CORROSION CONTROL WITH PLUROTECH RustEx Hypercote ™

A New Improved High Performance Waterborne Coating.

RustEx Hypercote ™ is a waterborne, single pack, elastomeric chloropolymer coating containing a blend of unique, complex anticorrosive pigments. The coating dries to form an extremely flexible and highly impermeable barrier. ***RustEx Hypercote*** ™ exhibits excellent adhesion to a wide variety of substrates with excellent chemical resistance. The coating can be used for the protection of storage tanks containing a wide variety of aggressive chemicals. Please consult your Plurotech representative for details prior to application.

Suggested Uses :

Plurotech ***RustEx Hypercote*** ™ has been successfully used on the following applications: automotive shells and chassis, potable water tank, steel bridges, brine tanks, harbour installations, lamp posts, oil rigs, railings, sewerage treatment works, storage tanks, structural girders and railway vehicles.

CONSIDER THE FOLLOWING BENEFITS:

1. It is 100% water based; non toxic (acid free); non solvent and environmental friendly.
2. Very user friendly and needs no thinner or solvents.
3. Suitable to be applied direct on metal surfaces without primer.
4. Non flammable and non-inflammable-classified as General Cargo.

Surface Preparation

a) Rusted Steel -	***RustEx Hypercote*** ™ is tolerant of lighly rusted surfaces. However for heavily rusted surfaces, it should be pre-treated with ***RustEx 21*** ™ Rust Converter
b) Cold Rolled Steel -	Abrade & degrease
c) Hot Rolled Steel -	Blast clean to Sa 2.5
d) Alumunium -	Degrease
e) Galvanised Steel -	Degrease
f) Fiberglass -	Degrease

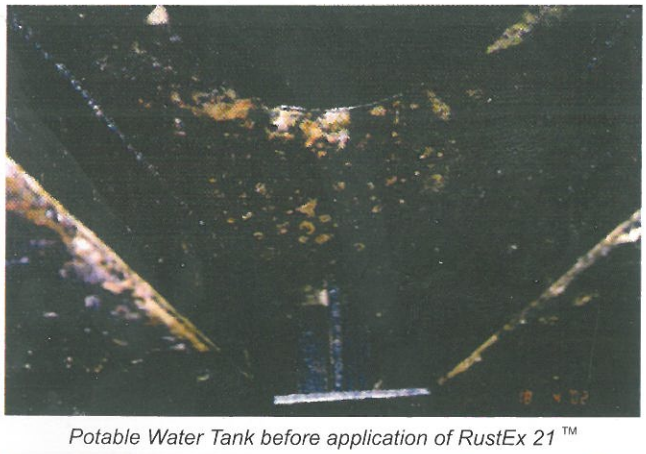
Application

It is recommended to carry out an initial test at all times. This test should take place in the working conditions of application. The topcoat system should be also be tested for compatibility. Stir the product thoroughly before use. Apply a minimum of TWO coats by brush, spray or roller to achieve a wet film thickness of 115-170um per coat (50-75um DFT).

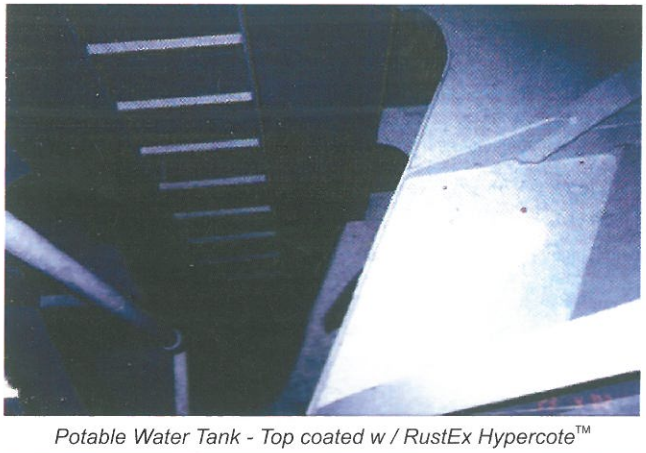
BRUSH : Apply product evenly by brush using multi-directional strokes to ensure adequate coverage on the subtrate

ROLLER : Use a short nap roller and apply the coating evenly. Edges may need to be stripe coated by brush to ensure complete coverage.

