

# Technical Data Sheet

## Surecote System 500 Epoxy Topping System



### DESCRIPTION:

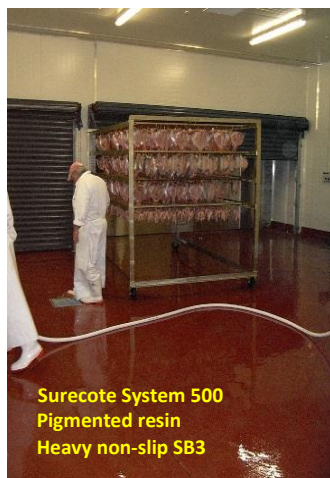
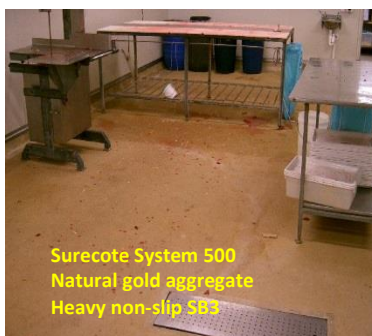
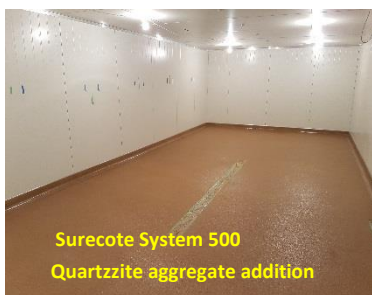
Surecote System 500 is an industrial grade 5-6mm medium to heavy duty floor topping system. Surecote System 500 resin is blended with specially graded silica quartz aggregates to produce a floor system that is hard and durable, Non-slip, resistant to impact, abrasion, thermal shock and chemicals/food acids, yet is non-porous, seamless, hygienic and easily cleaned.

Surecote System 500 is fully bonded to the concrete to prevent water creep.

### TYPICAL FEATURES | BENEFITS:



- Slurry and Broadcast Application.
- Low Odour.
- Non-flammable.
- May be used in food safe areas.
- Good chemical resistance. *Refer: chart below.*
- Excellent abrasion resistance.
- Excellent impact resistance.
- Excellent adhesion to properly prepared substrates.
- Easily cleaned - 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.
- Will not support bacteria or fungal growth. Contains inhibitors to retard microbial growth.
- Cured Film is non-toxic.
- Not moisture permeable.
- Will form coves to any required height or radius.
- Integrated floors, coves, drains, nibs and upstands.
- Suitable for use in dry or wet situations including ramps.
- Carefully managed falls to drains to help prevent ponding water.



### Colour:

Natural Gold; **or** other colours dependant on resin pigmentation or aggregate selection.

The system may be pigmented for full thru-colour permanence. *Refer:- BS5252 | AS2700 or RAL charts for colour reference.*

*Some colours will require a specific coloured Topcoat System. (Refer: allnex Construction Products for advice)*

Ask your Contractor for a sample of colour and texture prior to start.

**PERFORMANCE DATA:**

Properties	Values
Minimum Thickness	5mm
Minimum Application Temperature: Air	+5°C
Maximum Application Temperature: Air	+70°C
Maximum Application Relative Humidity: Air	85%
In-service temperatures - wet : on fully cured system @ 6mm	-30 to +65°C
Chemical Resistance:	Resistant to chemical spillage –cured 7 days at +25°C. Refer: Chemical resistance chart
Adhesion to correctly prepared substrate	1.5MPa minimum – Concrete Failure
Co-efficient of expansion 10-/mm/m/°C	-2.23
Compressive Strength:	Nom. 93MPa
Elongation: ASTM D623-78	5%
Flexural strength: ASTM D780-71	80Mpa
Tensile strength: ASTM D623-78	56MPa
Heat resistant:	+65°C
Moisture absorption: ASTM D570-63	0.04%
Weight per m <sup>2</sup>	6mm - 12.88kgs
Slip resistance:	R12 - R13 <i>Refer: Slip resistance chart</i>

**RECOMMENDED USES:**

- Food process floors where a high degree of hygiene is required. Approved by regulatory authorities.
- Ablution blocks: Kitchens | Laundries | Toilets
- 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: 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, over old resin floors, timber or other surfaces
- 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
- Tie-coat: new to old concrete.
- 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.
- Exterior use: Must be over-coated with allnex Revathane

**LIMITATIONS:**

- Application to uncured concrete (minimum recommended cure 28 days).  
*Surecote System 500 can be installed on 14-day old concrete providing conditions outlined in our Technical Bulletin 'Resin Floors on Wet Concrete' are complied with.*
- Application to unstable or defective substrates without approved remedial treatment prior to installation.
- Application below +5°C.
- Application over existing coatings/toppings (*Refer: allnex Construction Products.*) or over concrete cure or release agents without allnex approval or over ceramic tiles without specific written allnex design specification.
- Ultra-intense chemical attack. – *Refer: chemical resistance data.*
- Cracking in adjacent walls and concrete substrate will likely telegraph through the Surecote System 500.
- Heavy duty industrial use.
- Will not correct falls. *Refer: STZ Prefill section.*
- Check system compatibility if over-coating existing resin floors. *Refer: allnex Construction Products.*

