



Believe what you see



★ **Products approved by NABL Lab**



ISO 9001 : 2008 Certified Company

We, at Krystal Surface Solution, manufacture wide range of surface treatment chemicals for different applications suiting various industries and application areas. We provide complete cleaning solution for Stainless Steel related products and equipments for safe in-house **Pickling and Passivation** for various kinds of job capacities. We also have the professional, sophisticated and fully integrated technically upgraded lab with latest lab equipments. We consistently strive to solve surface related issues of various industries by offering best quality products.

RUST CONVERTER 177

For Steel to Increase the Paint Life

Product Description

Rust Converter 177 is an innovative product based on the latest technology in rust converters. The distinctive formula of this product accounts for its dual functionality. Rust Converter 177 is a single pack ready-to-use solution which on applying converts the existing steel rust into a stable metal complex by forming a polymeric film over it. The polymeric film acts as a protective coating preventing further corrosion which in turn acts as an ideal base for painting.

Rust Converter 177 reacts with all the layers and forms a stable non-reactive complex organo-metallic surface having bluish-black colour. In addition, this innovative product arrests the migration of ions, preventing electro-chemical corrosion process and prolongs the paint life for a reasonable period of time, resulting in considerable savings.

Advantages of Rust Converter 177

1. Converts existing rust into stable metal complex, forms protective coat and prevents further rusting.
2. Eliminates complicated usage of sand blasting, wire brushing and mechanical grinding, saving time and labour.
3. Converts the complete structure rust oxide into stable metal complex minimizing the labour cost.
4. Enhances 10 times life at a marginal extra cost when compared to the conventional products (non-film formers), offering better protection.
5. Does not require intensive surface preparation except for proper cleaning of pitted iron surface.
6. The product being a water based system, is environment friendly, non-flammable, non-toxic and neutral when compared to other solvent based systems.
7. Capable of withstanding general temperature shocks without becoming chalky or brittle.
8. Provides an aesthetic and convenient to maintain rust-free surface when applied to the surface.
9. Easy to apply using roller or brush.

How to apply

1. In the corroded steel segment, remove off the loose and flaky rust by mechanical means i.e. use wool, chipping, wire brushing etc. depending upon the intensity of rust.
2. Ensure that the surface requiring treatment with Rust Converter 177 is free from paint coat, oil, grease, etc. Then, apply Rust Converter 177 properly with brush, spray, and roller or by dipping on the affected area with uniform strokes for achieving a uniform coat on the steel surface.
3. Use a non-metallic container for removing Rust Converter 177.
4. Let the first coat dry completely for 12 hours to ensure the complete reaction of Rust Converter 177 with rust. Then, the surface is ready to receive any kind of further coat.
5. Rust Converter 177 is brown in colour when applied. Complete protection is obtained within few minutes and as soon as the coated surface changes its colour to either jet black or bluish-black, depending upon the kind of rust present on the coated surface.
6. Avoid applying coating if rain and extreme temperature conditions are expected within 6-8 hours of application.



Areas of Application

Structural steel tankers (road & sea), overhead water tanks, heavy drilling rigs, chemical process equipment and storage tanks, pipe and tube stock, bridges, conveyors, automobile dickeys, cranes, concrete reinforcements, pipelines etc. and practically in all kinds of industries where problem of rusting of iron exists.

Coverage and Shelf Life

Rust Converter 177 covers about 30sq.m/litre (depending upon the surface texture and porosity of the substance). It has unlimited shelf life when stored in a cool and dry place. Avoid direct sunlight and seal the container properly. Avoid mixing unused and used Rust Converter 177 together; or else rust present in used Rust Converter 177 can induct chemical reaction in unused Rust Converter 177.

Packing: 1, 5, 30, 50 kg plastic Carboys

Safety and Handling Precautions

Avoid direct contact with skin, mouth, and eyes. If in contact with skin, mouth and eyes, rinse off with water and get immediate medical check-up. Use of eye shield and gloves is recommended while using Rust Converter 177.

SPATTER REMOVER 511

Innovating the Art of Welding

Spatter Remover 511 is an innovative product that has transformed the welding methods. This innovative product is silicone free, non-flammable, non-toxic, and non-polluting – Welding Anti Spatter and flux in emulsion form.

