

# Technical Data Sheet

## Nuthane SBM Polyurethane Resin Flooring System *allnex*

### DESCRIPTION:

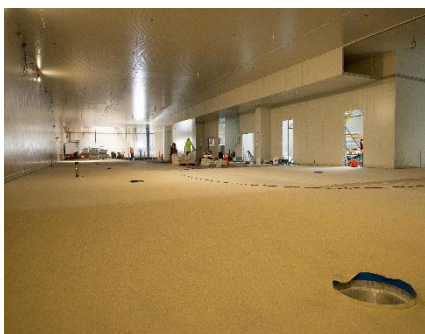
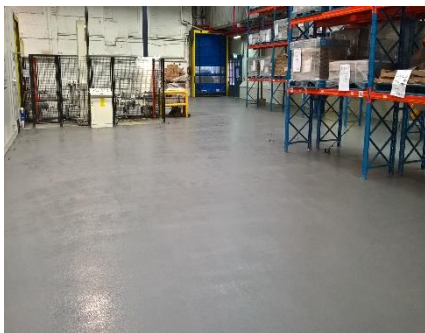
Nuthane SBM is an industrial grade medium duty floor topping system specifically designed for the Australasian food and process industry. Nuthane SBM has a finer aggregate blend than the Nuthane SB and generally uses K20s aggregate to provide the fine non-slip surface finish but may also have coarser aggregate application for heavy non-slip requirements.

Nuthane resin is blended with specially graded silica quartz aggregates to produce a floor system that is hard and durable, and resistant to impact, abrasion, thermal shock and chemicals/food acids. It is non-porous, hygienic and easily cleaned.

### TYPICAL FEATURES | BENEFITS:

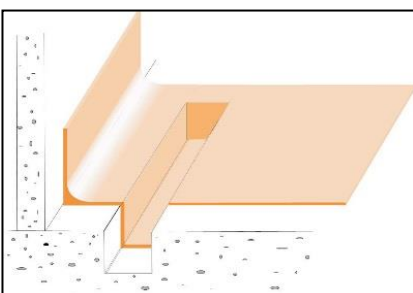
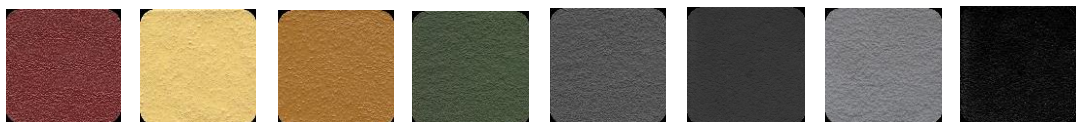


- Solvent free, no odour.
- Tolerant of application a slightly damp surface.
- Low temperature application.
- Application to new concrete.
- Dense and Impervious –Non Porous.
- Not moisture permeable.
- Easily cleaned and able to be water-blasted.
- Very good abrasion and scuff resistance.
- Cured Film is non-toxic
- High Adhesion and wear resistance.
- Excellent resistance to a wide variety of chemicals – refer to chemical resistance
- Topcoat finish: Matt or Gloss systems as required.
- Nuthane TF Gloss Topcoat for exterior applications or where exposed to UV.
- HACCP registration. 2014. Cleanroom Approved.
- Many years of use in NZ and Australia.
- Able to be formed into coving, plinths, sumps etc.
- Contains Sterishield as a bacterial growth inhibitor. Nuthane will not promote bacteria or fungal growth.
- Nuthane is supplied in coloured form. These are approximately matched to Australian AS2700 and British Standards BS5252.



### Sample Colours:

Red 04C39    Cream    Tan 08D44    Green 12B25    Curtain Call    Mid Grey N45    Traffic Grey    Black



**PERFORMANCE DATA:**

|  |  |
|--|--|
| Minimum Application Thickness:                                 | 4mm  |
| Minimum Application Temperature: Air                           | 10°C   |
| Maximum Application Relative Humidity: Air                     | 85%  |
| In-service temperatures:                                       | 4mm -25 to +70°C<br>6mm -40 to +100°C  |
| Fire properties: Critical radiant flux: TEST METHOD ISO-9239-1 | 11 Kw/m <sup>2</sup> - smoke value 41% min   |
| Chemical Resistance  | Resistant to chemical spillage –cured 7 days at 25°C. .Refer Chemical resistance chart |
| Electrical properties: surface resistivity                     | 3 x 10 <sup>8</sup> Ohm  |
| Adhesion to correctly prepared substrate                       | GB2567-2008. 2.77(KJ/m <sup>2</sup> ). - Concrete failure                              |
| Coefficient of thermal expansion                               | 1.5 x 10 <sup>-5</sup> /°C.  |
| Compressive Strength   | Nom. 50-60MPa  |
| Flexural strength  | 25MPa  |
| Tensile strength   | 6N/mm <sup>2</sup>   |
| Heat resistant   | +100°C   |
| Weight per m <sup>2</sup>                                      | 4mm - 9.33kgs<br>6mm - 14kgs   |
| Slip resistance  | R11 to R13. (when used with sharp aggregate)   |

