

New High Tech

## Neutra Rust® 661 Rust Converter

Unrivalled technological protection against  
Corrosion throughout industry

- ◇ No Shot – Blasting
- ◇ ‘Green’ rust converter
- ◇ Long term Protection
- ◇ Cost effective

### Corrosion worldwide and the battle for control

All ferrous metals corrode unless protected. The process is a complex chemical action which always involves the availability of moisture and oxygen. This persistent, destructive and degenerative process is accelerated by associated surface contaminants such as mineral salts and acids. Only by absorbing or neutralising surface pollutants and completely excluding moisture and oxygen from the metal surface can an adequate long term protective system be achieved.

Existing rust control processes are only partially successful because they do not cope adequately with all three basic causes of ferrous metal corrosion: the elimination of surface contaminants, the removal of free moisture and oxygen from the metal surface and the protection of the treated surface by an impenetrable membrane.

### NEUTRA RUST® 661 The Revolutionary Completer Rust Control System

NEUTRA RUST® 661 is a unique corrosion control system (Worldwide patents applied for) developed by NEUTRA RUST INTERNATIONAL LTD for use on rusted ferrous metal surfaces.

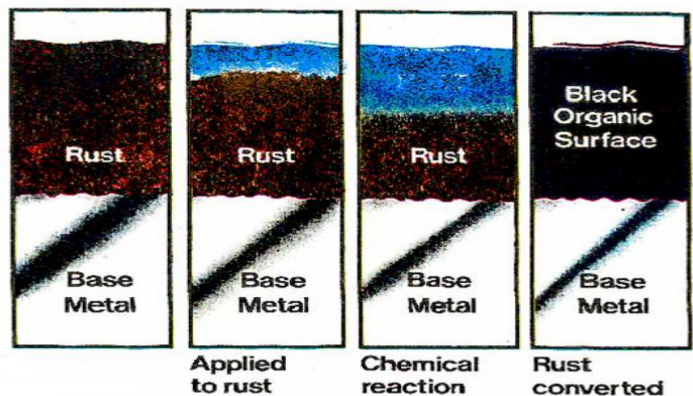
The ferrous surface to be protected is converted on contact to a black, complex organic iron compound by the unique deoxygenating agent incorporated in the NEUTRA RUST® 661 converter. This corrosion resistant layer is formed by utilizing all the surface moisture and oxygen during the reduction reaction.

Concurrently, the special copolymer latex emulsion covered system, with 39% solids, dries to form an impermeable barrier to oxygen and moisture.

**EXTREMELY LOW PERMEABILITY FACTOR: 20-25g/m<sup>2</sup>/25µm/day**



Neutra-Rust is a unique patented white organic copolymer latex with a specific gravity of 1.18g/l. It dries on rusted surfaces and chemically converts these to a black non-tacky layer in 30 minutes under normal conditions, forming an independent complex iron/iron-oxide/organic chemical compound which gives complete protection for the treated surface. The continuous chemical curing of Neutra-Rust forms a chemical bond with every metal interface, passivating, neutralizing and chemically converting rust. The black chemical compound layer is completely neutral and can be used as a primer, without further treatment, for standard or synthetic resin lacquers, oil-based paints, two-component lacquers or bitumastic and oil tar-based finishes including micaceous iron-oxide paints. Neutra-Rust is non-toxic and does not contain phosphoric acid or lead.

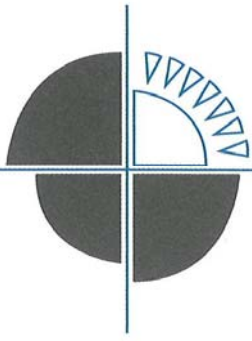


**NEUTRA RUST® 661 has British Ministry of Defence ref No 0473-225-1984, NATO Codification No 8030-99-225-1984 and shows no rust after 500 hours salt spray test in accordance with ASTM B117.**

MINISTRY OF DEFENCE APPROVAL NO. 0473-225 1984  
NATO CODIFICATION NO. 8030-99-225-1984

U.S.A. GOVERNMENT  
ENVIRONMENTAL PROTECTION AGENCY  
V.O.C. APPROVED DEC 1986  
REPORT NO. 17847  
GSA STOCKING NOS. 8030-01-369-4416  
8030-01-369-4417

Distributor : GrowTech Limited  
Flat 18, 14/F, Block A, Wah Lok Ind. Centre, 37-41 Shan Mei St., Fo Tan, N.T., Hong Kong  
Tel: 852 2305 5222 Fax: 852 2305 5220  
E-mail: [info@growseal.com](mailto:info@growseal.com)



## Neutra Rust® 661 Rust Converter

**High Performance coating  
No Shot - Blasting**

### Introduction

All ferrous metals corrode unless protected. The process is a complex chemical action that always involves the availability of moisture and oxygen. This persistent, destructive and degenerative process is accelerated by associated surface contaminants such as mineral salts and acids.

Only by absorbing or neutralizing surface pollutants and completely excluding moisture and oxygen from the metal surface can an adequate long-term protective system be achieved.