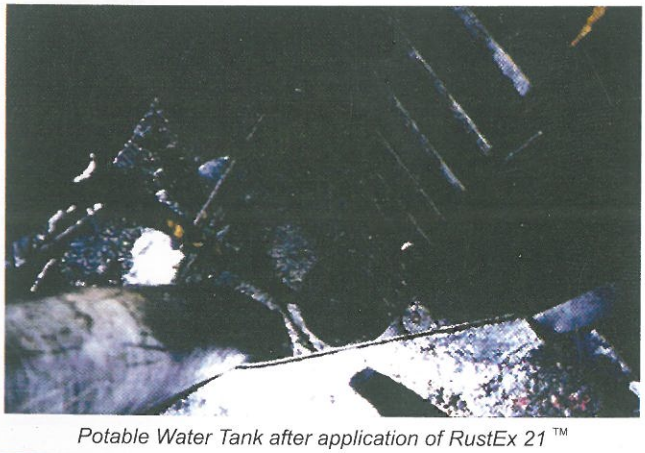
SPRAY : The coating may be applied by assisted or airless spray techniques.



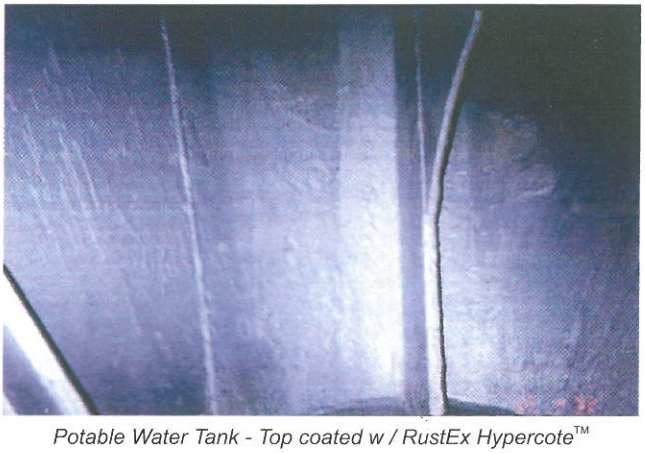
Potable Water Tank before application of RustEx 21 ™



Potable Water Tank - Top coated w / RustEx Hypercote™



Potable Water Tank after application of RustEx 21 ™



Potable Water Tank - Top coated w / RustEx Hypercote™

RustEx 21 ™

Technical Data Sheet

Date of Issue : 21/8/02
Supersedes : All Previous

Airless Spray	Air assisted (syphon of pressure fed)
100 - 130 Kg/cm^2 tip pressure	3.5 - 4 Kg/ cm^2 air pressure
250 - 400 um tip	250 - 400 um tip
40 - 60 degrees fan	40 - 60 degrees fan

Atmospheric Condition

External An air temperature of 5-30° C is prefered, avoid applying if relative humidity is greater than 80%. Avoid applying when there is a risk of rain or condensation during the drying period.

Internal Ensure air movement is available to remove excess moisture during the drying process.

Cleaning

Immerse brushes, rollers or spray tips in clean water during work breaks to prevent paint dying. Use water to clean equipment before paint dries. To removed dried paint use lacquer or aromatic solvent.

Physical Properties

Appearance	Milky off white solution
PH @ 20 C	2-4
Viscosity at 20 C***	ca 20 Poise
Non Volatile content by volume	52.4%
Non Volatile by weight	56.5%
Specific Gravity @ 20 C	1.32
Flashpoint	>60 C
Volatile Organic Compound	15 gr/litr.
Touch dry	15-30 min
Coverage at 75 micron WFT	13 m2/ litre
Water vapour Permeability**	unable to check the figures
25 micron DFT @ 38 C. 90%RH**	< 50 gr/m2
Electrical Conductance**	10.9 Ohm / 5 cm2
Impact Resistance**	Pass, 1 cm deep impact
Hardness Pencil**	2H-3H (on Rusted steel)
Saltspray ASTM B117*@ 150 micron DFT**	2000 hrs*

* When over coated with 150 micron DFT of RustEx Hypercote
** We are not able to check these figures.
*** The viscosity is measured by ICI Roto Thinner

Chemical Resistance

RustEx 21 exhibits excellent resistance to acid and alkali splashed. Contact with aliphatic or aromatic solvents will cause softening of the film which will recover.

