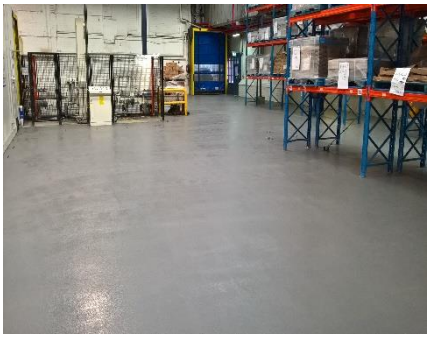
Technical Data Sheet

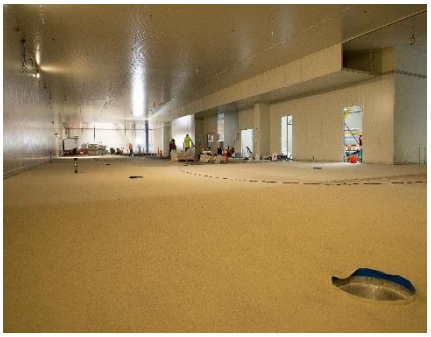
Nuthane SBM Polyurethane Resin Flooring System

DESCRIPTION:

Nuthane SBM is an industrial grade floor topping system specifically designed for the Australasian food and process industry.
Nuthane SBM has a finer aggregate blend and uses Q900 aggregate to provide the fine non-slip surface finish but may also have coarser or decorative aggregate application for heavy non-slip requirements.
Nuthane SBM may be applied at varying thicknesses to accommodate the anticipated thermal, impact, chemical resistance required for the specific installation.

TYPICAL FEATURES | BENEFITS:





- Solvent free, no odour.
- Tolerant of application to 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 chart.*
- 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:

HACCP INTERNATIONAL FOOD SAFETY PROGRAMMEN CERTIFICATION

C S M IPA
Nuplex Construction Report No. NU 1407-715
Cleanroom® Suitable Materials
Nuthane
Microbicidity: very good
Flooring & Coating

PERFORMANCE DATA:

Properties	Values	
Minimum Thickness:	4mm - *finished thickness*	
Minimum Application Temperature: Air	$^{+}$10°C	
Maximum Application Relative Humidity: Air	85%	
In-service temperatures - wet : on fully cured system	4mm thickness	$^{-}$25 to $^{+}$70^{o}C
Critical Radiant Flux: Text Method ISO-9239-1	11 Kw/m² - smoke value 41% min	
Chemical Resistance:	Resistant to chemical spillage –cured 7 days at $^{+}$25^{0}C. Refer: Chemical resistance chart	
Electrical properties: surface resistivity:	3 x 108 Ohm	
Adhesion to correctly prepared substrate:	1.5MPa minimum – Concrete Failure GB2567-2008. 2.77(KJ/m2). - Concrete failure	
Coefficient of thermal expansion:	1.5 x 10-5 /ºC.	
Compressive Strength:	Nom. 50-60MPa	
Flexural strength:	25MPa	
Tensile strength:	6N/mm²	
Heat resistant:	$^{+}$70°C	
Slip resistance:	R12 to R13. Refer: Slip resistance chart	
Solids Content:	100%	
SG kg/litre:	1.65	
Weight per m²:	4mm thickness	9.33kg
Foot Traffic: *Finished System*	$^{+}$10^{0}C ~ 50%RH $^{+}$20^{0}C ~ 50%RH $^{+}$30^{0}C ~ 50%RH	24 hours 12 hours 5 hours
Light Traffic: *Finished System*	$^{+}$10^{0}C ~ 50%RH $^{+}$20^{0}C ~ 50%RH $^{+}$30^{0}C ~ 50%RH	48 hours 36 hours 16 hours
Full Cure: *Finished System*	$^{+}$10^{0}C ~ 50%RH $^{+}$20^{0}C ~ 50%RH $^{+}$30^{0}C ~ 50%RH	5 days 3 days 2 days

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
- Substrate Moisture Content, allnex Nuthane can be installed on substrates with a high moisture content. The substrate needs to be dry and have a nominal pull-off strength of a min 1.5 N/mm2, with No ponding water.
  It should be emphasised that success in these types of applications 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 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 thickness that suits the intended application.
- Nuthane Matt Finish will yellow upon exposure to UV, however, this does not affect performance durability.
- Use Nuthane TF Gloss or Nuthane Gloss Topcoat in exterior situations or where exposed to UV conditions.

SURFACE FINISH DESIGN OPTIONS

Nuthane Type	Description	Description	CF Rating	SRV Rating	R Rating	Examples
	Installation Type	Finish Type	NZ/AS 3661.1 1993	AS/NZS 4586		Completely homogeneous floor areas
Non-Slip Class 2	Heavy duty Aggregate: non-slip: Applied with the addition of:- ~ Q900 ~ Walton Park 18/36 ~ Silver Grey Grit ~ Aluminium Oxide 16 grit ~ Walton Park 7/14 ~ Aluminium Oxide 12 grit	 Fine – medium garnet Medium-round silica Medium- angular garnet Coarse- sharp/angular Coarse- round silica Very coarse -sharp/angular	 0.73 0.73 0.73 0.75 0.75 0.75	 64 64 64 65 65 65	R13	Butchery Abattoirs Fish Processing Veg Processing
Non-slip Coloured Quartz Finish	Decorative Aggregate: non-slip Trowel Applied with the addition of:- ~ Quartzzite Coloured Aggregate	Medium coloured Quartz	0.63	57	R12	Decorative Floors Bakeries Sports facilities Changing Rooms Pool Concourses Education

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 TF Topcoat	Gloss	Uses Nuthane resin	No Odour	UV stable
3.0	Nuthane Gloss Topcoat	Gloss	Uses separate topcoat system	Slight Odour	UV stable

Refer : allnex Construction Products for selection advice.

