primers.
Ensure sheets have been installed to the manufacturer's requirements, and are clean, dry and contaminant free.

Light Weight Cement Composite Sheet (CCS)

In addition to CFC sheet requirements, due to laminar structure and low internal strength of CCS sheets, they must be prepared and primed carefully using a very low viscosity, high penetration GCP primer such as SILCOR Primer BS, only.

Metals

Remove all dirt, dust, oil, grease, corrosion and oxides from steel, aluminium, zinc/galvanising, copper, stainless steel etc. and roughen surface by abrasion or garnet blasting to SA 2.5 near white metal. Solvent wipe with clean xylene or methyl ethyl ketone (MEK) on a clean, lint free cloth. Prime surface within 30 minutes to minimize surface oxidation.

Plastics

Remove all dirt, dust, oil, grease and other contaminants.
For PVC, epoxy, polyester and ABS, solvent wipe with MEK solvent immediately prior to priming.
For difficult to bond plastics such as HDPE or PP, consult the GCP Technical Department before proceeding.

Detailing

External Above Ground Areas

- Detail according to NCC and AS 4654.2-2012 requirements, by installing minimum 15mm x 15mm bond breaker fillets of SILCOR LM PU Sealant low modulus polyurethane sealant to all internal corners and around penetrations. Detail and seal drainage outlets etc.
- Allow sealant to cure a minimum 12 hours

Expansion Joints

- Consult your local GCP representative for further information

Chased Non-Moving Construction Joints & Shrinkage Cracks

- Install bond breaker tape to base of primed square cut chases. Gun SILCOR LM PU Sealant to chase and tool to a smooth concave finish
- Allow sealant to cure a minimum 12 hours

CFC & Cement Composite Sheet Joints

- Ensure sheet joints are detailed per the manufacturer's directions

Priming

General

- Prime all substrates with an appropriate GCP primer prior to applying CHEMSPRAY 690 membrane
- Application to porous substrates while substrate temperature is increasing may result in substrate outgassing and pin-hole formation in primer, leading to pin-hole formation in the membrane. This can be reduced or prevented by priming substrates when the substrate temperature is stable or falling
- The applicator must ensure primed substrate is pin-hole free prior to membrane application
- Adjust application procedures and schedule to suit local conditions
- Membranes must be applied to the primed surface within the primer recoat window. Consult the relevant primer PDS for further details. If recoat time of primer is likely to be exceeded, broadcast the freshly applied primer with clean, kiln dried, sharp quartz sand of 0.5 to 1.0mm diameter to 120% coverage (to refusal). Allow primer to cure completely and remove excess loose sand by vacuuming. Membrane may be applied to the sand blinded surface up to 14 days after laying, provided the surface remains clean, dry and free of all contamination.

Primer Selection – Below 5.0% Moisture Content

- Prime substrates using SILCOR® Primer BS 117 or EPOCOTE™ F100W Clear
- For highly porous, damaged or old concrete and masonry, prime with EPOCOTE F100W Grey
- For greatest penetration and adhesion to CCS flooring substrates (Scyon Secura, CSR Cemintel etc), SILCOR Primer BS 117 is recommended
- For metals, PVC, ABS and other non-porous substrates, use EPOCOTE F100W Clear or SILCOR Primer BS 117

- Coverage rate is dependent on surface porosity and may require two or more applications
- Consult the relevant primer PDS for further application information and application rate
- For difficult to bond metals such as stainless steel, copper, and aluminium, prepare, clean, then wipe on Dow Chemical DOWSIL 1200 OS Primer per the manufacturer's directions, then apply membrane directly

Primer Selection – 5.0% to 6.9% Moisture Content

- Prime prepared concrete and masonry substrates using only EPOCOTE F100W Clear or allow substrates to dry <5.0%. Note 6.9% is the upper limit for testing surface moisture content using commercially available test equipment calibrated for concrete testing.

Membrane Application

General

Ensure the following parameters are met before and during application and cure:

PARAMETER	LIMITS
Substrate Temperature	+5°C to +60°C (with temperature stable or falling)
Ambient Temperature	+5°C to +45°C
Relative Humidity	<85%
Dew Point	Minimum 3°C below substrate temperature
Condition	Clean, dry and free from condensation, contaminants, stones, leaves, debris etc.

