

Technical Data Sheet

Sureshield Heavy Duty Floor Topping System



DESCRIPTION:

Sureshield is an industrial grade floor topping system specifically designed for the food industry. Sureshield resin is blended with specially graded silica quartz aggregates to produce a floor system that is hard and durable, attractive, non-slip, resistant to impact, abrasion, thermal shock and chemicals/food acids, yet is non-porous, seamless, hygienic and easily cleaned. Sureshield is fully bonded to the concrete to prevent water creep.

TYPICAL FEATURES | BENEFITS:



- Sureshield is a heavy duty monolithic 6-9mm plus thick floor topping, often with coving.
- Rapid Cure: Full system may be installed within an 8hr period.
- Excellent chemical resistance. See chart.
- Excellent abrasion resistance.
- Excellent impact resistance.
- Excellent adhesion to properly prepared substrates.
- Easily cleaned. *See comments at end. Waterblast resistant.*
- Excellent slip resistance. Specification is needed of the degree required.
** Note* please read detail within.*
- Able to be formed into coving, plinths sumps etc.
- Good resistance to thermal shock. When cured, will perform at all normal in-service. Temperature ranges. I.e. Operational Freezers to hot & boiling water applications, as well as steam cleaning.
- Will not support bacteria or fungal growth. Contains STERISHIELD to retard microbial growth.
- Cured Film is non-toxic.
- Free of Bisphenol-A.
- HACCP approved manufacturing process.
- Cleanroom Standard compliant AS/NZS ISO14644.4 2002.
- Approval in 2014. (Documents available). Passes at highest level.
- Not moisture permeable.
- Colour: Natural Gold; *or* other colours dependant on pigment or aggregate selection.
- Will form coves to any required height or radius.
- Suitable for use in dry or wet situations including ramps.
- One-pass, rapid installed flooring.
- Integrated floors, coves, drains, nibs and upstands.
- Carefully managed falls to drains to help prevent ponding water.
- Impact and abrasion resistance combined with high heat and chemical resistance.
- Excellent value for money on a dollars per mm thickness basis.

Environmental rating:

Sureshield is supplied in two forms: **Sureshield Standard and Sureshield ZV.**

Both emit, on curing, less than one gram / lt of emitted materials .

These therefore are both considered to comply with Green Star or LEEDS systems for a star for applied coatings for low emission of solvents.

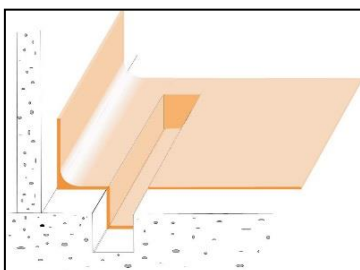
The standard version has an odour during application (but still emits far less than 1gram/litre).

The Sureshield ZV (zero VOC or zero volatile organic compounds) has no odour during installation.

This latter system would have enhanced ratings for lower workplace impact.

These resins are made in Australia.

The resin is mixed on site with NZ sourced aggregates.



PERFORMANCE DATA:

Properties	Values	
Minimum Thickness	6mm	
Minimum Application Temperature: Air	+5°C	
Maximum Application Relative Humidity: Air	85%	
In-service temperatures - wet : on fully cured system	8mm -50 to +90°C	
Fire properties: AS/ISO 9239.1-2003:	Non-directional.	
Critical Radiant Flux:	6.5Kw/m ² . Smoke Value: 379 Kw/m ²	
Abrasion Resistance: Taber Abrader, ASTM C501 Army Corp of Engineers method 52	70 wear index 3-6 that of Basalt Concrete	
Chemical Resistance	Resistant to chemical spillage –cured 7 days at +25°C. <i>Refer: Chemical resistance chart</i>	
Electrical properties: surface resistivity	3x10 ⁸ Ohm	
Adhesion to correctly prepared substrate	1.5MPa minimum – Concrete Failure GB2567-2008. 2.77(KJ/m ²). - Concrete failure	
Co-efficient of expansion 10-/mm/m/°C	-2.23 20°C and 60°C when heated at 1°/minutes.	
Compressive Strength ASTM D695-69 adapted to sample thickness of 8mm.	103 MPa (N/mm ²)	
Flexural strength ASTM C78-75	16 -21 MN/m ²	
Tensile strength	6N/mm ²	
Heat resistant	100°C	
Moisture absorption: ASTM D570-63	0.029%	
Slip resistance	R11 to R13. Refer: Slip resistance chart	
Weight per m ²	6mm thickness. 8mm thickness. 9mm thickness	12.88kg 17.18kg 19.33kgs
Hard Dry	+25°C ~ 50%RH	3 hours
Light Foot Traffic	+25°C ~ 50%RH	3 hours minimum
Full Use	+25°C ~ 50%RH	> 4 hours

