



RUST BULLET, LLC
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ACID RAIN CORROSION

H²S (Hydrogen Sulfide) is released from various industrial plants and rises to the atmosphere. It reacts with the cool misted air, condenses and falls off as an acid rain. Hydrogen sulfide occurs naturally in the environment (volcanic gases, marshes, swamps, sulfur springs, decaying organic matter). It is produced by living organisms, including human beings, through the digestion and metabolism of sulfur-containing materials. It is also a byproduct of many industrial processes, such as paper manufacturing, sewage treatment, landfills, or concentrated animal feed operations. Common symptoms of exposure to long-term, low levels of hydrogen sulfide include headache, skin complications, respiratory and mucous membrane irritation, respiratory soft tissue damage and degeneration, confusion, impairment of verbal recall, memory loss, and prolonged reaction time. Exposure to high concentrations can cause unconsciousness, known as "knockdown," and can be lethal. The three types of H²S corrosion are;

1. H²S pitting round based, deep with steep walls and beveled edges and is usually scattered over the entire surface;
2. H²S scale is a tightly adhering black scale, is highly insoluble and cathodic to steel, accelerating corrosion penetration rate;
3. H²S embrittlement, which causes the fracture surface to have a brittle or granular appearance. The crack point may or may not be visible.

Rust Bullet is an effective barrier coating that prevents acid rain corrosion. The surface must be degreased using Rust Bullet Metal Blast, abraded by mechanical means and degreased again. Drop a very small amount of water on the substrate surface, if it spreads and forms a thin film, no oil residue remains on the surface. If the water forms a droplet, the surface requires additional degreasing. Use a clean white cloth or white paper towel to brush the surface gently. If there is no stain or debris picked up, the surface is properly prepared and ready for application of Rust Bullet.

For outdoor applications, it is important to prevent the once properly prepared surface from contaminations prior to the application of Rust Bullet, during the application of Rust Bullet and throughout the curing process. Careful planning should prevent the majority of the contaminations and ensure the properly prepared surface does not have exposure to falling acid rain or acid fog during preparation and application as this will cause coating failure. If the project is in close proximity to the sea, embedded salts must be addressed as residual salt crystals can cause bleed through over time. Since salt crystallizes and is easily trapped in cracks or pitted surface, it is important to use a suitable cleaning treatment process to remove the salt crystals. Using pressure washing with mild detergent, followed by fresh water rinse should be sufficient.

A properly prepared surface and properly applied Rust Bullet coatings will provide the best available protection from acid rain corrosion, saving these substrates from fatigue and failure for many years.