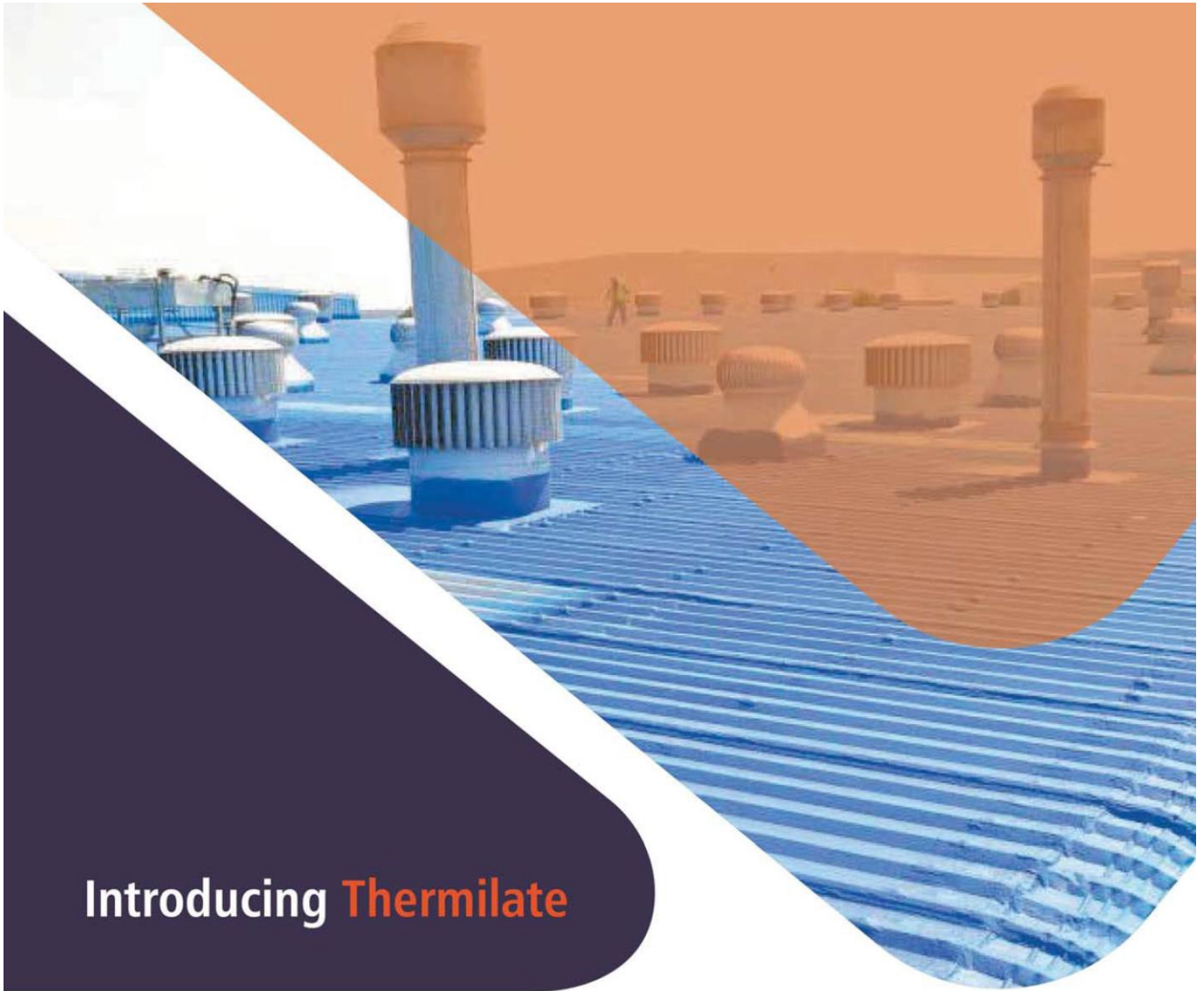




TECHNICAL SUBMITTAL



Introducing **Thermilate**

Thermilate Technologies UK, a 20 years old trusted manufacturer of energy saving and waterproofing products utilized in the protection, maintenance and energy saving of roofs and walls. We are one among the fastest growing energy saving innovators within the world today offering a big range of advanced, yet simple to use energy saving products.

