X263 MEDI-VET® REPELLER with SAFE SILVER ION ANTIMICROBIAL

Technical Data Sheet

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INTERNAL AND EXTERNAL PROTECTION SAFE SILVER ION TECHNOLOGY

Description & Uses

X263 Medi-Vet® Repeller is a single pack one application spray on system that deeply penetrates new or existing concrete, provides curing, permanent waterproofing, and deep matrix resistance to bacteria, moulds and fungi. **X263 Medi-Vet® Repeller** with **SteriTouch®** has independent antimicrobial testing showing 99.99% effective against Influenza, Avian flu, SARS, *E.coli* and *Methicillin Resistant Staphylococcus aureus.* The added **X300 Repeller™** provides surface protection and ease of cleaning against acids, oils, water based stains, chemicals, body fluids, wine, grease and others.

Features and Benefits

- Will cure concrete equal to water pond curing.
- 99.99% effective against Influenza, Avian flu and SARS
- Permanently waterproofs concrete from any direction.
- Makes concrete impermeable, increasing longevity.
- Resists surface staining.
- Proven control of *E.coli* and *Staphyloccus aureus*
- Resists freeze thaw damage.
- Retards efflorescence.
- Stabilises pH.
- Used on horizontal substrates.
- Zero VOC, environmentally friendly, user safe.
- Compatible with epoxy and acrylic line marking paints.
- Eliminates moulds and odours.
- Indefinite shelf life.
- Minimum site disruption, trafficable after 2 hours.
- Reduces dry shrinkage cracking.
- Independent antimicrobial effacy testng

Physical and Chemical Properties

Appearance:	Low viscosity cloudy-white liquid.
Odour:	Almost none.
pH:	Ca. 11.4
Initial Boiling Point/ Boiling Range:	> 100°C @ 760 mm Hg.
Flash-point:	Not applicable.
Flammability (solid, gas):	Not applicable.
Upper/Lower Flammability or Explosive Limits:	Not applicable.
Relative Density:	Ca. 1.10 @ 20°C.
Solubility:	Fully miscible in water.
Auto-ignition Temperature:	Product is not self-igniting.
Viscosity:	Low.
Volatile Organic Compounds (VOC) Content;	0.0 % w/w.
Per Cent Volatile:	Ca. 0 % w/w.

Recommended Substrate Conditions & Preparation

Freshly Placed Concrete: 5m² per litre.
Existing Concrete: 5m² per litre
Important Notes:

1. Wax, paint, curing compounds or a burnished surface restricting access to concrete's interior must be chemically or mechanically removed for **X263 Medi-Vet® Repeller.** to penetrate and work properly.

2. Areas of high porosity have a faster penetration rate. These areas appear dry immediately after spraying and will require additional product.

3. Do not apply on frozen substrate or when temperature is below 3°C when getting colder.Call for advice if applying in colder periods.

4. Do NOT apply if rain is forecast within 3 hours.

5. Before applying any paint, wait 24 hours after application with **X263 Medi-Vet® Repeller.** Always follow paint manufactures surface preparation guidelines and requirements.

6. **X263 Medi-Vet® Repeller** may etch glass/tiles or dull brushed and shiny aluminium and can be difficult to remove from other surfaces once it dries. Cover and mask surrounding surfaces or rinse immediately if sprayed.

7. We recommend the use of a face mask during application. Refer to MSDS available from **www.oxtek.com.au**

X263 with SAFE SILVER ION ANTIMICROBIAL MEDI-VET® REPELLER Technical Data Sheet

Application Guide

On Already-Set Concrete:
Note: In hot climates, mist-wet the surface with water and remove any puddles prior to application.

Apply **X263 Medi-Vet® Repeller** using a low-pressure non-atomizing, spray apparatus such as a pump-tank or a battery pack sprayer. Hold the spray tip (eg .019" - .024") 150mm from surface, apply **X263 Medi-Vet® Repeller** at minimum rate of **5m² per litre** with an overlapping spray pattern of 50%. Begin application at the lowest elevation. For example, walls and slopes should be applied side to side, from the bottom up.Using a soft broom sweep and spread out puddled product as it penetrates. Do not allow product to puddle dry on the surface. If product gels on the surface remove with a squeegee.

