# World's No. 1 Corrosion Encapsulation\*

**Revolutionary Patented Aluminium Corrosion Protection** 

## Tough Environments ... Get The Competitive Edge

NO PUSH THE NO PUSH

## **ISO 9001 CERTIFIED**

## **Rust Grip<sup>®</sup> = No More Corrosion!**

Rust Grip<sup>®</sup> is a paradigm shift as a highly innovative and unique encapsulation corrosion protection coating that anchors into the surface to completely suffocate air and moisture!



\* A long-term lab and field study by Chevron and Workstrings International Rust Grip® Rated No. 1 by the Society of Petroleum Engineers

## **Rust Grip® will Future Proof!** Blocking the World's Corrosion!

**Rust Grip®** was specifically developed in the field to **stand up against the harshest environments** demonstrating excellent performance and a **paradigm shift** in corrosion coatings technology. **It 100% covers any rusted areas to stop corrosion in its tracks.** 

**Rust Grip**<sup>®</sup> is a tough, **one-part, moisture-cure polyurethane coating** that absorbs atmospheric moisture to cure. It is patented and loaded with unique aluminium pigments (not zinc) for strength and is also resistant to chemical solvents, acid splash and **encapsulates asbestos and lead based paint**.

It completely fills the pits, cracks and pores of the metal substrate unlike a surface topical glue coatings, then uses the atmosphere to anchor in, cure, seal and encapsulates to a very high 0.24 permability. **When you remove the possibility of moisture and air mixing; you remove the corrosion issue.** 

**Rust Grip**<sup>®</sup> offers a simple solution for true encapsulation. A one-coat system that can be applied over a variety of surfaces that meets or exceeds stringent registrations, certifications and testing is truly a paradigm shift that **lasts over 20 years. Rated number 1 for corrosion coatings!** 

## **Rust Grip's uniqueness:**

- 🕜 One-Coat System Primes, Protects, Topcoats
- 🧭 Minimal Surface Preparation
- 💋 Surface Tensile Strength 6,780+ psi
- 🕑 Encapsulation
- 💋 Lasts over 20 years
- 🕑 Surface Tolerant
- 🕑 Permability just 0.24
- 💋 60°C Surface Temperature application
- 🅑 Fireproof Class 'A' rating
- 🕜 Passed 15,000 hours (=30 years) of salt spray
- 🕜 Proven globally for over 30+ years
- 🗸 Aluminium is stronger No More Zinc!



Rust Grip<sup>®</sup> not only generates barrier protection, but also galvanic protection and encapsulation of the substrate. Rust Grip<sup>®</sup> has been used successfully in the harshest environments; chemical fields, oil fields, marine, oil rigs and in areas that demand resistance to the corrosive effects of day-to-day exposure. Imagine: 3 days work in a single day, at half the price and double the corrosion protection performance!

Think it's too good to be true...it's possible with **Rust Grip**®!

## Save \$250,000 per well Rust Grip® Rated No. 1 by the Society of Petroleum Engineers



A long-term lab and field study by **Chevron** and **Workstrings International** published by the **Society of Petroleum Engineers**, tested 18 different coatings on drill pipes for eight years. Drill pipes are the toughest environment anyone can ever imagine and **Rust Grip**® was the top performer. In that paper they highlight the cascading benefits that came from solving the corrosion problem. You solve the corrosion problem, that's already millions of dollars in savings and then because you're not having to swap out these drill pipes so often, you're saving millions in logistics.

"Beyond the goal of eliminating corrosion and pitting-related damages, the introduction of externally coated completion tubulars has facilitated a **paradigm shift** in the way operators manage rental completion tubulars."

"This coating system provides a **trouble free solution** and **significant cost savings** to the operator and pipe rental company through reduction in pipe repairs and damages; loss of capital assets; and rig time due to pipe issues, fluid issues and corrosion issues."

"The **savings** realized in connection repairs alone is estimated to **exceed \$250,000 per well.**"

Rust Grip® coated pipe returned after 3 back-to-back deep-water completions over an 8 month period

Uncoated drill pipe returned after a single deep-water completion





## How Rust Grip<sup>®</sup> Works

## **Rust Grip®** is a patented, unique aluminium nanoparticle galvanic protection and substrate encapsulation coating...not a topical surface zinc primer. It's second-to-none which means vou're protected for a very long time!

Rust Grip<sup>®</sup> is a one-coat, patented encapsulation-interior and exterior-surface protection coating that also acts as a full containment covering single component polyurethane formula applied directly to rust or blasted metal surfaces and rated to 6,780 psi (478 bar) surface tensile strength.