Advantages of Spatter Remover 511

Spatter Remover 511 is applied before starting the welding procedure for achieving the below mentioned benefits:

1. Grinding and Chipping not needed for removing spatters.
2. Slag are easily removed.
3. Drastic reduction in cleaning cost by about 70%.
4. Dense and clean weld joint.
5. Gaseous and non-metallic inclusions are minimized.
6. Tremendous improvement in the efficiency of welder.
7. Gently removes spatters thus maintains smooth parent surface.
8. Eco-friendly product as it is free from chipping & grinding procedure.
9. Preferred by ISO-14000 organization, no health hazards thus safe for welders.
10. Enhances mechanical and metallurgical properties of weld metal.

Spatter Remover 511 is time-tested by NABL recognized lab in Mumbai, India whose results are officially approved by several Government departments & third party inspection agencies.

Spatter Remover 511 proves efficient when undergone various mechanical tests such as bend test, load test, tensile test and radiography test, showing advancement in weld joint quality with use of Spatter Remover 511.

Due to this technological breakthrough product, you will completely eliminate laborious & time-consuming chipping and grinding operations required for removing weld spatters thereby obtain better weld joint quality.

Product Features

Spatter Remover 511 is an innovative product in welding process technology that will improve the quality of weld metal.

Features of Spatter Remover 511:

- 1. Incombustible, non-toxic and safe to use.
- 2. Non-pollutant thus environment friendly.
- 3. Silicone free.
- 4. Emulsion form – use special spray bottle or apply with brush.
- 5. Easy to apply on required area, no wastage.
- 6. Easily removed from metal surface after welding for further painting.
- 7. Tremendously reduces noise & air pollution in the workshop meeting the World Health Organization (WHO) guidelines for the industry.
- 8. Enhances depth of penetration as the heat loss from top of the weld metal is held by the film, conserving around 5-10 percent of energy.
- 9. Acts as a temporary rust preventive for about 10 days (helpful in avoiding V-groove flash rusting and hence abandons re-grinding of V-groove prior to welding).



Suitability of Spatter Remover 511

Spatter Remover 511 can be applied to any kind of weld metal including arc, manual, CO2, argon, MIG, etc. for any kind of ferrous materials such as CS, SS, MS and all alloy steels. Spatter Remover 511 is ideal for fabrication of industrial equipments, tanks, boilers, vessels, pipelines, fabricated pinions and gears etc.

How to apply

- 1. Stir the product well before using.
- 2. The application surface must be free from grease, oil etc.
- 3. Apply a thin and uniform film of Spatter Remover 511 on any metal surface with any brush; or use a special spray bottle/system on both sides of welding surface – prior to welding. (Around 3–4 inches where spatters are likely to stick).
- 4. Start welding on the metal surface to be welded only after Spatter Remover 511 has dried completely.
- 5. Remove Spatter Remover 511 film along with welding spatter particles using a separate fresh cloth or a dry brush, any time after welding.
- 6. For spraying application, Spatter Remover 511 can be diluted up to 10% by soft water.

Metallurgical Aspects of Spatter Remover 511

- 1. The steel and weld metal contains 0.01% - 0.02% and 0.02% - 0.03% oxygen content respectively. Excess oxygen can have adverse consequences on the mechanical properties of the weld metal (especially impact strength) apart from formation of additional Ferrous Oxide.
- 2. Oxygen content in weld metal varies depending upon the welding current, arc length, and the sort of shielding employed. The coating of the electrode upholds a shield of slag that is not sufficient (even with standard quality of electrode) to have lower level of oxygen in the weld metal.
- 3. The contact of air with the weld pool may also increase the nitrogen content in the weld metal which is harmful. In open arc welding, weld metal contains 0.12% - 0.18% nitrogen, while the parent metal contains merely 0.001% - 0.008% nitrogen. The gaseous inclusions lower the impact strength of the weld metal which in turn leads to weld failure.
- 4. The coating of Spatter Remover 511 aids to eliminate this problem in the weld pool. This coating acts as a flux when the arc is formed by formulating a film over the weld metal. This film protects this weld pool from the surrounding air, which is mostly very active, thus minimizing the reaction of oxygen and nitrogen with the surrounding area. This activity gives a clean and dense weld with enhanced mechanical and metallurgical properties.