Application Equipment

CHEMSPRAY 690 membrane is designed for application through high pressure, plural component spray equipment capable of processing polyurea materials, chiefly the Graco Reactor E-XP2 / H-XP3 machines fitted with high output main heaters, heated hose kits, recirculation and desiccant drier kits to both Polyol and Iso components, high flow transfer pumps, drum mixer kit to the Polyol component drum, and an air-purge Fusion spray gun. Spray gun should be fitted with appropriate mix chambers to allow highest output while maintaining the required spray pressure detailed below. Machinery spray parameters required for CHEMSPRAY 690 follow:

Material Temperature: 20°C to 25°C
Main Heater Temperature: 60°C to 75°C
Hose Heater Temperature: 60°C to 75°C
Spray Pressure (while spraying): 170 bar to 200 bar (2500 to 2800 psi)
Polyol to Iso Spray Pressure Difference: Max. 21 bar (300 psi)

Round pattern spray gun mix chambers and tips will minimise product overspray significantly but may produce visible ridging in successive application passes.
Flat pattern chambers and tips will provide a smooth finish but will increase overspray.
This product is not suitable for application through Graco Reactor E-10 HP or using low pressure dispensing equipment fitted with static mix spray heads.

Material Pre-Mixing

- CHEMSPRAY 690 is supplied as a two-pail kit; 1 x 200kg open head drum of Polyol Component (grey coloured liquid) plus; 1 x 210kg closed head drum of Iso Component (clear pale yellow coloured liquid).
- The Polyol Component must be mixed thoroughly before use using a minimum 650W, variable speed drill (maximum 600 RPM) fitted with a clean paddle or "Jiffy" type mixer which scrapes the bottom of the drum. Screw type agitators typically supplied with spray machinery are unsuitable for pre-mixing. Avoid entraining air into the product during mixing. Mix until colour is homogeneous, ensuring bottom and sides of the drum are fully mixed. Clean the mixer thoroughly after use with acetone or xylene solvent. Once fully mixed, continuous agitation of the Polyol Component should occur, using the machinery supplied screw agitator.
- The Iso Component does not require mixing before use.

Applied Membrane Thickness Control

Apply membrane at or above the minimum required thickness, as detailed in the GCP Project Specification. Product must be installed at the correct and specified Dry Film Thickness (DFT). Consult your GCP Specification for the project or contact your representative for further details.
Due to the fast reaction time, Wet Film Thickness (WFT) measurement is not possible. Applied DFT must be tested using a suitable ultrasonic test meter designed for testing over concrete / masonry substrates. Alternatively, a destructive test must be conducted, by cutting out a small sample of membrane for the substrate and measuring thickness with a micrometer. Destructive test areas must be rectified using the same CHEMSPRAY 690 membrane, or SILCOR 580 membrane.

Horizontal, Vertical or Sloping Application

CHEMSPRAY 690 is suitable for horizontal set to falls applications as well as ramped, vertical or overhead substrates.

Applied Membrane Appearance

CHEMSPRAY 690 has a very fast cure rate. Experienced applicators will achieve a light "orange peel" surface finish, suitable for use in trafficable areas (with SILCOR Top Coat as UV protection), where a smooth, aesthetically pleasing finish is required.

Movement Areas

At potential movement areas such as detailed and sealed expansion joints, construction joints and active cracks, install a bond breaker tape centred over the joint or crack. Bond breaker tape should be a minimum 90mm wide for expansion joints, minimum 45mm wide for construction joints and minimum 20mm wide for moving cracks.
Bond breaker tape must be flexible, polyethylene faced, single sided adhesive and resistant to primer, membrane, xylene and heat (90°C or greater). Tape must be less than 0.5mm thickness. Adhesive must be natural rubber or butyl rubber based. Suitable tapes are 3M 8979 or Tesa 58663.

Reinforcing

Full reinforcing of CHEMSPRAY 690 is not typically recommended or possible due to the fast reaction of this membrane.