Our partner office, Thermilate Middle East Trading LLC, Dubai has established as a trusted partner and solution provider in Middle East, Africa and South Asia region for last 19 years within the field of Metal Roof waterproofing and energy saving coatings.

Our achievements have mainly been a result of experienced and dedicated work force, who contribute with constant effort to provide best services to the clients. With ISO 9001 & OSHAS 18001 quality and safety certification, we are tested for years in providing best quality solutions to our reputed clients. Our achievement includes getting qualified as Dubai Civil Defence approved contractor for Fire coatings

We offer high quality coating solutions for a variety of applications like Metal Roof Waterproofing, Heat Reflecting Coatings, Decorative & Insulating Glass coatings and Rust Arrestor coatings. Our energy saving coatings added with ceramic spheres are tested for high Solar Reflective Index and identified as a sustainable product. Our broad portfolio of high performance coatings help us to meet many industry demands. **Saves energy saves money.**

THERMILATE MIDDLE EAST TRADING L.L.C, P.O. BOX 234195, AL QUSAIS, DUBAI, U.A.E.

Email: thermilate@eim.ae; Tel: +9714-2511390 • Fax: +9714-2511349; Web: www.thermilate.ae



INDEX:

- INTRODUCTION-RUST
- RUST BULLET CATALOGUE
- RUST BULLET DATA SHEET
- COVENTIONAL COATING VS RUST BULLET
- RUST BULLET TECHNOLOGY
- APPLICATION PROCEDURE
- LAB TESTS
- APPLICATION IMAGES

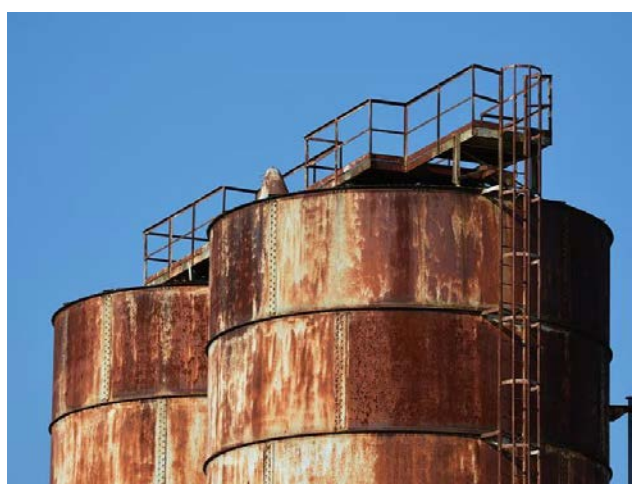
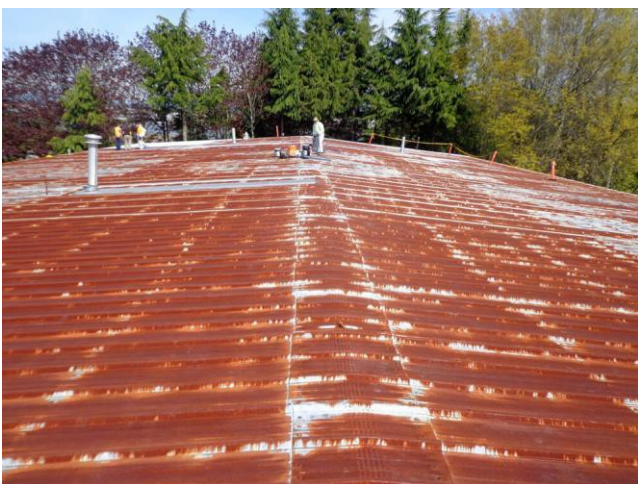
INTRODUCTION:

What is Rust?