**Rust Grip**<sup>®</sup> is tested to encapsulate:

- Corrosion Flash, Mill Scale and Pack Rust
- Lead-based paint
- Asbestos
- Bio-hazardous materials

Rust Grip<sup>®</sup> is a liquid reinforcement coating designed to totally seal air, moisture and chemicals out of virtually any surfaces. As an encapsulating coating it stands up to abrasion, direct impact, acids, salts and caustic materials with no loss of strength.

Extremely tough, Rust Grip® anchors itself inside the pores of the metal surface or surface rust to block moisture and air from developing corrosion. It is extremely effective against all corrosive or biohazard environments.

With minimal preparation and in many cases no sandblasting of the surface, **Rust Grip**® applies with one single coat, "two/three applications," and penetrates deep into and seals the pores of the surface to become part of the surface profile using the humidity to cure.

With a permeability rating of just 0.24 a little after one hour of application Rust Grip® is

easy to use and stops the progression of rust and corrosion, while protecting the substrate far longer than traditional, surface gluing, industrial grade rust inhibitors.

## The long term performance is outstanding!

Rust Grip® on Venezuela **Drilling Platform** 

0115

salt fog testing

= 30 Years















## **Rust Grip's Proven Global Efficiency**

Rust Grip<sup>®</sup> creates an unsurpassed protective surface that's been proven through on-site evaluations and real-world applications in the field.

#### **US Army Corps of Engineers**

- Most consistent performer
- · Exceeded adhesion requirements
- · Outperformed all other coatings
- Only '3 in 1' coating solution to pass rust evaluation requirement.

### Michigan City, Indiana -**Blue Chip Casino**

- Bare, Rusted 1-year-old steel was used on boat before application.
- · Boat was entirely coated with **Rust Grip®**
- No white metal blast was required before coating and all corrosion issues were solved
- Rust Grip<sup>®</sup>, Enamo Grip<sup>®</sup>, Moist Metal Grip<sup>®</sup> and Super Therm<sup>®</sup>.

### **Vinton Louisiana Bridge**

- · Coated with **Rust Grip**<sup>®</sup> in April 1996 for testing in salt air, warm and highly humid environment
- Other competing corrosion coatings failed
- Has maintained high performance since original application on 1996.

#### Nigeria Offshore Applications

- · Years of exposure to saltwater, salt spray, sun, abrasion and extreme temperatures caused excessive deterioration of original coating
- Two coats of **Rust Grip**<sup>®</sup> were applied in addition to Moist Metal Grip and Enamo Grip
- Piping used for offshore drilling operations was completely restored.

#### Louisiana Department of Transportation

A leg on the Mississippi 190 Baton Rouge Railroad/Passenger Car Bridge was coated with **Rust** Grip<sup>®</sup> "without any prep" in 2003 and inspected in 2010 by NACE III Engineering Group finding no corrosion and no bleed through, and rechecked in 2013 confirming no corrosion development. From this Performance, the QPL (Qualified Product Listing) for **Rust Grip**® was issued.

## Asbestos encapsulation approved at Saudi Aramco Oil to last for a minimum of 50 years.

**Rust Grip**<sup>®</sup> experiences no loss in performance over it's 20+ year life expectancy in the harshest environments.

### **Industry Compliant and Trusted**

- USDA Product Safety Branch
- DNV (Det Norske Veritas)
- Louisiana Department of Transportation
- Georgia Department of Transportation
- IMO (International Marine Organisations)
- · ABS (American Bureau Of Shipping)
- US Coast Guard
- Exova Laboratories
- Petrobras
- . Tennessee Department Of Transportation
- University Of Kentucky
- Workstrings International
- Transport South Australia .
- LEED<sup>®</sup> Compliant
- Masdar

ÏH

9001:2015

- FM Approved
- FAA Building Restoration Specification





- · Perfect Score of 10 at only 150 Microns DFT
- No Bubbles or undercutting along the scribe

Passed  $\mathbf{000}$ nours

salt fog testing 30 Years





**Rust Grip®** can be applied while sailing on the oceans. moisture Cured!

**Blue Chip Casino Boat** protected with Rust Grip® and no blasting saving over \$1m 





## Rust Grip<sup>®</sup> Stops the World's Corrosion Challenges

**Rust Grip**<sup>®</sup> is used all over the world to help industries in need of innovative corrosion control solutions.

Its ability to be applied to metal, concrete and even wood makes it effective for quick application and labor savings. See how the industries represented here have made simple improvements with **Rust Grip®** that continues to make all the difference.