RECOMMENDED USES:

- Food process floors where a high degree of hygiene is required. Approved by regulatory authorities.
- Ablution blocks: Kitchens | Laundries | Toilets.
- Bakeries.
- Beverage Processing: Bottling Plants | Breweries | Fruit Juice | Wine etc.
- Cool Stores: - Freezers | Chillers etc.
- Commercial Kitchens: Main Kitchen | Freezers | Chillers | Cool Stores etc.
- Dairy Factory Floors. Main Process Halls | Rooms etc.
- Honey Processing Facilities.
- Meat Processing: Abattoirs | Butchery floors | Poultry | Freezers | Chillers | Cool Stores etc.
- Seafood Processing: Wet Fish | Shellfish | Freezers | Chillers | Cool Stores etc.
- Sports facilities: Changing Rooms | Showers | Toilets for hard-wearability.
- Supermarkets: Bakeries | Deli | Fish | Meat | Freezers | Chillers | Cool Stores etc.
- Floors where a high degree of chemical, mechanical and slip resistance is of prime importance.
- Interior | exterior use. Concrete repair and protection – resurfacing damaged or broken concrete with a more physical and chemical resistant surface.
- Can be applied to new or existing sound concrete and also over old resin floors.
- Suitable for use in dry or wet situations including ramps.
- To provide excellent underfoot slip resistance in commercial applications.
- Floors, walls, upstands, plinths etc. where a high degree of chemical, mechanical and slip resistance is of prime importance.
- Concrete repair and protection – resurfacing damaged or broken concrete with a more physical and chemical resistant surface.
- Can be applied to new or existing sound concrete, timber or other surfaces.
- If the substrate is an above grade slab and additional waterproofing is required, then tank the floor and coved upstands with a layer of 450gsm CSM fibreglass. This will provide a seamless waterproofing layer.

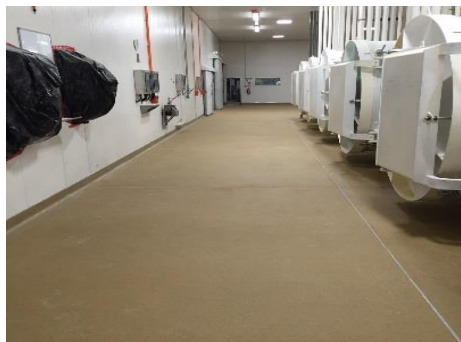
LIMITATIONS:

- Application to uncured concrete (minimum recommended cure 28 days). Application to damp surfaces.
Refer: allnex Bulletin on application options on wet or uncured concrete.
- Application to unstable or defective substrates without approved remedial treatment prior to installation.
- Application below +5°C.

- Application over existing coatings/toppings (refer to allnex) or over concrete cure or release agents without allnex approval or over ceramic tiles without specific written allnex design specification.
- Avoid the use of strong chemicals outside those shown on the Sureshield Chemical Resistance Chart (below).
- Avoid extreme thermal shocks where possible. As in instance, a floor in a blast freezing chamber which is suddenly drenched in hot water is an instance of thermal shock. If floors are to be exposed to extreme hot or cold cycling they should be allowed to return to ambient before washing.
- Similarly, start-up procedures for refrigerated rooms, such as cold stores, freezers and blast freezers should specify a gradual transition to operating temperature. (Refer: *allnex Technical Bulletin Constructing and Commissioning Freezers with allnex Resin Flooring*)
- Cracking in adjacent walls and concrete substrate will likely telegraph through the Sureshield.
- A finished Sureshield floor may show some trowel marks in critical lighting situations as the floor is a hand applied topping system. These marks do not reduce the practical characteristics of the floor topping. The quality of lighting during installation is critical to the Final result and it is recommended to install the floor under the finished lighting or provide a high standard of temporary lighting fixed in an overhead position.