Rust is an iron-oxide, usually reddish-brown oxide formed by the reaction of iron and oxygen in the catalytic presence of water or air moisture.

Given sufficient time, any iron mass, in the presence of water/moisture and oxygen, could eventually convert entirely to rust.

Below are some of the rust images:



Rust Bullet

This is a single component Protective Coating System. Rust Bullet can be applied directly onto Rusted/ Clean surfaces.



RUST BULLET Technology

- ❖ When applied, Rust Bullet® does not form a film immediately.
- ❖ It penetrates the porous rust/ dehydrates/ dries out the corrosion by a chemical activity, and solidifies into a tough coating.
- ❖ The corrosion particles become intertwined in the resin matrix and remain as a permanent part of the coating.
- ❖ The subsequent coats of Rust Bullet® fills any pinholes in the first coat and build up to become a nearly impenetrable coat.
- ❖ The layers of interlocking Al flakes form a new surface that protects the metal against corrosion attack, the Al flakes also serves as sacrificial anodes.
- ❖ The polyurethane component provides an anti-moisture function and UV resistance.
- ❖ When all components combined together, Rust Bullet becomes corrosion free, fire retarding, chemical resistance and armor like coating.





Rust Bullet Application Procedure

- Remove any loose rust and loose paint on the surface.
- Rust Bullet Coatings should be stirred prior to application.
- Apply Rust Bullet onto the surface to achieve a total thickness of minimum 100 microns
- Rust Bullet can be applied using Brush, Roller or Spray.

Conventional Coating System Vs. Rust Bullet Solution

Conventional Coating System

When using Conventional Coating Systems, proper surface preparation process is required for the success of the Coating project. The common practice is to blast clean the surface to the specified cleanliness standard and generate a Surface profile of 2 to 3 mils. Followed by that apply the selected Protective Coating System.

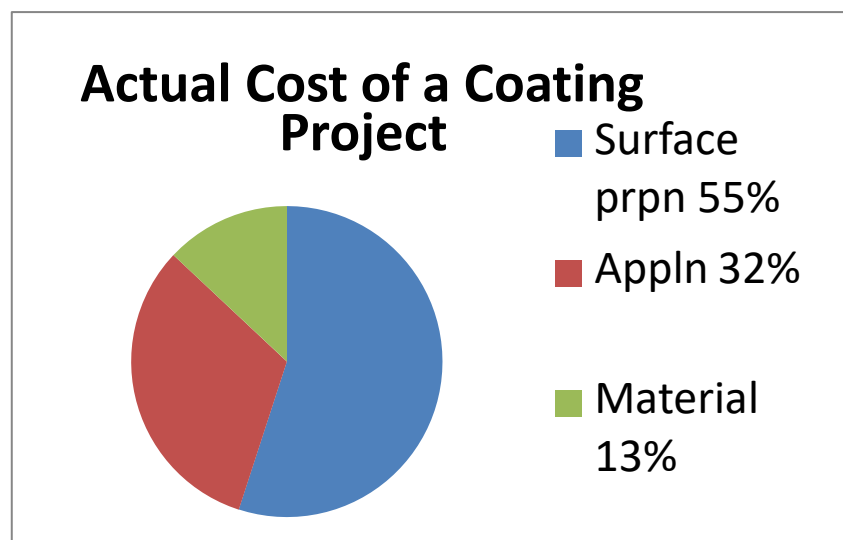
➡ **This method is Costly and Time consuming.**

Rust Bullet Solution

The surface to be protected is directly coated with Rust Bullet with Minimum/No surface preparation.

Direct Cost Benefit

The major cost in any coating project is Surface preparation. With Rust Bullet this cost is almost eliminated.





Conventional Coating System vs. Rust Bullet Solution

Conventional Coating System – Application Procedure

Completely remove the rust from the surface to bare steel by Abrasive Blasting operation. If previously coated, re-store the existing surface profile OR generate required profile on new pipe surfaces. Apply the selected conventional coating system.