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 Nuthane SBM 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.
Substrate Moisture Content: allnex Nuthane can be installed on substrates with a high moisture content.
The substrate needs to be visibly dry and have a nominal pull-off strength of a min 1.5 N/mm2, with No ponding water.

Refer: allnex technical literature "wet & uncured concrete".

PLYWOOD | TIMBER |FIBRECEMENT
Refer: allnex Construction Products

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. (*Nuthane SBM is 4mm 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 Nuthane SBM 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 Nuthane SBM.

Jointing Options	
Control | Construction Joints	Cold Joints | Non-Movement Joints
allnex Sabreseal SMP60	allnex Sabreseal SMP60

QUALITY ASSURANCE:
The allnex approved Applicator 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 coating 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 Nuthane applied directly.

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.

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.

CHEMICAL RESISTANCE:

The following chart shows a representation of the chemical resistance of some of the colours available.
Resistant to chemical spillage –cured 7 days at 25^0C.

Note

Variables which may under extreme conditions, influence the chemical or corrosion resistance are:

- Temperature of chemical concentration.
- Intermittent or continuous contact.
- Application in adverse conditions.
- Risks of evaporation from spillage causing concentration to rise adversely.

Test Procedure	Observation	Results
Spot Testing.	Checked for chemical attack and hardness throughout the testing period.	Taken at the times specified.

Test Media	Concentration	Time Lapse 1 Hour			Time Lapse 3 Hours			Time Lapse 8 Hours		
		Nuthane Standard Topcoat	Nuthane TF Topcoat	Nuthane Gloss Topcoat Clear	Nuthane Standard Topcoat	Nuthane TF Topcoat	Nuthane Gloss Topcoat Clear	Nuthane Standard Topcoat	Nuthane TF Topcoat	Nuthane Gloss Topcoat Clear
ACIDS										
Hydrochloric Acid	10%	SM	N	N N	SM	N	SM N	SM	N	SM N
Sulphuric Acid	10%	SM	N	N N	SM	N	N N	SM	N	SM N
Sulphuric Acid	25%	SM	N	N N	SM	N	N N	SM	N	SM N
Acetic Acid	10%	SM	N	N N	SM	N	N N	SM	N	N N
Acetic Acid	50%	SM	SM	N N	MH	MH	N N	MH	MH	N N
Nitric Acid	10%	SM	SM	N N	MH	MH	N N	MH	MH	N N
Citric Acid	10%	N	N	N N	N	N	N N	SM	N	N N
Lactic Acid	90%	SM	N	SM N	SM	N	SM N	SM	N	SM N
Phosphoric Acid	30%	SM	N	N N	SM	N	SM N	MH	N	MH N
ALKALIS										
Potassium Hydroxide	30%	N	N	N N	N	N	N N	N	N	SM N
Caustic Soda	50%	N	N	N N	N	N	N N	N	N	N N
SOLVENTS										
Toluene		N	N	N N						
Acetone		N	N	REC D						
Isopropanol		N	N	N N						
Methanol		N	N	N N						
PETROCHEMICALS										
Kerosene		N	N	N N	N	N	N N	N	N	N N
Industrial Gear Lubricant (Mobil 632)		TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT
Petrol 91 Unleaded		TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT
Fuel Oil – Diesel Oil		TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT
Hydraulic Fluid (Hyspin AWS646 -Castrol Oil)		TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT
DISINFECTANTS & CLEANERS										
Ammonia Solution	25%	TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT
Iodine (Betadine Solution)	10%	TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT
Bleach	2.15%	N	N	N N	N	N	N N	N	N	N N
Dishwashing Liquid	100%	N	N	N N	N	N	N N	N	N	N N
MEKP – M50		REC	REC	MH REC	REC	REC	MH REC	REC	REC	SM REC
SALT SOLUTION										
Brine	20%	N	N	N N	N	N	N N	N	N	N N
OTHERS										
Food Emulsion (Milk)		TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT	TBT
Sugar Syrup	30%	N	N	N N	N	N	N N	N	N	N N
Dionised Water		N	N	N N	N	N	N N	N	N	N N

LEGEND:

N	No mark | No Effect	**SM**	Slightly Marked
D	Damaged | Blister	**MH**	Marked Heavily
REC	Recovered	**EF**	Evaluate Further
TBT	To be tested		

REC- Recovered (there was something there after removing the chemical, but it recovered quickly to undetectable)

PRODUCER STATEMENT:
allnex Construction Products state that:-
Nuthane SBM is compliant with:

- 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).*

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

Date: Sept 2023
Replaces: May 2022

allnex Construction Products, a Division of allnex New Zealand Ltd
Auckland – 14 Industry Road, Penrose, phone: 09-583-6544.
Hamilton - 18 Somerset Street, Frankton, phone: 07-847-8658.
Wellington - Unit 9A, 4 Glover Street, Ngauranga Gorge, phone: 04-240-0305.
Christchurch – 112 Carlyle Street, Sydenham, phone: 03-366-6802.
Customer Service: 0508-882-288 cs.constructionnz@allnex.com
www.allnexconstruction.com