**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.
- 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.

**LIMITATIONS:**

- Nuthane SBM will bond to sound concrete but will not bond to weak, friable concrete surfaces
- Concrete shall be cured however Nuthane will bond to damp concrete. Refer to allnex as we may give advice in specific applications.
- Nuthane will bond to concrete that is 7 days old as long as specific concrete design and installation specifications are adhered to. It should be emphasised that success in this application is fully attributable to concrete design.
- Application to unstable or defective substrates without approved remedial treatment prior to installation.
- Nuthane SBM is a slurry material and will not fill excessive floor undulations and/or slopes Refer: Sureshield | Supascreed or Nuthane T for trowel-on materials.
- 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.
- Choose the Nuthane grade that suits the intended application.
- Nuthane Matt Finish will yellow upon exposure to UV.
- Use Nuthane TF Gloss Topcoat in exterior situations or where exposed to UV conditions
- Nuthane may be used in many circumstances, interior and exterior. But do be aware of yellowing colour changes on exposure to UV light if the Matt finish is chosen. This does not affect performance durability.

**COLOURS:**

- Beige RAL1001
- Black
- Mid Grey N45
- Tan 08D44
- Koala Grey 10A07
- Traffic Grey
- Cream
- Curtain Call
- Green 12B25
- Red 04C39

**HEALTH & SAFETY:** Refer safety data sheets (SDS).

- Wear appropriate safety equipment and clothing
- The use of fans to provide positive forced air draft and/or extraction is recommended.
- Avoid skin contact.

## SURFACE PREPARATION:

Prepare concrete by mechanical abrasion method to:- **CSP5-6**. (Concrete Surface Profile Scale - International Concrete Repair Institute)

See technical literature:- [http://www.allnexconstruction.com/pdf/Floor\\_Preparation\\_Requirements.pdf](http://www.allnexconstruction.com/pdf/Floor_Preparation_Requirements.pdf)

Remove all concrete curing agents, contaminants and any other material likely to affect the adhesion of the Nuthane SBM.

Do not apply over existing coating without checking compatibility.

Prefill any large divots with K125 epoxy mortar and diamond grind to remove any highpoints or contaminants.

Install Anchor recess grooves 5mm wide by 6-8mm deep at all walls, both sides of control joints, columns etc. Installed at 50mm running parallel to walls control joints etc.

### \*\*Note\*\*

Nuthane will bond to damp concrete but take care with weak, uncured concrete.

Please follow this guidance:

### Wet and uncured concrete (when less than 28days)

Allow no further wetting- (rain). The concrete design must be controlled for early cure and low water content. The engineer must ensure that the concrete has: a Low water / cement ratio, is a high strength and rapid setting concrete, contains water reducing agents and early curing agents. It must be certified by the concrete placer that the above has occurred. For the warranty, above, to apply certification of the engineered concrete must occur and allnex and its contractor must see evidence of its formulation and correct installation. Scabble or shot blast the concrete to "open the surface" and use fans to dry the surface for >24hours.

## COVES:

Where required:

See technical literature – Details:- [http://www.allnexconstruction.com/pdf/Details\\_resin-floor-topplings.pdf](http://www.allnexconstruction.com/pdf/Details_resin-floor-topplings.pdf)

Install Coves:

- Supascreed

Install allnex cove upper termination metal strips: **5.2mm or 9.2mm rebated strip**.

Use a rebated wall cut if the coving strip cannot be used.

Install fibreglass CSM cloth in floor/wall internal junctions. (Required on surfaces other than Concrete upstands)

## STZ PREFILL: (for adding falls, slope modification and floor angles)

Where required:

STZ prefill system types: See STZ technical literature. [http://www.allnexconstruction.com/pdf/stz\\_prefill.pdf](http://www.allnexconstruction.com/pdf/stz_prefill.pdf)

The falls must be specified pre-tender. (Nuthane is medium build floor topping system 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 Nuthane 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 the drains and falls are incorrect. Sometimes new drains are installed. The Prefill create falls of at least 1: 50 to ensure no ponding water. (1:100 will fall but will have standing water in places).

## QUALITY ASSURANCE:

The allnex Licensed 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.
- Material batch numbers used.
- Sequence of mixing, ratios and quantities and formula.
- Substrate moisture content & Substrate temperature.
- Ambient temperature | Ambient relative humidity.
- Daily detail of licenced contractors on-site.