Draw Backs of Conventional Coating System

- Mobilization of Blasting Unit to the site is highly expensive
- Safety issues while working on heights during Blasting operation under high pressure
- Hot work permit required
- Removal of debris generated from blasting
- Environmental pollution
- High-cost involvement
- Lack of UV resistance / weather resistance of conventional coating systems

Rust Bullet Solution – Application Procedure

- Remove loose rust from the surface by using a paint brush/ emery paper.
- Apply Rust Bullet to a thickness of mote than 100 microns



WELLS RUST, REMOVES RUST & PROTECTS ALL SURFACES

- **Little to No Surface Preparation**
- **Bonds to all Surfaces**
- **5-10 Years Warranty**
- **Temperature Resistance up to 156 Deg C continuous & 329 Deg C for 72 hours**
- **Excellent Chemical Resistance**
- **UV Resistant**
- **Drinking Water Approved**
- **Superior Resistance in Marine / Offshore Environments**
- **Scratch and Chip Resistant**
- **IACS Approved**

**Unique Protective System
for
Industrial / Offshore / Marine**



Rust Bullet for Industrial Applications

Rust Bullet's Superior Technology permanently stops Rust and Corrosion. This Corrosion/Rust control product is effective on both clean and rusty surfaces. Rust Bullet do not require multiple steps of application with highly trained work force and ideal working conditions. It bonds to various surfaces such as metals, concrete, wood, fiberglass and almost all other firm substrates.

Standard Applications

- Tanks
- Vessels
- Clarifiers
- Heat Exchangers
- Pipe work
- Cooling Towers
- Water/Chemical Channels
- Condensates
- Containment Areas
- Dikes
- Manholes
- Structural Steelwork
- Submersible Pumps
- Ducting
- Metal Roofs
- Warehouses
- Industrial Utilities
- Concrete Floors
- Process Areas
- Fan Blades
- Manufacturing Facilities



Rust Bullet for Offshore and Marine Applications

Protecting Offshore / Marine equipments and structures have become very effective and long lasting with Rust Bullet patented technology. This Coating System exhibits excellent resistance to the harsh environments in the Offshore & Marine facilities. Rust Bullet's versatility provides exceptional protection from the damaging effects of extreme weather conditions, abrasive objects, aggressive chemicals and other destructive elements.

ABS APPROVED



Rust Bullet on Tug Boats

Rust Bullet On 43 Inch Trawler

Rust Bullet On Battle Ship

Standard Applications

- | | | | |
|-------------------------|-------------------|-------------------|--------------------|
| ➤ Offshore Structures | ➤ Fender Supports | ➤ Wooden Piers | ➤ Quays |
| ➤ Offshore Platforms | ➤ Drill Ships | ➤ Tankers | ➤ Dredges |
| ➤ Steel/Concrete Piers- | ➤ FPSOs | ➤ Wharfs | ➤ Research Vessels |
| ➤ Ballast Tanks | ➤ FSUs | ➤ Container Ships | ➤ Ocean Tugs |
| ➤ Marine Buoys | ➤ Docks | ➤ Bulk Carriers | ➤ Marine Rails |
| | | | ➤ Cruise Ships |



Rust Bullet on Offshore / Marine Structures



Rust Bullet has been awarded an unprecedented two United States patents on its two new technologies on one rust and corrosion control product. Advanced new technologies provide phenomenal adhesion resulting in unsurpassed rust protection. All Rust Bullet coatings are UV and chemical resistant.



Super-Tough, High Performance, Industrial Grade, Protective Coatings

We Offer Total Solution Package:

- Site Inspection***
- Technical Recommendation***
- Coating Consultation***
- Installation Assistance***



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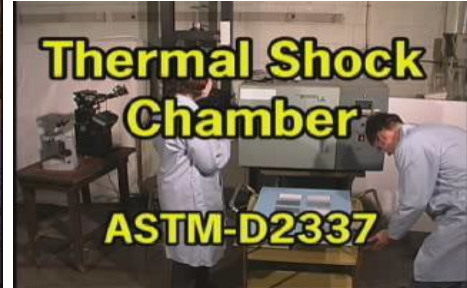