Storage

Store in a cool dry area between 5°C and 30°C out of direct sunlight and protect from frost.

The information contained in this leaflet is provided to enable the user to assess the product and should not be taken as a specification. All information provided is given good faith we can however not assume liability. It is up to the user to ensure that information and the product is suitable for use intended.

Material Safety Data Sheet

Date of Issue : 21/8/02
Supersedes : All Previous

1. Composition & Information on Ingredients

1.1 Product Description Copolymer latex containing organic chelating agent

Ingredients	%Wt	EEC No.	CAS No.	CHIP Classification
2-Butoxyethanol	1-3%			
Methoxy-2-propanol	1-3%	203-539-1	000107-98-02	

2. Hazards identification

Repeated and or prolonged skin contact may cause irritation.
In case of contact with skin was immediately with soap and water.

3. First Aid Measures

Inhalation Remove patient from surface of exposure, keep warm and at rest, obtain medical attention if symptoms persist.

Skin Contact Remove contaminated clothing, was affected areas with soap and water or a recognised skin cleanser. Obtain medical attention if symptoms persist.

Eye Contact Irrigate the eye with copious amounts of eyewash solution or clean water, holding the eyelids apart for at least 15 minutes. Obtain medical attention if symptoms persist.

Ingestion Wash out mouth with water and give plenty of water to drink, keep patient warm and at rest and seek medical advice. Do not induce vomiting.

4. Fire Fighting Measures In aqueous form the product is not flammable. In its dry form the product acts as a fire retardant, but will burn if placed on a fire.

Extinguishing Media Water spray, foam, dry powder or Co_2

Hazardous Decomposition Products

Paint involved in a fire could liberate Hydrogen Chloride fumes.

Special Fire Fighting Precautions

Fires in enclosed spaces should only be tackled by trained personnel wearing breathing apparatus.

5. Accidental Release Measures

Absorb spillage onto sand, earth or other insert material, sweep up then transfer to sealable container for disposal. Ensure suitable personal protective equipment is used during removal of spillages. Wash the spillage area with water.

6. Handling and Storage

Handling Avoid Contract with skin and eyes. Open in a well ventilated area. Use local ventilation where appropriate and follow principles of good occupational hygiene to control personal exposures.

Storage Store in original container. Protect from frost. Storage temperature : 5°C - 30°C

7. Exposure Controls / Personal Protection

Ingredients	Wt%	CAS No.	LTEL 8Hr TWA	STEL
2 - Butoxyethanol	1-3%			
Methoxy-2-propanol	1-3%	203-539-1	000107-96-02	

Respiratory Protection	Not Normally required during application. For spray application use painting mask.
Hard Protection	Wear impervious gloves such as nitrite rubber.
Eye Protection	Wear safety glasses or goggles.

8. Physical and Chemical Properties

Appearance	Milky white liquid
Odour	Mild perceptible odour
pH	2-4
Flashpoint	>60°C
Flammability	N/A - Dry film fire retardant
Relative Density	1-2
Solubility (water)	Miscible
Solubility (other)	N/A

9. Stability and Reactivity

Product is stable under conditions described in section 7. Avoid contact with concentrated Alkalis.

Hazardous reactions	None known
Hazardous decomposition reactions	None known

10. Toxicological Information

Inhalation	Unlikely to be hazardous by inhalation
Skin Contact	Repeated or prolonged contact may cause irritation.
Eye Contact	May cause irritation.
Ingestion	Unlikely to hazardous is swallowed

Long term exposure to the product in normal use is unlikely to result in exposure above the OEL.

11. Ecological Information

No information available.

12. Disposal Considerations

Waste materials should be coagulated with Ferric Chloride. The suppematant liquid can be run to drain. The coagulated solid can be treated as solid waste. Disposal should be in accordance with local, state and or national legislation. Do not dispose of into drains and watercourses.

13. Transport Information

Not classified as dangerous for all modes of transport.

14. Regulatory Information

Not classified under EEC Labeling Directive (SI 1994 No. 3247).