## Global Organisations using Rust Grip®

- Halliburton One of the world's largest oil field service companies
- Eni SpA Italian multinational oil and gas
- Pemex Oil Mexican state-owned petroleum
- Saipem SpA Italian multinational oilfield
- Chevron American multinational energy
- Saudi Aramco Oil Saudi Arabian oil
- Gazprom Oil Russian state-owned oil
- **Petrobras** State-owned Brazilian multinational corporation in petroleum
- **Shell Global** Group of energy and petrochemical companies
- **ExxonMobil** American multinational oil/gas
- Rowan Companies, Inc. leader in domestic and international oil drilling
- **Drydocks World** Dry docks facility Persian Gulf, Dubai, United Arab Emirates
- Ecopetrol State-owned Colombian petroleum
- Mubarak Marine Marine and offshore service organization based in Dubai
- Berkshire Hathaway Energy Power and energy distribution companies
- Workstrings International The only global provider of (high-specification) downhole rental tubulars and accessories for drilling
- United States Army & Taiwan Navy

## **Rust Grip®** Applications

Storage Tank

Pipelines

Bridges

- Ballast Tank
- Separation Vessels · Marine
  - Offshore Drilling Rig
  - Drill Pipe Risers
- Metal Roofs
  Ship Hull
  Concrete
  Corrosion
  - Corrosion Under Insulation
  - Hoover Dam Bridge
- Floors

Ship Deck









**Rust Grip**<sup>®</sup> application on Zachry Cranes, Houston, Texas



Rust Grip® on Vicksburg Bridge



Application on oil tanks in Belgium



LNG Tankers coated in **Rust Grip**® and Enamo Grip® in the UAE



Pipelines in difficult environments



Rust Grip<sup>®</sup> applied to BP Fuel Terminal, Birkenhead, South Australia



Workstrings International Drill Pipes

Rust Grip<sup>®</sup> Encapsulates and protects for over 20 years

## **Rust Grip® - Australian Standards** Surface Preparation

### **SSPC Paint 41**

Rust Grip<sup>®</sup> is a revolutionary coating; too advanced for Australia Standards 2312.1 for paint coatings. Rust Grip's formulation is like no other 'type' in the world and is highly unique. Working with the manufacturers Superior Products International II. Inc. we categorised Rust Grip® as SSPC Paint 41.

#### **Surface Preparation**

For Surface Preparation, **Rust Grip**<sup>®</sup> is surface tolerant like the mastic but instead of a glue its a penetrating solvent which goes into the metal's pores, thus encapsulates. It does everything in SSPC Paint 41 and more. When the US Army tested other SSPC Paint 41 coatings, no other coating passed both corrosion and adhesion like Rust Grip®.

For Surface Preparation we can go ST 3, Sa 1, Sa 2, Sa 2.5, but in our opinion, it is **Sa1 (NACE 4)**, unless you have brand new steel with mil scale in which case it needs Sa 2 (NACE 3).

DFT is 100 micron each coat, 3 coats = 300-micron total DFT, if you need a colour substitute the 3rd coat of Rust Grip® for our epoxy Enamo Grip® at the same DFT, so that your system is always 300 micron DFT either all 3 coats as Rust Grip<sup>®</sup> or Rust Grip<sup>®</sup>, Rust Grip<sup>®</sup>, Enamo Grip<sup>®</sup>.

#### Lifespan

When it comes to system life span add 5 years on top of what **PUR 6** already has on C2-C4 = 25+ years on C5 I and M = 5-10. In the **US ASTM E 1795** is the EPA approved test for encapsulating lead-based paint. Rust Grip® is a penetrating coating, after a lead-based paint surface is coated you can essentially demolish the structure without risk of lead rust becoming airborne.

#### **Compare with Traditional Zinc Corrosion coatings**



Can pressure clean, light commercial blast, or power hand tool to remove loose flake and debris before applying. Surfaces should be clean, dry and sound. Existing surface dirt, oil, tar, grease and film should be removed from surface by approved methods prior to application of Rust Grip®.

Refer to full application instructions for complete preparation and application.

#### **Rust Grip® SPI Temperature/Humidity Chart**

These are estimates and are due to fact that coating in uncontrolled conditions results and variables can effect these times. Weather can change significantly over the time periods.