Refinement of Metal

Apart from protecting the weld pool from the atmosphere, the coating that acts as a flux also partially removes oxygen from the molten metal by the process of de-oxidation. The oxides being lighter than metal formed by the process of de-oxidation of the weld pool floats up, and are removed along with the molten slag. Spatter Remover 511 helps to refine the weld metal thus improves the mechanical properties. As slags do not stick to the surface, it is easily removed. Deep penetration of the weld metal is yet another achievement.

Noise / Air pollution control comparison with Spatter Remover 511

- 1. It provides dense and clean weld metal.
- 2. It helps to eliminate the chipping and grinding process to remove spatters required for clean surface.

The second feature of this compound has become more pronounced as it has direct impact to maintain the clean environment needed at the work place in any industry. This has been noticed by a number of senior executives from various industries especially the ISO-14000 organizations. It is crucial for them to maintain their work place clean for which they need to compromise on a various process/products, which are not environment friendly.

In such circumstances, the use of Spatter Remover 511 helps to avoid a precarious situation because of its anti-spatter compound properties. It is advantageous since the absence of chipping and grinding process improves the environment of the working place thereby reducing the noise and dust pollution as shown under:

Categories	Noise pollution	Air pollution (Concentration of SPM*)
Without coating	150db (A) leq (8h) and above	More than 1200 mg/m3
With coating of Spatter Remover 511	50db (A) leq (8h) and below	Up to 150 mg/m3
Permissible limit of WHO for industries	Up to 75db (A) leq (8h)	Up to 200 mg/m3

*** Solid Particulate Matter**

As is evident, it reduces the SPM (Solid Particulate Matter) concentration in the working place from as high as 1200 mg/m3 to below 150 mg/m3; though the recommended level is 250 mg/m3. To maintain the healthy working standard in a workshop and to improve the environment at the working place, WHO has specified a minimum level of noise and air pollution (refer table), beyond which it creates health hazards. The manual of ISO-14000 too supports this aspect.

Spatter Remover 511 can be used for metal plate gas cutting operation to get rid of metal particles using a separate dry brush.
Spatter Remover 511 can be applied on any metal and for any type of welding application.
Spatter Remover 511 can be used any time before welding and clean it any time after welding.

★ STAR™ NOZZLE GEL

Lubricating & Resisting Spatter while MIG Welding

Product Description

STAR™ Nozzle Gel is manufactured using supreme quality of raw materials and is used for Torch Gun Nozzle. With regular use, it extends the life of nozzle and contact tips. It creates an anti-spatter film that does not clog orifices & threads. It eliminates erratic operation.

STAR™ Nozzle Gel helps to prevent spatter and spatter build-up. It is suitable to use on semi-automatic and automatic MIG gun nozzle and other welding equipments. It is well-suited for fixtures and jigs and prolongs life of nozzle tip by preventing spatter build-up on tip.

Features of STAR™ Nozzle Gel

1. Non-toxic and non-flammable.
2. Non flashing, biodegradable and paintable.
3. Silicone-free for easy application.
4. Odourless.
5. Does not contain fluorocarbons or any ozone depleting chemical.
6. Does not cause porosity.
7. Eco-friendly product.
8. Excellent cooling properties for longer tip and nozzle life.



How to apply

Dip the gun 1cm-2cm into STAR™ Nozzle Gel and start welding operation. Then remove the spatters which have been stick around the contact tip and inside the nozzle. Brush onto positioner and fixtures.

Packing: 300 gm Bottle

Safety and Handling Precautions

Avoid contact with eyes as the material is slightly discomforting to the eyes. Avoid prolonged skin contact as it may cause drying of the skin. Use in a well-ventilated area, however STAR™ Nozzle Gel is not normally a hazard due to the non-volatile nature of the product.

For industrial use only

This information is based on our current level of knowledge. It is given in good faith but it is not intended to guarantee any particular properties. The users must satisfy themselves that there are no circumstances requiring additional information or precaution or verification of details given herein.

Services

- ★ Services available all over India.
- ★ In-house lab deposit analysis.
- ★ Customized chemistry solutions for removing tough and adherent surface deposits.
- ★ Wide range of fully transportable equipments and lab facilities.
- ★ Evaluation & System Inspection for recurring corrosion problems.

Local Agent Stamp


Krystal Surface Solution

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