COLOUR OPTIONS:

Standard Gold Sureshield – with graded natural coloured quartz aggregate



Sureshield standard colour using clear resin with the natural coloured quartz aggregate blend

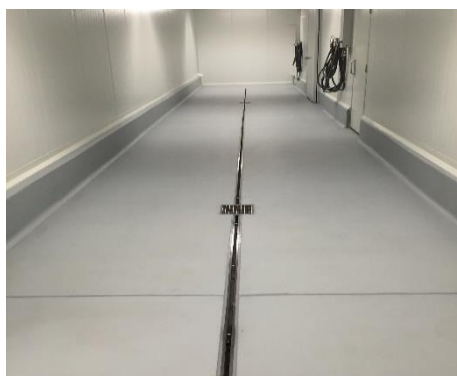
Pigmented Sureshield

Sureshield may be pigmented to a range of colours.

These colour chips below are example estimate colours only. Refer:- *BS5252 | AS2700 or RAL charts for colour reference.*

Other colours available on request.

Ask your contractor for a floor sample for both the colour and texture prior to start.



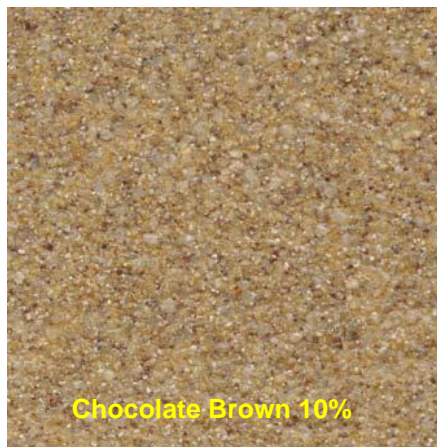
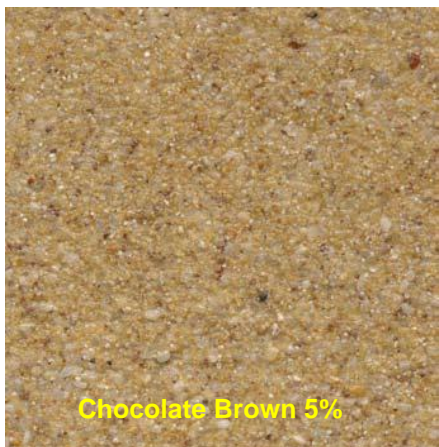
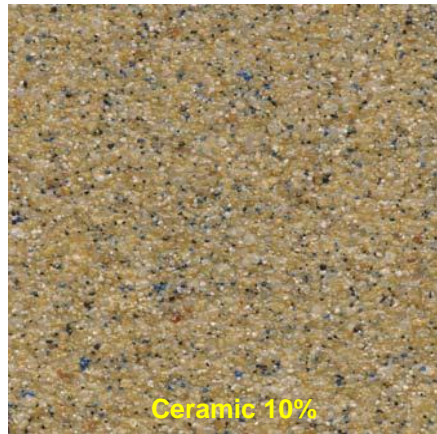
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08B17	08B19	08B21	10B25	18B17	18B19	22B25	02C37	08C33	08C37	08C39
10C37	14C35	16C35	18C37	22C37	02D44	04D45	06D43	12D45	14D43	16D4