## PRIMING:

\*\* If required on weak or porous concrete\*\*

Use Supascreed primer (Solvent Free) at 5-6m<sup>2</sup>/Lt. Allow to fully dry (turns clear from white) before application of the Nuthane SBM system.

## NUTHANE SBM BASECOAT: MIXING RATIO AND COVERAGE @ 4mm

| Material              | Mix                     |
|-----------------------|-------------------------|
| Nuthane Resin         | 3.26 kg                 |
| Nuthane Hardener      | 3.26 kg                 |
| Nuthane SBM Aggregate | 15kg                    |
| Mix Total kg          | 21.52 kg                |
| Mix Coverage          | 2.7 – 3.0m <sup>2</sup> |

**CONDITIONING OF MATERIAL:**

Materials should be conditioned to >16°C. Unconditioned materials will be difficult to apply.

**MIXING METHOD:**

Add Nuthane Resin (Part A) and Nuthane Hardener (Part B) to a suitable container. Power mix at low speed (approximately 300-500rpm) for 1 minute ensuring both compounds are homogeneously blended and the colour is uniform. Scrape the pail sides with a long broad-knife and then add the Nuthane SBM Aggregate. Mix for a further 1 minute slowly to avoid air entrapment.

Note: ensure no unmixed materials remain on the sides, rims or lips of the containers.

**APPLICATION METHOD:**

Pin-rake | Trowel

Pour onto the prepared and primed surface and spread evenly using the appropriate method to obtain a 5-6mm finish. Ensure the matrix is well compacted and free of ridges or unevenness. Successive mixes must be homogeneously blended together into wet Nuthane mixes. Access to repair wet floor areas during installation can be achieved using crampons or special spiked shoes.

**Once levelled, broadcast evenly K20s** aggregate (or see below for non-slip options) into the wet surface at a rate of 3-4kg /m<sup>2</sup>. Broadcast until refusal and no more wet resin appears. This is a heavy application rate. Work carefully to keep a clean working edge.

Adequate lighting is to be provided to ensure defective surface finishing can be easily identified and corrected during the installation process. Keep equipment used during the installation clean to prevent lumps developing.

If applying at low temperatures, ensure good forced air cross draft to ensure a strong cure.

**SLIP RESISTANT FINISHES:**

| Rating | Non-slip Media   | Quantity m <sup>2</sup> | Application                     |
|--------|--|-------------------------|---------------------------------|
| R11    | K20s sand  | 4 kg                    | Broadcast into the wet basecoat |
| R13    | 18/36 aggregate   16 Grit Silicon Carbide<br>50 /50 Blend                                  | 4 kg                    | Broadcast into the wet basecoat |
| R13+   | 7/14 aggregate<br>**More aggressive non-slip can be achieved with 16 grit Aluminium Oxide. | 4 kg                    | Broadcast into the wet basecoat |

**PRODUCT PROPERTIES:**

|   |  |                 |
|---|--|-----------------|
| Pot Life  | 25°C – 50%RH   | 20 – 30 minutes |
| Hard Dry  | 25°C – 50%RH   | 3 hours         |
| Light Foot Traffic  | 25°C – 50%RH   | 6 hours minimum |
| Full Use  | 25°C – 50%RH   | >12 Hours       |
| Recoat  | Anytime within 24 hours.<br>After 24 hours: Severe mechanical abrasion   |                 |
| SG kg/litre   | 1.65   |                 |
| Solid Content   | 100%   |                 |
| Clean Up  | Solvent HA   |                 |
| Dangerous Goods Class<br>~ Supascreed Primer<br>~ Nuthane Resin<br>~ Nuthane Hardener<br>~ Nuthane SB aggregate<br>~ Nuthane Catalyst<br>~ Nuthane Topcoat Filler<br>~ Supadeck TF Hardener | Hazard Class 9   Packing Group III<br>Hazard Class 9   Packing Group III<br>Hazard Class 6.1   Packing Group II<br>Not regulated<br>Not regulated<br>Not regulated<br>Not regulated  |                 |
| Packaging<br>~ Supascreed Primer<br>~ Nuthane Resin<br>~ Nuthane Hardener<br>~ Nuthane SB aggregate<br>~ Nuthane Catalyst<br>~ Nuthane Topcoat Filler<br>~ Supadeck TF Hardener             | 6.4kg Kit – contains 2 x plastic containers<br>20kg Plastic container<br>20kg Plastic container<br>24kg NZ   15 kg AUS - Plastic lined paper bag<br>500ml Metal container<br>4kg Plastic container<br>2.75kg Metal container |                 |
| Shelf life  | 12 months from date of manufacture.<br>(After this period consult with allnex).  |                 |

**TOPCOATING:**

Once the body coat is applied with a non-slip aggregate, allow it to cure. Sweep hard and vacuum to remove loose broadcast aggregates. Then apply the chosen topcoat system – The Topcoat system provides an even result on the non-slip finish.