RUST BULLET® ENGINEERING DATA SHEET

<ul style="list-style-type: none"> • Weight per gallon: 9.0 – 9.2 lb • Pigment type: Aluminum • Flash Point: 123° F (Flash Point is the minimum temperature at which an open flame can ignite the product.) • Volatile Organic Content (VOC): 277 g./liter • Viscosity: 380-550 cP • Theoretical coverage: 250-450 sq. ft. per gal., depending on surface. • Solids by volume: 70.6% • Recommended dry film thickness: 3-4 mils DFT (applied in 1-2 wet coats) Avoid excessive films • Temperature Resistance: 314°F Continuous, 625°F for periods up to 72 hours • Chemical Resistance: Excellent • Recoatability: with Rust Bullet® after 2-72 hours. Other coatings after 24 hours • Color: Metallic-Aluminum • Finish: Semi-gloss • Cure Time: Handle: 1 -2 Hours Touch: 30-60 minutes, depending on ambient temperature and relative humidity Recoat: 2-72 hours. Cure time varies with relative humidity, temperature and thickness of film (24-72 hours) • Shelf Life: 2 years provided containers remain unopened and stored between 50°-100°F. • Taber Abrasion: 14,000 cycles, (1000 gram load, CS-10 wheel @ 6 mils DFT) • Intercoat Adhesion: Excellent 	<p style="text-align: center;">Typical Uses</p> <p>High performance protection for steel and iron applications, such as industrial, marine, farm, automotive, and any place where rust is a problem.</p> <hr/> <p style="text-align: center;">Advantages of Rust Bullet</p> <ul style="list-style-type: none"> <input type="checkbox"/> Easily applied and “forgiving” under less than desirable application conditions <input type="checkbox"/> High solids content provides the coverage necessary to accommodate and penetrate irregular and rusted/corroded surfaces <input type="checkbox"/> Single component <input type="checkbox"/> Excellent resistance to weather and mechanical abuse <input type="checkbox"/> Excellent chemical resistance <input type="checkbox"/> Excellent abrasion resistance <input type="checkbox"/> Excellent adhesion <input type="checkbox"/> Excellent UV resistance <input type="checkbox"/> VOC compliant <hr/> <p style="text-align: center;">Product Description</p> <ul style="list-style-type: none"> <input type="checkbox"/> Single component, moisture cure primer/finish <input type="checkbox"/> High solids, VOC compliant coating <input type="checkbox"/> Extremely tough, scratch and chip resistant coating <input type="checkbox"/> Color: Metallic-Aluminum
<p>Suggestions for use</p> <p>Avoid ingestion, contact with skin or eyes. The use of safety glasses and chemical gloves is recommended. When brushing or rolling at elevated ambient temperatures (above 79°F) or when spraying, a self-contained breathing apparatus is recommended. See Material Safety Data Sheet before use.</p>	
<p>Surface Preparation</p> <p>Metal must be free of loose rust, oil, grease, wax, and moisture. This may be achieved by light scraping; a detergent or solvent wipe may be used if necessary. For more information:</p> <p>RUST BULLET LLC ~ 300 Brinkby Avenue, Suite 200, Reno, NV. 800-245-1600 www.rustbullet.com ~</p> <p><small>Information contained herein is, to our best knowledge, true and accurate, but all recommendations or suggestions are made without guarantee. Since the conditions of use are beyond our control, Rust Bullet, LLC (the Company), disclaims any liability incurred in connection with the use of our products and information contained herein. No person is authorized or empowered to make any statement or recommendation not contained herein, any such statement or recommendation so made shall not bind the Company. Furthermore, nothing contained herein shall be construed as a recommendation to use any product in conflict with existing patents covering any material or its use. The information is furnished upon the condition that the recipient shall make his own determination concerning suitability for his particular application.</small></p>	

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Lab Tests conducted on Rust Bullet



G 153



D 2794



APPLICATION IMAGES