Existing rust control processes are only partially successful because they do not cope adequately with all three basic causes of ferrous metal corrosion: the elimination of surface contaminants, the removal of free moisture and oxygen from the metal surface and the protection of the treated surface by an impenetrable membrane.

### Neutra Rust® 661 The Revolutionary Complete Rust Control System

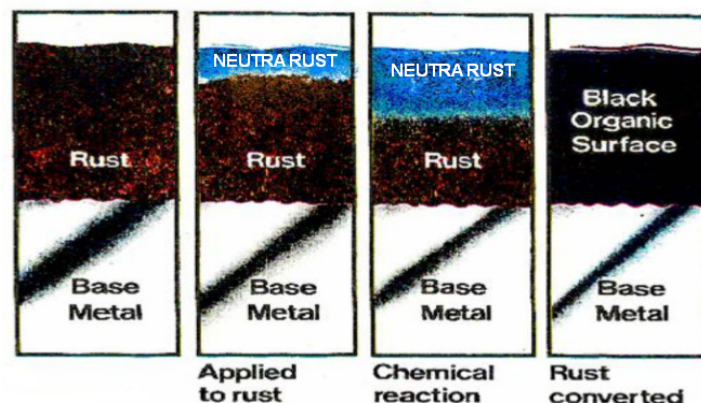
**Neutra Rust® 661 Rust Converter** is a unique corrosion control system for use on rusted ferrous metal surfaces. The ferrous surface to be protected is converted on contact to a complex organic iron compound by the unique deoxygenating agent incorporated in the **Neutra Rust® 661 Rust Converter**. This black, corrosion-resistant layer is formed by utilizing all the surface moisture and oxygen during the reduction reaction. The special copolymer latex emulsion system dries to form an impermeable barrier to oxygen and moisture.

**Neutra Rust® 661 Rust Converter** must be applied only to rusted ferrous metals, such as iron steel. It may be applied to damp rusted surfaces.

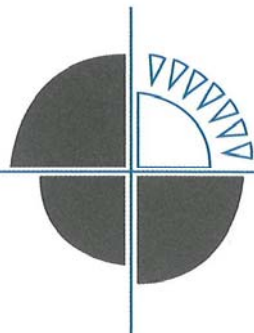
**Neutra Rust® 661 Rust Converter** is water based and solvent free. It contains no harsh phosphoric or hydrofluoric acids, making it safer for employees and for the environment.

### Theory behind Neutra-Rust

Newly formed rust is chemically ferric hydroxide ( $\text{Fe}(\text{OH})_3$ ) or iron which has reacted with oxygen (air) and moisture. Iron can combine with oxygen to form a variety of oxides depending on conditions of exposure. One of these oxides is magnetite ( $\text{Fe}_3\text{O}_4$ ) or ferroferric oxide, a stable compound which does not readily change as exposure conditions change. This stability is the basis for the protection. Neutra-Rust reduces ferric hydroxide to ferrous oxide, then combines with the ferrous oxide to ferrous oxide to form an organic ferroferric complex which, similar to magnetite, is passivated. When incorporated into a coating system the chemical action of Neutra-Rust is maintained.



The above illustration shows a cross-section of rusted metal before, during and after treatment with NEUTRA RUST® 661.



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### Technical Data

Composition :	Copolymer latex with chelating agent.
Appearance :	Colour – milky, off-white solution, mild odour. After application and chemical reaction, colour changes to turquoise and dries to black, semi-gloss finish.
Viscosity :	600-900 cps – Brookfield No.7 @ 25°C Solid Content: Volume solids = 39%
Specific Gravity :	1.2
pH :	1.0 – 2.0
Flashpoint :	58°C ( 134°)
Non-flammable :	Dry film is fire retardant. BS 476 Part VII Class 1(1987).
Toxicity :	Low-greater than 2000 mg/kg (Rat). Will stain skin – wash off immediately.
Storage :	Between 5°C (40°F) and 30°C (86°F).
Shelf Life :	12 months (once opened)
Average coverage :	Depending on the surface condition (rough, smooth or depth of rust etc.)
1Litre :	One coat applied at a wet thickness of 75 -100 microns covers 10 to 12m <sup>2</sup> producing dry film thickness of 24 – 40 microns.
Adhesion :	Cross – hatch over rusted steel G+0, less than 5% removed.
Permeability :	20-25g/m/25mm/day
Chemical Resistance :	Spillage – resistance to acids and alkali splashes, not resistance to prolonged contact with solvent causes softening which will recover.

### READ ALL PRINTED INFORMATION BEFORE USE INITIAL TEST AREA IMPORTANT:

It is recommended an initial test area be tried at all times in the relevant weather / application conditions and with the other materials involved, ensuring compatibility of **Neutra Rust® 661 Rust Converter** with the rust surface to be used for over coating etc.

### Application temperatures:

Should not be applied to cold metal at or below the dew point or hot metal above 40°C (105°F). The coating gives excellent protection at temperatures between -50°C (-60°F) and 50°C (112°F) continuous use.