Nuthane Topcoat is roller applied using a double armed roller so that force may be used to apply a thin even coat.

Do not allow to pool or puddle as thick applications may blister.

Take care to apply a thin even film to avoid curing blisters. If brushing coves, then follow by back-rolling.

**Topcoat System Options:**

| System # | Topcoat Type                                   | Finish | Base                         | Odour         | Light Stability     |
|----------|--|--------|------------------------------|---------------|---------------------|
| 1.0      | Standard Nuthane Topcoat                       | Matt   | Uses Nuthane resin           | No Odour      | Will yellow         |
| 2.0      | Nuthane Topcoat TF                             | Gloss  | Uses Nuthane resin           | No Odour      | UV stable           |
| 3.0      | Supadeck UV Topcoat (see separate datasheet)   | Gloss  | Uses separate topcoat system | Solvent odour | UV stable           |
| 4.0      | Surecote System 500AR (see separate datasheet) | Gloss  | Uses separate topcoat system | No Odour      | Some slow yellowing |

**Topcoat: System 1.0****Nuthane Matt Topcoat - Mixing Ratio and Coverage:**

|  |  |
|--|--|
| Nuthane Resin  | 4kg  |
| Nuthane Hardener   | 4kg  |
| Nuthane Topcoat Filler   | 4kg  |
| Mix Total kg   | 12kg / 8 litres  |
| Mix Coverage<br>~ First Coat<br>~ Second Coat*                                       | 2.0 - 2.5 m <sup>2</sup> / litre - dependent on aggregate over-seed choice<br>4.0 m <sup>2</sup> / litre |
| *Second Coat is optional, however; this will provide a more even and uniform finish. |  |

**Topcoat: System 2.0****Nuthane Gloss Topcoat - Mixing Ratio and Coverage:**

|  |   |
|--|---|
| Nuthane Resin  | 1.5kg   |
| Nuthane Catalyst   | 0.2% - 0.6% - see chart below   |
| Supadeck TF Topcoat  | 2.75kg  |
| Nuthane Topcoat Filler   | 1.5kg   |
| Mix Total kg   | 5.75kg / 4 litres   |
| Mix Coverage<br>~ First Coat<br>~ Second Coat*                                       | 2.0 - 2.5m <sup>2</sup> / litre - dependent on aggregate over-seed choice<br>4.0 m <sup>2</sup> / litre |
| *Second Coat is optional, however; this will provide a more even and uniform finish. |   |

**TF Topcoat Catalyst Additions:**

| Catalyst addition to resin ratio | Addition rate to full 20kg pail of resin | Pot life (Minutes) | Touch dry time (hrs) |
|----------------------------------|--|--------------------|----------------------|
| 0.2%                             | 40 grams                                 | 21                 | 6.5                  |
| 0.3%                             | 60 grams                                 | 18                 | 5.5                  |
| 0.4%                             | 80 grams                                 | 16                 | 5                    |
| 0.5%                             | 100 grams                                | 13                 | 4.5                  |
| 0.6%                             | 120 grams                                | 10                 | 4                    |

**\*\*\*\*Note\*\*\*\***

The catalyst is needed in the resin to obtain good cure times. Failure to add that catalyst will result in cure not occurring. It may be more convenient to add the catalyst to a full pail (20kg) of Nuthane resin.

**\*\*\*\*Note\*\*\*\***

The Nuthane **\*\*Gloss Topcoat System\*\*** should be thinned with Mineral Turps at a maximum percentage of 5% to aid application. (i.e. on total mix: 4 litres of mixed topcoat = 200mls mineral turps)

Mix components well.

**FIXING OF PLANT AND MACHINERY:**

Mechanical fixings into the floor 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.

## MAINTENANCE and CLEANING:

### Resurfacing: \_

- Re-aggregating with Nuthane Topcoat which is a high durability and chemically resistant finish. It offers very good adhesion to the prepared older surface.

### Repairs:

Can be undertaken with further new Nuthane applied directly.

### Cleaning:

A Nuthane floor is cleaned with stiff bristled brushes and detergents. The stiff bristle brushes and commercial detergents will remove dirt from the non-slip surface that a soft mop will not. The waxed nature of our top-coating system may attract dirt during the early life of the product. Pay careful attention to cleaning at this stage. (Refer to the Resin Flooring Cleaning document on our website).

## PRODUCER STATEMENT:

allnex Construction Products state that Nuthane is compliant with E3 (internal water) and 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. They shall support static and dynamic loads. Complies with fire ratings.

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The logo for allnex, featuring the word "allnex" in a bold, white, sans-serif font. Above the letters "i", "l", and "x" are three horizontal bars in red, green, and blue respectively.

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