Membrane Detailing

- To the SILCOR LM PU Sealant detailed internal corners, chamfered external corners, construction joints, penetrations, drainage outlets and cracks, apply CHEMSPRAY 690 membrane as a minimum 150mm wide application centred over the sealant fillet/corner/bond breaker tape. Apply to provide a minimum 1.0mm DFT and allow to cure to minimum recoat time.
- To the SILCOR LM PU Sealant detailed expansion joints, apply CHEMSPRAY 690 as a minimum 200mm wide application centred over the joint bond breaker tape. Apply to provide a minimum 1.0mm DFT and allow to cure to minimum recoat time.

Application of Continuous Membrane

- Within the recoat window of the primer used, apply CHEMSPRAY 690 membrane to detailed and primed areas, at or above the required minimum thickness in one (or more) coat.
- Required minimum thickness is dependent on installation area, type of use of the area, topping or membrane protection being employed and product warranty period required and will be specified in the GCP Project Specification. Contact your local representative to obtain a GCP Waterproofing Specification for your project. Where not specified, a minimum DFT of 1.5mm must be employed for non-traffic / foot traffic areas and 3.0mm for heavy foot traffic / light vehicle traffic areas.
- Ensure good airflow in the application area for fastest membrane drying time.
- Continue membrane to turn-ups by a minimum 100mm above finished surface level, or as detailed in project specification or AS 4654.2-2012, whichever is greater.

Typical Membrane Cure & Recoat Times

AMBIENT OR SUBSTRATE TEMPERATURE (°C)	TACK FREE TIME (SEC)	MINIMUM RECOAT TIME (MIN)	MAXIMUM RECOAT TIME (HRS)	READY FOR FLOOD TESTING OR TILING (HRS)
35	20	Immediate or wait 25	1.5	4
30	23	Immediate or wait 27	1.8	5
23	20	Immediate or wait 30	2	6

15	40	Immediate or wait 35	2.2	10
10	80	Immediate or wait 40	2.5	11
5	120	Immediate or wait 60	3	12

Clean-up

Clean application equipment according to the manufacturer's directions. Cured product must be removed mechanically.

Protection and Surfacing

CHEMSPRAY 690 is resistant to damage by UV exposure, however it will show surface colour change. Where aesthetic appearance is required, CHEMSPRAY 690 should be overcoated with SILCOR Top Coat. CHEMSPRAY 690 must be permanently protected from physical damage by one of the following:

Top Coat to Exposed Foot Trafficable / Non-Trafficable Membrane and Turn-Ups

- Mix and apply SILCOR Top Coat 75 to all exposed membrane as a minimum two cross-directional coats at a minimum rate of 0.15kg/m²/coat. SILCOR Top Coat 75 contains an in-built slip resistance aggregate, making accurate measurement of applied film DFT or WFT difficult. Application rate of 0.15kg/m²/coat is approximately equal to a DFT of 83 micron/coat (165 micron for two coats) and a WFT of 135 micron/coat (270 micron for two coats)
- Consult the PDS for SILCOR Top Coat 75 for installation information.
- When correctly applied, the top coat will provide a P3/R10 slip resistance.

Top Coat to Exposed Heavy Foot Trafficable and Light Vehicle Trafficable Membrane

- Mix and apply a wear coat to the cured membrane, consisting of an additional coat of SILCOR 580 membrane to a 1.0mm WFT. Allow membrane to flow out fully then broadcast the uncured membrane with clean, kiln dried sharp quartz sand of 0.5 to 1.0mm diameter to 120% coverage (to refusal). Allow membrane to cure at least 24 hours and remove excess loose sand by vacuuming. Membrane must not be visible through the sand cover
- Mix and apply SILCOR Top Coat 80 to all exposed membrane as a minimum two cross-directional coats at a minimum rate of 0.20kg/m²/coat. SILCOR Top Coat 80 contains an in-built slip resistance aggregate, making accurate measurement of applied film DFT or WFT difficult. Application rate of 0.20kg/m²/coat is approximately equal to a DFT of 110 micron/coat (220 micron for two coats) and a WFT of 180 micron/coat (360 micron for two coats)
- Consult the PDS for SILCOR Top Coat 80 for installation information
- This process will provide a minimum P3/R10 slip resistance. For P4/R11 or P5/R12 ratings coarser aggregate and three coats of top coat at 0.2kg/m². Consult your GCP specification or GCP Work Method Statement for details