#### **Approximate Time to Overcoat Window**

RH	<b>32°C</b>	<b>21°C</b>	10°C
90%	1 hour	1.5 hours	2-3 hours
80%	1 hour	1.5 hours	2-3 hours
60%	1.5 hours	1.5-2 hours	3-4 hours
40%	1-2 hours	2-4 hours	6-8 hours
30%	2-3 hours	3-6 hours	10-14 hours
20%	6 hours	8-10 hours	12-16 hours
10%	12 hours	12-18 hours	18-24 hours

RH (Relative Humidity) guide only

Times are estimates of how long it will take **Rust Grip**® to enter the overcoat window when the next coat may be applied. The definitive test for when **Rust Grip**® may be over coated remains the "touch" test when the coating may be touched with no colour transfer, and no damage with thumbnail.

	I raditional Zinc coating	Rust Grip® Aluminium coating
Installation	<ul> <li>Requires lengthy sandblasting</li> </ul>	Minimal surface preparation
Application	<ul> <li>Involves multiple coats Epoxy</li> <li>3 Coat Systems</li> <li>4 Coat Systems</li> </ul>	<ul> <li>Polyurethane moisture-cure metallic, that cures faster. The higher the humidity the faster the curing</li> <li>Total application time maybe reduced by 75%</li> </ul>
Moisture Prevention	Limited protection from mould and mildew	<ul> <li>Stops water vapor transmission through electro-chemical freezing</li> </ul>
Longevity	Shorter lifetime endurance	Penetrates deep into pores of surfaces
Corrosion	<ul> <li>Not effective at blocking long- term degradation</li> </ul>	Adds strength to weakened surfaces
Repair and Maintenance	<ul> <li>Requires continual repair or complete overhaul</li> </ul>	<ul> <li>Reduced surface preparation and efficient application yields cost savings</li> </ul>
Surface Preparation	<ul><li>Sandblasting</li><li>Sa 2.5, NACE2, SSPC10</li></ul>	<ul> <li>Cost is reduced due to high surface tolerance of Rust Grip®</li> <li>SSPC1+SSPC2+SSPC3, St.2+St.3</li> <li>Grit/Garnet cost eliminated or reduced by up to 75%</li> </ul>
Encapsulation	• Unable to encapsulate	• Encapsulation of Asbestos, Lead-based paint and Bio-hazards
Configuration	<ul> <li>Multi-component system with various mixing ratios</li> </ul>	<ul> <li>Self priming</li> <li>Single-component system consists of only RUST GRIP®</li> </ul>
Performance	<ul> <li>Limited Performance</li> <li>Cannot match Rust Grip's Laboratory or field performance</li> </ul>	<ul> <li>Perfect Score:</li> <li>ASTM B117 Salt Spray Fog Test: 15,000 hours = 30 years</li> <li>ASTM D5894 Standard Practice for Cyclic Salt Fog/UV Exposure of Painted Metal; 10,000 hours</li> <li>ASTM E1795 Standard Specification for Non-Reinforced Liquid Coating Encapsulation Products for Leaded Paint in Buildings</li> </ul>



## Rust Grip<sup>®</sup> Encapsulates Asbestos and Lead-based paint

**Rust Grip**<sup>®</sup> is able to encapsulate asbestos, lead-based paint and other bio-hazards materials making it truly unique.

#### Lead based paint encapsulation using Rust Grip<sup>®</sup> at Fort Bragg, North Carolina aimed to stop corrosion but also contain the harmful lead-based paint on the buildings.

Traditionally prior to re-coating steel structures, abrasive blasting would be required in order to remove the old lead-based paint and to provide adequate surface profile for bonding the new paint to the substrate.

During abrasive blasting, a tight containment structure is required to prevent lead dust from contaminating air, soil or water. Inside such containment structures, increased worker protection is required due to high lead dust concentrations. The large, concentrated volume of waste generated by abrasive blasting is hazardous and requires additional stabilization treatment prior to disposal. **Rust Grip® eliminates sandblasting, containment and associated costs.** 

Numerous steel structures on the base such as water tanks, bridges, aircraft hangars, antennas, ladders, poles, railings, catwalks, fire hydrants, fuel storage tanks and metal buildings were constructed or installed with lead-based coatings. The use of **Rust Grip**® has ensured the bases' infrastructure rehabilitation is more affordable, safer and lasts a very long time.





Rust **Gri** 

### Encapsulates 18 layers of lead paint

Two micro photographs below taken at 30x zoom by VTEC Labs of a cross section of cement board with 18 coats of oil based paint. The board with the **Rust Grip®** coating shows the penetration of the coating through the lead-based paint.