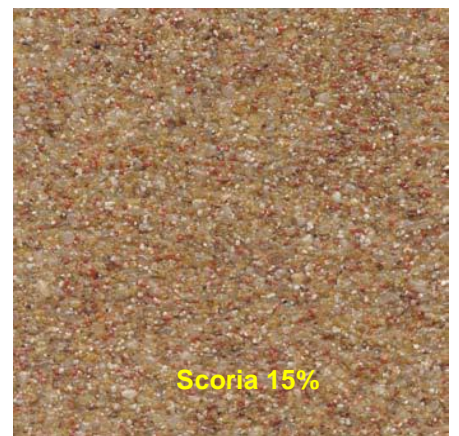
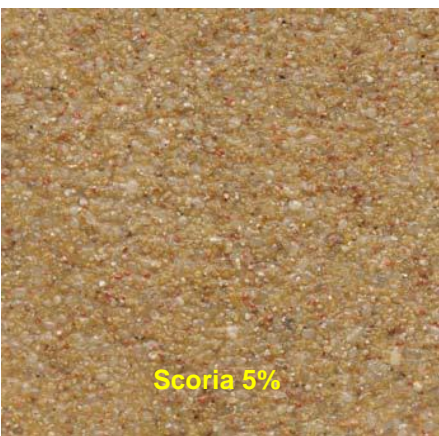
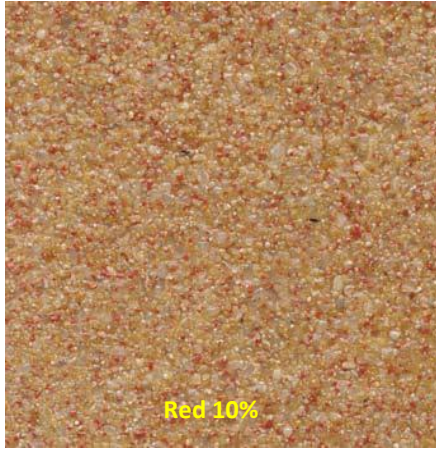
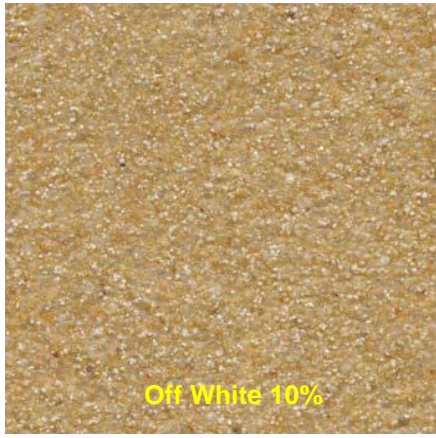


Decorative Sureshield - blended with a range of coloured quartz aggregate:



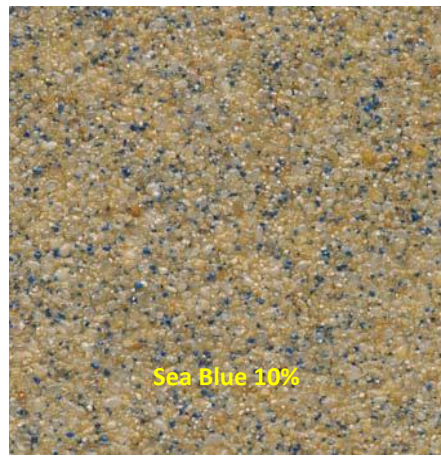
Decorative Sureshield made with increasing levels of coloured quartz aggregates. Please note that the cost of the system increases with aggregate concentration.