As a Cure Method at Time of Pour:
Apply using a low-pressure non-atomizing, spray apparatus such as a pump-tank or a battery pack sprayer.

X263 Medi-Vet® Repeller is ideally applied to the newly-poured concrete surface as soon as is practical following its surface finishing phase. Should conditions require the surface to be walked on, for application, concrete should be allowed the time to adequately set, so as not to imprint or mar its surface during application. Recommended minimum coverage rate as a cure method is **5m² per litre.**

Existing: If concrete is old and/or contaminated, a two part system must be used. **X200 Densi-Proof™** will decontaminate and purge deep seated unwanted substances to the surface and they need to be removed prior to finishing with the **X300 Repeller**. Use a two part system of **X200 Densi-Proof™** or **X220 Moisture-Fix** (refer to TDS) and then clean and apply **X300 Repeller**. Call your Oxtek Rep for advice.

Additional Data and Precautions

Available in 15, 200 and 1000 litre containers.

1. Any coatings that may restrict access to the concrete's interior must be chemically or mechanically removed for **X263 Medi-Vet® Repeller** to penetrate.

2. Protect areas not intended for coverage.

3. **X263 Medi-Vet® Repeller** may etch glass/tiles or dull shiny aluminium and can be difficult to remove from other surfaces once it dries.

4. Do not apply on frozen substrate or when temperature is below 3°C when getting colder. Call for advice if applying during colder periods.

5. **X263 Medi-Vet® Repeller**'s spray mist is not hazardous to breathe. However, we do recommend the use of a face mask during application. Refer to MSDS.

6. For more information read Material Safety Data Sheet available at **www.oxtekaus.com**

Testing and Certifications

Test		Control Sample (All concrete controls are water cured)	X-20 Sample	Results Comparison
Designation	**Property**			
AS 1012.9 ASTM C39	Compressive Strength	28.9MPa 4,191 psi	31.0 MPa 4,496 psi	7% Increase
AS 1012.8 ASTM C78	Flexural Strength	2.52 MPa 365 psi	2.89 MPa 419 psi	15% Increase
Chaplin Abrader	Abrasion Loss	2.47 mm 0.10 in	1.46 mm 0.06 in	41% Reduction
Surface Dusting		2.57 g/0.25 m^2	1.78 g/0.25 m^2	31% Reduction
ASTM C1202	Rapid Chloride Penetration	597 / 543 / 10.097 Coulombs	148 / 136 / 6.582 Coulombs	35% to 75% Reduction
HKHA B2.9	Sorptivity	0.164 mm/(min)$^{1/2}$	0.010 mm/(min)$^{1/2}$	94% Reduction
ACCI Water Permeability Tset	Water Permeability	1.5 x 10^{-13} m/s	2.5 x 10^{-14} m/s	83% Reduction
USACOE C48	Water Permeability	NA	0 Leakage @ 30.5 m Head Pressure 0 Leakage @ 100 ft Head Pressure	
DIN 1048	Water Permeability	98.4 mm @ 0.33 hrs 3.9 in @ 0.33 hrs	5.5 mm @ 72 hrs 0.22 in @ 72 hrs	94% Reduction
ASTM C666	Mass Loss @ 300 Freeze/Thaw Cycles	4.80%	0.70%	85% Reduction
ISO 22196 JIS Z 2801:2000	Antimicrobial Performance*	Number of live organisms (Colony Forming Units) 0 Hours 140000 24 Hours 220000	0 Hours 140000 24 Hours < 10	>99.995% Reduction

*Test bacteria: *Escherichia coli,* Methicillin resistant *Staphylococcus aureus*

May 2018

protected by SteriTouch®

SteriTouch is an established brand in antimicrobial technology, based in the UK. The anti microbial performance of **X263 Medi-Vet® Repeller** is confirmed by independent laboratory testing to the international standards (JIS and ISO) and is proven to be 99.99% effective against MRSA and E.coli (test reports available on request). With the combination of **SteriTouch® X263 Medi-Vet® Repeller** creates a permanent barrier against the growth of bacteria, biofilm and moulds.