15. Other Information

Control of Subtances Hazardous to Helath Regulations 1994 (SI 1994 No. 3246)
Road Traffic (Carriage of Dangerous Subtances in Packages etc) Regulation 1992
Carriage of Dangerous Substancesby Road and Rail (Classification, Packaging and Labeling) Regulations 1994 (CDG-CPL) (SI 1994 No. 669)
Hazardous Waste Directive 91/689/EEC
HSE Guideance Note EH40
UN Recommendations on the Transport of Dangerous Goods (The Orange Book)
HMSO 9th edition, 1995
ISBN 92 1 139048 6

RustEx Hypercote™

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Atmospheric Condition

External An air temperature of 5-30° C is prefered, avoid applying if relative humidity is greater than 80%. Avoid applying when there is a risk of rain or condensation during the drying period.

Internal Ensure air movement is available to remove excess moisture during the drying process.

Cleaning

Immerse brushes, rollers or spray tips in clean water during work breaks to prevent paint dying. Use water to clean equipment before paint dries. To removed dried paint use lacquer or aromatic solvent.

Physical Properties

Appearance	Coloured Thixotropic liquid
PH @ 20deg C (68 deg F)	4.0 - 6.0
Viscosity @ 25deg C (77 deg F)	6000 cps Brookfield Spindle 7 @ 50 rpm
Non Volatile content (wt)	61 %
Non Volatile content (vol)	44 %
Specific Gravity @ 20deg C	1.35 - 1.43
Flash point	>55 deg C (131 deg F)
Volatile Organic Content	16 g/litr.
Touch dry	15-30 minutes
Coverage @ 15um (6ml) DFT	3-4 sqm per litre (118-161 sq ft per US gallon)
Impact Resistance	Pass 1 cm deep impact
Hardness (Pencil)	2H-3H
Elongation Bs476 Pt 7	420%
Surface spread of flame	Pass
Flexibility	Pass 2mm mandrel

* Complies with the requirements of **PSB Corporation SS 375** : Part 1 and Part 2 and is deemed suitable for use in contract with intended for human consumption.

Chemical Resistance

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Storage

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***RustEx 21*™ and *RusEx Hypercote*™ are Trade Mark products of Plurotech International Pte Ltd**

Packaging :
5 litres, and 25 litres

Material Safety Data Sheet

1. Composition & Information on Ingredients

1.1 Product Description: Copolymer latex

Ingredients	%Wt	EEC No.	CAS No.	CHIP Classification
2-Butoxyethanol	1.0-2.0	203-905-0	111-76-2	Xn: R20/21/22

2. Hazards identification

Repeated and or prolonged skin contact may cause irritation.
In case of contact with skin was immediately with soap and water.

3. First Aid Measures

Inhalation Remove patient from surface of exposure, keep warm and at rest, obtain medical attention if symptoms persist.

Skin Contact Remove contaminated clothing, wash affected areas with soap and water or a recognised skin cleanser. Obtain medical attention if symptoms persist.

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6. Handling and Storage

Handling: Avoid Contact with skin and eyes. Open in a well ventilated area. Use local ventilation where appropriate and follow principles of good occupational hygiene to control personal exposures.

Storage: Store in original container. Protect from frost. Storage temperature : 5°C - 30°C

7. Exposure Controls / Personal Protection

Ingredients	Wt%	CAS No.	LTEL 8Hr TWA	STEL
2 - Butoxyethanol	1.0-2.0	111-76-2	25ppm	N/A

Respiratory Protection	Not Normally required during application. For spray application use painting mask.
Hard Protection	Wear impervious gloves such as nitrite rubber.
Eye Protection	Wear safety glasses or goggles.

8. Physical and Chemical Properties

Appearance	Milky white liquid
Odour	Mild perceptible odour
pH	4.0 - 6.0
Flash point	58°C (Closed Cup)
Relative Density	1.35
Soulbility (water)	Miscible

9. Stability and Reactivity

Product is stable under conditions described in section 7. Avoid contact with concentrated Alkalis.

Hazardous reactions	None known
Hazardous decomposition reactions	None known

10. Toxicological Information

Inhalation	Unlikely to be hazardous by inhalation
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