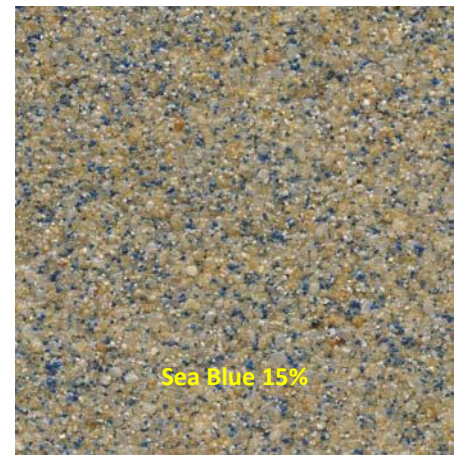




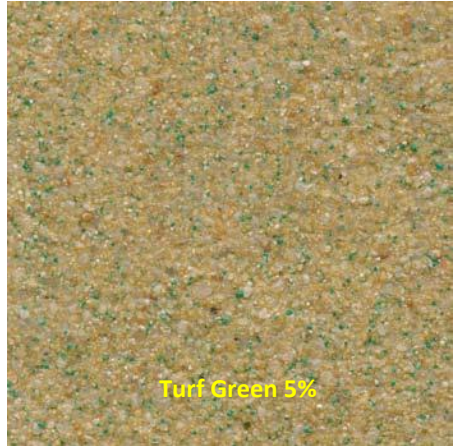
Sea Blue 5%



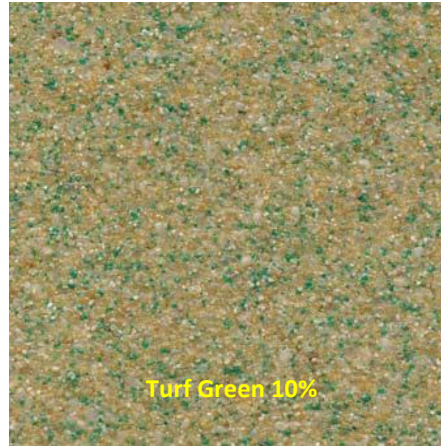
Sea Blue 10%



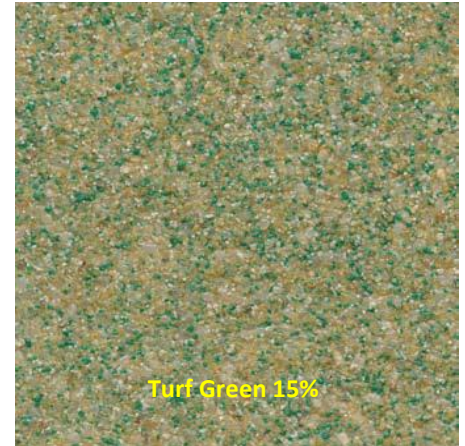
Sea Blue 15%



Turf Green 5%



Turf Green 10%



Turf Green 15%

CHEMICAL RESISTANCE CHART

Test Procedure	Observation	Results
Total immersion.	Checked for chemical attack and hardness throughout the testing period.	Taken after 3 weeks exposure.

Test Media	Concentration	Sureshield	Test Media	Concentration	Sureshield
ACIDS			ALKALIS		
Hydrochloric Acid	10%	M	Potassium Hydroxide	30%	A
Sulphuric Acid	10%	M	Caustic Soda	50%	A
Sulphuric Acid	25%	U			
Acetic Acid	10%	M			
Acetic Acid	50%	M	SOLVENTS		
Nitric Acid	10%	M	Ethanol		M
Citric Acid	10%	M	Toluene		A
Lactic Acid	90%	M	Acetone		D
Phosphoric Acid	30%	M	Isopropanol		U
PETROCHEMICALS			DISINFECTANTS CLEANERS		
Kerosene		U	Detergent (DET 18)	100%	U
			Bleach Sod Hyd Cl	2.5%	M
			MEKP – M50		A
OTHERS					
Sugar Syrup	30%	U	SALT SOLUTION		
Distilled Water		U	Brine	20%	U

LEGEND:

U	Unaffected (i.e. after 3-week exposure the samples have not changed)	M	Marked (Short term exposure, the test media will leave a mark on the sample)
A	Attacked (Short- or long-term exposure, the mechanical properties will deteriorate)	D	Destroy (Short- or long-term exposure, damage will occur)

Solutions are Aqueous unless otherwise stated

NON-SLIP:- floor definitions:

The contractor shall ensure that the surface finish in all zones is agreed with the client.

(Samples to be supplied and agreed prior to start of the contract)

allnex rating	Description	CF Rating	SRV Rating	R Rating	Examples	Topcoat Requirements	
	Installation Type	NZ/AS3661.1 1993	AS/NZS 4586		Completely homogeneous floor areas	Number of coats	Spread Rate per litre
NR1	Smooth: Steel trowel floated.	0.46	43	R11	Dry areas e.g. Bakeries	1	4.0m ²
NR2	Non-slip & Hard-Wearing: Glass float Finish	0.56	53	R12	Light-Wet areas e.g. Heavy-duty bakery.	1	4.0m ²
NR3.A	Medium duty non-slip: Glass float finish and 18/36 non-slip aggregate is broadcast into the wet surface. Apply a Medium Sprinkle with areas of no non-slip. Follow this with roller applied topcoats. This gives a good combination of Non-slip and cleanability.	0.62	56.5	R12	Continually Wet areas with non-slip required. e.g. Light duty Meat, Fish. Wet area Bakery.	2 1 st Coat 2 nd Coat	4.0m ² 4.0m ²
NR3.B	Heavy duty non-slip: Glass float and the 18/36 non-slip aggregate is broadcast into the wet surface. This is a full spread applied heavily. Follow this with roller applied topcoats.	0.73	64.5	R13	Heavy duty e.g. Butchery, abattoirs Fish Processing	2 1 st Coat 2 nd Coat	2.5m ² 4.0m ²
NR4	Very sharp non-slip: Glass float and is broadcast with 18/36 mixed 50/50 with Silicon carbide non-slip aggregate into the wet surface. Follow this with roller applied topcoats.	0.73	64.5	R13	Heavy duty processing areas with extra slip hazards.	2 1 st Coat 2 nd Coat	2.5m ² 4.0m ²
NR5	Specialised very heavy-duty non-slip: <i>Refer: allnex for a specification.</i>	0.73	64.5	R13			

SUBSTRATE: – Preparation

All substrates shall be stable and solid.