Top Coat to Semi-Exposed Membrane Under Pavers on Pods or Timber Decking

- Pods / jacks used should have a flat base with minimum footprint size of 150mm diameter to prevent point load damage to membrane.
- Where membrane will be covered by pavers on adjustable supports (pods) or by timber decking on framework, no top coat protection of the membrane is required.

Unbonded Screeds and Topping Slabs

- Install PROTECTOBOARD™ or two layers of minimum 250 micron builder's plastic to the cured membrane as a slip sheet prior to installing screed or topping slab. Ensure all protection board/sheet laps are taped to seal.

Direct Stick Pavers, Tiles, Bonded Screed or Bonded Topping Slab

Membrane surface must be compatibilized with a tie coat before application of cementitious tile adhesives, bonded screed or topping slab as follows:

- Between 12 and 48 hours of final membrane application, lightly solvent wipe the membrane surface using isopropanol. Allow to dry, then apply a coat of SILCOR 580 or SILCOR 575 HB membrane at a rate of 0.95 kg/ m² (WFT=0.6mm). Broadcast the freshly applied membrane with clean, kiln dried, sharp quartz sand of 0.5 to 1.0mm diameter to 120% coverage (to refusal). Allow membrane to cure at least 24 hours and remove excess loose sand by vacuuming. Membrane must not be visible through the sand cover.
- Tiles may be applied using high quality polymer modified cementitious tile adhesives.
- Screeds and topping slabs should be polymer modified, or have a minimum 20 MPa compressive strength, to resist break-up in use.
- For heavy foot or vehicle trafficked bonded paving / topping slabs use only SILCOR 580 as the tie coat at a rate of 1.3 kg/ m² (WFT=1.0mm). Broadcast the freshly applied membrane with clean, kiln dried, sharp quartz sand of 1.0 to 2.0mm diameter to 120% coverage (to refusal). Allow membrane to cure at least 24 hours and remove excess loose sand by vacuuming. Membrane must not be visible through the sand cover.

Backfill

- Install PROTECTOBOARD or RAPID-DRAIN™ to membrane as protection and/or drainage prior to backfilling with graded fill or filling of landscaped areas with soil.
  Where non-graded fill is to be used, install PROTECTOBOARD™ HS or high compressive strength drainage cell as protection.

Landscaping

- Install PROTECTOBOARD or RAPID-DRAIN membrane protection prior to backfilling with soil / planting media Install
- PROTECTOBOARD, RAPID-DRAIN, heavy-duty drainage cell or heavy-duty needle punched geotextile (minimum 500gsm) over the cured membrane as protection and/or drainage prior to soil loading.
- CHEMSPRAY 690 is certified root resistant. No additional 3rd party root barrier is typically required.

Pebble Ballast

Install RAPID-DRAIN drainage cell over membrane to protect and ensure free drainage to falls prior to loading of pebble ballast. Ballast must be hand loaded with care to prevent damage to drainage cell or and membrane.

Insulation and Ballast

Install foam sheet insulation over RAPID-DRAIN to ensure free drainage to falls. Cover insulation with geofabric prior to loading of pebble ballast.

Maintenance

- Not typically required for non-exposed, covered membrane.
- For exposed top coated membrane areas, regular cleaning and inspection maintenance is required per the relevant GCP Operation and Maintenance manual for polyurethane membranes and top coats.

Product Warranties

- GCP will provide to the purchaser a product warranty for qualified individual projects on request.
- Contractors recognised by GCP as trained and experienced in the application of GCP products will provide installation warranties for equivalent time periods.
- GCP Product Warranty periods offered and minimum applied DFT required for that warranty period are dependent on project details and complexity. Contact your local GCP representative for specific requirements and a GCP Specification, before commencing waterproofing installation on your project.

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gcpat.com.au/solutions/products/chemspray-690