## 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	Surecote 500	Test Media	Concentration	Surecote 500
<b>ACIDS</b>			<b>ALKALIS</b>		
Hydrochloric Acid	10%	M	Potassium Hydroxide	30%	U
Sulphuric Acid	10%	M	Caustic Soda	50%	U
Sulphuric Acid	25%	M			
Acetic Acid	10%	U			
Acetic Acid	50%	D	<b>SOLVENTS</b>		
Nitric Acid	10%	M	Ethanol		M
Citric Acid	10%	U	Toluene		M
Lactic Acid	90%	A	Acetone		A
Phosphoric Acid	30%	U	Isopropanol		U
<b>PETROCHEMICALS</b>			<b>DISINFECTANTS   CLEANERS</b>		
Kerosene		M	Detergent (DET 18)	100%	U
			Bleach Sod Hyd Cl	2.5%	M
			MEKP – M50		M
<b>OTHERS</b>			<b>SALT SOLUTION</b>		
Sugar Syrup	30%	U	Brine	20%	M
Distilled Water		U			

### LEGEND:

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

Type	Description	Description	CF Rating	SRV Rating	R Rating	Examples
	Installation Type	Finish Type	NZ/AS3661.1 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	0.73	64	R13	Butchery Abattoirs Fish Processing Veg Processing
		Medium-round silica	0.73	64		
		Medium- angular garnet	0.73	64		
		Coarse- sharp/angular	0.75	65		
		Coarse- round silica	0.75	65		
		Very coarse -sharp/angular	0.75	65		
Non-slip Coloured Quartz Finish	Decorative Aggregate: non-slip Trowel Applied with the addition of:- ~ Quartzite Coloured Aggregate	Medium coloured Quartz	0.63	57	R12	Decorative Floors Bakeries Sports facilities Changing Rooms Pool Concourses Education

### 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 Surecote 500 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 14 days prior to the installation of Surecote 500. (*Refer: Note Below*)

The moisture content shall be less than 75% RH.

### Note

*Surecote System 500 can be installed on 14-day old concrete providing conditions outlined in our Technical Bulletin 'Resin Floors on Wet Concrete' are complied with.*

## PLYWOOD | TIMBER | FIBRECEMENT

*Refer: Surecote 500 Specification*

## 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. (*Surecote 500 is 5-6mm 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 Surecote 500 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 Surecote 500.

### 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 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 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 Surecote 500 applied directly; following the correct surface preparation requirements.

### Resurfacing:

allnex recommend **three** (3) options:

- Re-aggregating with Surecote 500.
- Re-aggregating with Surecote 500 AR. *(This will provide a higher degree of chemical resistance of required).*
- A third 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:-

Surecote 500 is compliant with the following :

- 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.

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

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

Date: Jan 2022

Replaces: Nov 2019

### 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](mailto:cs.constructionnz@allnex.com)

[www.allnexconstruction.com](http://www.allnexconstruction.com)



**DISCLAIMER:** This information appearing in this Document (**Details**) concerning the product which is the subject of the Document (**Product**) is either based on present technical knowledge and tests done by allnex or tests done by, and data supplied from third parties including you, the customer. Since the actual use by you and by others of the Product is beyond the control of allnex, no warranty or representation, express or implied is made by allnex regarding the suitability for such use, nor does allnex accept any liability arising out of the use by you of other products or materials, whether third party or not, that may be referred to in this Document. allnex recommends that you carry out your own tests as to the suitability of the Product for your purpose, regarding which you accept full responsibility. In addition, if any of the Details appearing in the Document are based upon tests done by, and/or data supplied by any third party, allnex provides no warranties or representations in connection with those Details and you, the customer waives any right you may have against allnex in connection with the accuracy, completeness or otherwise of the Details. The information in this Document is not to be construed as absolutely complete or accurate since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations affecting use of the Product. allnex does not provide any warranty or representation to you that the Product does not infringe the intellectual property rights of any third party. All orders accepted shall be subject to the standard conditions of sale of allnex which are on the back of our invoice. In accepting the Product, you, the customer acknowledge and agree: a.) The Product is or may be of a hazardous nature and that you, the customer, are responsible for the disposal of the container housing the Product in accordance with the requirements and regulations of the relevant supervising government. b.) The Product has a limited shelf life and must be stored strictly in accordance with the guidelines and specifications related to it. c.) Where the Details relate to Product tested by allnex, those Details are indicative only, regarding which there may be batch to batch variation. d.) allnex gives no warranty or representation as to the applicability for the particular use by you, the customer, of the Product and you the customer shall be responsible for ensuring that the Product is fit for your intended use. e.) allnex's liability for breach of any term, condition, guarantee or warranty (express or implied and concerning the information in this Document or the Product more generally) including any liability for direct or indirect consequential loss (including indirect loss of profits), is limited to the maximum extent permitted by law and, at allnex's election, to either replacing or repairing the goods or paying the cost of replacing or repairing the goods, or in the case of services, supplying the services again.