

Overview

Zingard can easily be compared to Zinc Thermal Spraying as both rely on the cathodic protection properties of zinc in order to shield the steel substrate from corrosion. Although comparable in the mechanism of the protection they give, Zingard degrades at a far lower rate allowing it to protect the steel for longer at any given coating thickness. Additionally Zingard has a number of critical advantages over Hot Zinc Metal Spraying that this document aims to highlight.

Advantages

- Unlike Zinc Thermal Spraying which requires very expensive specialist equipment and training, Zingard can be applied relatively cheaply by suitably equipped and experienced blasting and painting applicators.
- Unlike Zinc Thermal Spraying which produces both toxic fumes and air pollution, Zingarding is a “green” process with no hazardous by-products.
- Unlike Zinc Thermal Spraying which requires high temperatures, Zingarding is a cold process so there is no fear of distortion in thin materials or long components.
- Unlike Zinc Thermal Spraying which produces a non-homogeneous layer, multiple coats of Zingard re-liquefy to produce a single homogeneous layer.
- Unlike Zinc Thermal Spraying which is significantly porous and only increases in porosity, fully cured Zingard continuously blocks the zinc pores with carbonates and oxides thus creating a constant resistance to saline attack.
- Unlike Zinc Thermal Sprays which require sealing with an epoxy primer immediately after they cool down, Zingard requires no additional products.
- Unlike Zinc Thermal Spraying which can be limited by equipment access and the tight application tolerances, Zingard can be applied by a variety of methods to blast cleaned steel.
- Unlike Zinc Thermal Spraying which requires an SA3 blast-cleanliness, Zingard can be applied to steel blasted to only SA2.5.
- Unlike Zinc Thermal Spraying which requires a totally dry surface, Zingard can be applied to damp steel.
- Unlike Zinc Thermal Spraying, metal that has been coated with Zingard can be welded to X-ray standard without the need to grind the edges.
- Unlike Zinc Thermal Spraying which becomes hard and fatigues, Zingard can withstand unlimited cyclical vibration.
- Unlike Zinc Thermal Spraying which is brittle and can delaminate, Zingard is flexible enough to allow Zingarded sheet to be formed into shape *after* it has been coated.
- Unlike Zinc Thermal Spraying, Zingard is certified as non-flammable to BS476 parts 6&7 and when exposed to extreme heat it produces very low levels of smoke with corresponding low levels of toxicity.
- Unlike Zinc Thermal Spraying which has a limited pH tolerance of pH5-pH9, Zingard can tolerate contact with substances with a pH range of pH3-pH11.

Disadvantages

- Unlike Zingard which has a matt finish (the boundary layer of oxides which are vital to its longevity), Zinc Thermal Spraying has a relatively bright finish when new.
- Unlike Zingard, thermal sprays do not require a tie-coat when being top-coated with a paint system. A full coat of epoxy can be applied immediately.