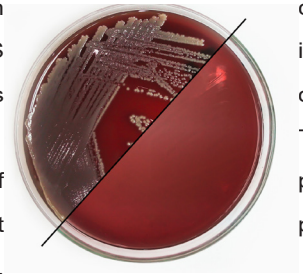
StreiTouch is safe. SteriTouch is an additive based on ionic silver. We do not use nano-silver, triclosan or other organic antimicrobial additives which have health and environmental concerns. The additives we use are non-leaching and non-sensitising.

StreiTouch gives continuous protection. Ionic silver based additives will not lose efficacy due to leaching or migration, they are evenly dispersed and embedded through out **X263 Medi-Vet® Repeller** even scratches and abrasion do not effect the antimicrobial performance. Cleaning chemicals such as chlorine bleach, disinfectants, alcohol and even harsh industrial products like MEK (methyl ethol keytone) will no diminish the antimicrobial properties of **X263 Medi-Vet® Repeller.**

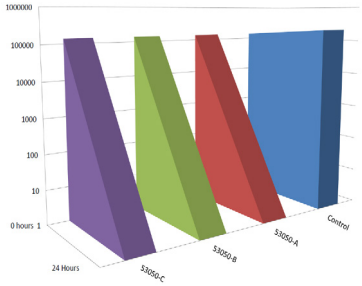
Independent Antimicrobial Test Report

Evaluation of the antimicrobial performance of samples containing antimicrobial additives. All testing is conducted by an independent laboratory using the ISO 22196 / JIS Z 2801:2000 test method, briefly summarised as follows;

Each test sample is inoculated with a suspension of the test organism. The inoculation is held in contact with the test sample using a sterile polyethylene film.



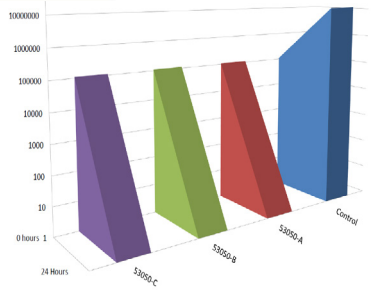
All test samples are inoculated in triplicate, with an additional three replicates of the control. The bacterial population on three control replicates is evaluated immediately following inoculation. This is assumed to be the initial population on all test samples (i.e. the population at zero hours. The remaining samples are incubated for the test period (24 hours)at 35°C, at which time the bacterial population is evaluated.



MRSA (Methicillin Resistant Staphylococcus aureus)

Tested at 35°C

Sample		Number of live organisms (Colony Forming Units) 0 hours	24 Hours	% reduction of Colony Forming Units, expressed	
Control	Untreated polyethylene film	140000	220000	N/A	
53050-A	X-20 Coolroom with 1% ST1156	140000	<10	>99.995% Reduction	EXCELLENT
53050-B	X-20 Coolroom with 1% ST1156	140000	<10	>99.995% Reduction	EXCELLENT
53050-C	X-20 Coolroom with 1% ST1156	140000	<10	>99.995% Reduction	EXCELLENT



Escherichia coli

Tested at 35°C

Sample		Number of live organisms (Colony Forming Units) 0 hours	24 Hours	% reduction of Colony Forming Units, expressed as comparison with control	
Control	Untreated polyethylene film	110000	12000000	N/A	
53050-A	X260 MediVet with 1% ST1156	110000	<10	>99.99991% Reduction	EXCELLENT
53050-B	X260 MediVet with 1% ST1156	110000	<10	>99.99991% Reduction	EXCELLENT
53050-C	X260 MediVet with 1% ST1156	110000	<10	>99.99991% Reduction	EXCELLENT

Notes: CFU = Colony Forming Units
The theretical limit of detection is 10 CFU. If no bacteria are recovered the result is reported as "10 CFU".