US Army Corps of Engineers

#### 1/4" Cement Board with 18 coats of oil based paint and 200-250 microns (8-10 mils) wet of **Rust Grip**®



#### 1/4" Cement Board with 18 coats of oil based paint



### Why Rust Grip<sup>®</sup> is the World's Best Corrosion and Encapsulation Coating

- Rust Grip<sup>®</sup> used in Australia since 1997
- **Single Component** No mixing part A & B; no pot life, no catalyzation
- One-Coat System
- Fast Cure humidity accelerates curing ie over 40% humidity 3 coats in a day micro climate is the key
- Surface Tolerant Unique for a Polyurethane Rust Grip<sup>®</sup> on any surface. Excellent for minimally prepared surfaces, ie. no sandblasting is needed many times
- Embeds and Encapsulates; Not just a surface coating
- Limited Surface Preparation
- Self Priming "Three coats in one" system
- I product shows up to the job site
- Surface Tensile Strength 6,780+ psi (478 bar) surface tensile strength
- **Strength** Non leafing aluminium metallics
- Permeability Rating 0.24 (below 0.5 is excellent)
- UV Protection
- EPA Approved around food
- No More Zinc Aluminium is a stronger and better
  long-term investment
- Easy to Apply Brush, Spray or Roller
- Endures 29,700 rub cycles not exposing existing lead paint
- **Higher Surface Temperature** 60°C (Zinc has maximum temperature at 50°C) more application time in the heat

- **Protects** steel, aluminium, concrete, wood, fibreglass, lead-based paints, and other substrates
- Moisture Barrier that stops water penetration, prevents corrosion and surface deterioration, repels dirt, mould, and mildew
- Long Shelf Life 3 years if unopened
- Patented Bio-hazard Encapsulator Asbestos, lead-based paint, and many hazardous materials and existing rusted surfaces certified (ASTM E1795)
- Breaks The Rules Better Results
- No Hot Permit Required 60% of the cost reduced in the surface preparation removing clean up, containment, sound as factors)
- Use in Dangerous environments Use No Spark Hand tools for preparation of Corrosion and High Pressure Water 6000+ psi removes loose corrosion
- **Submersible** in 100% nitric acid without any effects. Designed to withstand acids, salts, and caustics with no loss of integrity (use **Moist Metal Grip** for high moisture / submersed environments and surfaces)
- Class A fire coating In case of fire, Rust Grip<sup>®</sup> will help to prevent spread of and will not contribute to the fire
- 20+ year lifespan under normal conditions
- **Passed 15,000 hours** (= 30 years) of salt spray testing which far exceeds the marine specifications with a perfect 10 score with no corrosion development (ASTM C117)

## **Future Proof with Tough Protection**<sup>™</sup>



At NEOtech Coatings Australia we understand from our seas to the cities, the outback to the tropics the barrage of heat, fire, corrosion, acids, mould, bio-fouling, lead paint and asbestos encapsulation is unyielding.

As the environment constantly changes, industry assets and infrastructure for companies, government and residence face a relentless attack from both the natural environmental and man-made contaminants.

Defending against these attacks and finding sustainable, long lasting, trusted and proven solutions is a challenge. That's why **NEOtech Coatings** with **Superior Products International II. Inc.** are working hard for you to have outstanding solutions. **Rust Grip**<sup>®</sup> has proven to block corrosion and in many cases lasts over 20 years!

We bring peace of mind to combating the contaminated environments across all industry sectors including business, government, trucking and transport, cool and cold storage, homes, schools and much more! Contact us today to start truly blocking the rust and any other nasties!

### Rust Grip® Physical Data

- Solids: By weight 62.2% / By Volume 51.4%
- **Coverage:** 2.9m2 per litre (100 / 400 Sq. ft per gallon) 25-50 dry microns on metal aim to cover the highest corrosion peak
- Cure time at 70°F (21°C): 45 min 2 hours to touch. Overcoat with RUST GRIP® or other coatings immediately after surface is dry to the touch to achieve proper adhesion. Higher temperatures and humidity will shorten cure times, lower temperatures will slow curing. Must be overcoated within 2 hours or within 1 hour after reaching the dry-to-touch stage, or the surface must be lightly sanded to achieve good adhesion.
- Cures by reacting to moisture in the air
- Weight: 1.1 kilogram per litre
- Surface Tensile Strength: 6,780+ psi
- VOC Level: 380 grams/litre (3.17 lbs/gal)
- USDA Approved: Lead and Chromate free (safe around foods)
- Impact Resistance: 200+ psi front/160+ psi back
- Shelf Life: up to 3 years (unopened) see MSDS
- **Temperature:** Withstands temp after curing up to 163°C • **Surface Application:** All

**Note:** Will accept other coatings such as ENAMO GRIP® and SUPER THERM®, but will not accept itself after 4 hours). *Visit neo.cool for full Technical and SDS pdfs* 

### **Protect Your Industrial Assets**