### Surface Preparation

**Remove loose scale, flaky rust, rust dust, all old paint and dirt with wire brush. Reduce any high peaks of rust.**

**IMPORTANT:** These peaks must be adequately covered by **Neutra Rust® 661 Rust Converter**. Acid, alkali, salt-sea water, sodium chloride, grease, oil and chemicals – remove with High Pressure Water Hose industrial solvents, detergent water wash and then rinse surface with cold water. Paintwork blistered by rust should be scraped down to the hard rust surface.

**DO NOT REMOVE ALL TRACES OF RUST. RUST IS NECESSARY FOR THE COMPLETE CHEMICAL REACTION OF Neutra Rust® 661 Rust Converter TO TAKE PLACE. APPLY TO HARD RUST.**

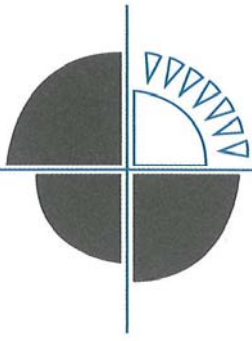
**WHITE BOLLMING AND FLASH RUST PHENOMENON** – to avoid flash rusting (small pinheads of rust) thick coats of **Neutra Rust® 661 Rust Converter** should not be applied to bright metal / semi-rusted surfaces in **LOW TEMPERATURES AND VERY SLOW DRYING CONDITIONS** and **ACID / ALKALI** cleaners must be washed off above.

**AREAS OF DEEP PITTING – WORK Neutra Rust® 661 Rust Converter WELL IN WITH BRUSH.**

### Dispensing

**CONTAMINATION OF Neutra Rust® 661 Rust Converter**

**BEFORE USE POUR INTO NON-METALLIC, TO AVOID THE TRANSFER OF RUST PARTICLES INTO NEUTRA RUST Neutra Rust® 661 Rust Converter CONTAINER, DO NOT POUR UNUSED PORTION BACK INTO ORIGINAL CONTAINER. DO NOT DIP BRUSHES INTO ORIGINAL CONTAINER.**



## Neutra Rust® 661 Rust Converter

**High Performance coating  
No Shot – Blasting**

### Application

**DAMPEN PREPARED RUSTED SURFACE FOR BETTER ADHESION AND FOR WORKING IN Neutra Rust® 661 Rust Converter.**

**INLAND ATMOSPHERE** – apply 2 coats.

**HIGHLY CORROSIVE ENVIRONMENTS** i.e. salt water / marine, desert, sand, chemical atmosphere etc. apply 3 coats.

During application **Neutra Rust® 661 Rust Converter** changes colour from **OFF-WHITE** to **GREEN / BLUE** to **BLACK**. At the **GREEN / BLUE** stage, continue brushing for a further 2 or more minutes and allow to dry for the chemical reaction and conversion of the rust surface to take place. Surplus **Neutra Rust® 661 Rust Converter** may cause staining of surrounding paintwork if allowed to dry. Remove surplus immediately – refer to section on Cleaning of Equipment or Spillage.

**Neutra Rust® 661 Rust Converter is self-priming and will accept most paints. LEAVE 24-72 HOURS OR LONGER TO DRY HARD BEFORE APPLYING UNDERCOATS / TOPCOATS OF PAINT WHEN APPLYING LIGHT-COLOURED TOPCOATS ENSURE THAT THE UNDERCOAT (1 or 2 coats) IS APPLIED TO MASK OUT THE BLACK Neutra Rust® 661 Rust Converter COATING.**

**SPRAYING – DILUTE BY UP TO 20% WITH WATER.**

Touch dry – summer 1 hours, winter 2 hours. Between coats 12 hours.

### **CLEANING OF EQUIPMENT OR SPILLAGE**

Use detergent water wash and rinse with water.

### **Product Testing**

NEUTRA RUST 661

#### **Salt spray test:**

Dry film thickness 120 microns, ASTM B117, up to 800 hours no rust.

#### **Adhesion:**

Cross hatch over rusted steel, GT 0 less than 5% removed.

#### **Permeability:**

20-25 g/m<sup>2</sup>/25µm/day.

#### **Pencil hardness:**

2H to 3H (on rusted steel).

#### **Chemical resistance:**

Spillage-resistance to acid and alkali splashes. Not resistant to prolonged contact with aliphatic or aromatic solvents. Prolonged contact with solvent causes softening with will recover.

**MINISTRY OF DEFENCE APPROVAL NUMBER: 0473-225-1984.**

**NATO CODIFICATION NUMBER: 8030-99-225-1984.**

### **WARNING**

**NOT TO BE USED INSIDE OF POTABLE WATER TANKS OR SURFACES TO BE IN CONTACT WITH DRINKING WATER. Neutra Rust® 661 Rust Converter MUST NOT BE SWALLOWED.**

If swallowed, wash out mouth with milk or water and give milk or water to drink. If in any doubt as to effectiveness of treatment or if a substantial amount has been swallowed, obtain medical attention immediately. Harmful by inhalation – Treat symptomatically. Eyes – Splashes to the eyes should be removed by washing with eyewash solution or water for at least 10 minutes. Skin – Splashes should be washed off with water and soap as soon as possible.

**SLIGHT IRRITANT. KEEP OUT OF REACH OF CHILDREN.**