Note

The ability of new or existing floors to take the loads as a result of the allnex Sureshield must be checked prior to installing.

All control joints junction cracks in the substrate etc. are to be properly treated.

CONCRETE:

Shall have a surface which has been mechanically trowelled to AS3610:1995 U3/NZ/3114:1987U3 finish.

A minimum compressive strength of 25MPa at 28 days cure.

A minimum of 28 days prior to the installation of Sureshield.

The moisture content shall be less than 75% RH. *Refer: allnex Bulletin on application options for wet or uncured concrete.*

PLYWOOD | TIMBER | FIBRECEMENT

Consult allnex for information.

COVE TOPS:

Install allnex cove upper termination metal strips: **5.2mm or 9.2mm rebated strip**. Refer: [Typical Resin Flooring Details Document](#)



Cove Strip 5.2mm



Cove Strip Rebated 9.2mm

If the coving strip cannot be used refer to the Resin Flooring Details Document for options.

RESIN FLOORING DETAILS

Refer: [Typical Resin Flooring Details Document](#)

FALLS TO WASTES:

STZ prefill system (for adding falls, slope modification and floor angles).

Types: Refer: [STZ Prefill Technical Literature](#).

The falls must be specified pre-tender. (Sureshield is 6-9mm thick and prefill may involve significant extra materials).

The quantities of materials required to raise the floor height at wall perimeters is often underestimated.

To do this may involve significant extra costs and should be discussed and agreed.

It is a very common for STZ prefill system to be used under Sureshield to create falls to drains and other filling applications.

Normally for new work falls are laid in the concrete and fall to drains.

However, in refurbishment situations the drains and falls are incorrect. Sometimes new drains are installed.

The Prefill can be installed to any thickness to create falls.

If the project is a food processing facility, ensure that your requirements fall within the guidelines of current legislation.

Floor Fall Definitions	
1:50	Liquids will free run to drainage
1:80	Liquids will migrate to drainage
1:100	Some ponding of liquids will occur, squeegee to drainage will be required.

JOINTS:

All concrete control and construction joints should be carried through the Sureshield.

Jointing Options	
Control Construction Joints	Cold Joints Non-Movement Joints
allnex K130 or allnex Sabre Seal SMP60	allnex K130 or allnex Sabre Seal SMP60

QUALITY ASSURANCE:

The allnex approved Contractor shall ensure all QA checks have been undertaken prior to the installation process and subsequently during the installation process. The completed documentation must be made available to allnex and the client/clients authorised personnel.

The product is to be installed within the required control range to ensure a fully cured hard wearing monolithic floor topping system.

Information to be recorded daily is:

- Concrete sub-base or prefill mix.
- Sequence of mixing, ratios and quantities and formula.
- Ambient temperature | Ambient relative humidity.
- Material batch numbers used.
- Substrate moisture content & Substrate temperature.
- Daily detail of licenced contractors on-site.

CLEANING & MAINTENANCE:**Cleaning:**

Refer: [Cleaning Maintenance Document](#)

Repairs:

Can be undertaken with further new Sureshield applied directly.

Resurfacing:

allnex recommend **two** (2) options:

- Re-aggregating with Traxite VE.
- A second option is Nuthane Traxite which offers a monolithic and non-slip coloured finish, with no odours.
(Refer: [allnex Construction products for advice on the suitability of this option for the chosen environment](#))

FIXING OF PLANT AND MACHINERY:

Mechanical fixings into the substrate must be resin fixed. This is to ensure that there is no water migration into the substrate. Conventional expanding plugs, screws or anchors are not an acceptable fixing method.

PRODUCER STATEMENT:

allnex Construction Products state that:-

Sureshield is compliant with the following:

- HACCP International Certification.
- E3 Internal water 3.1.1e.
- D1 (Access routes / slip resistance wet & dry).
- Complies with CLEANROOM and controlled environment:-AS/NZS ISO 14644.4: 2002 section E.2.1.4 Floors:-
 - *That the floor shall be non-porous, slip resistant, abrasion resistant and resistant to chemicals.*
 - *That they shall support static and dynamic loads.*
 - *Complies with fire ratings.*

HEALTH & SAFETY: Refer: [safety data sheets \(SDS\)](#).

- Contractors are to comply with all current legislation when using this product.

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Replaces: Oct 2021

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