

851 INORGANIC ZINC PRIMER

Description

Two component, Inorganic zinc rich Ethyl Silicate primer. Self-hardened industrial primer based on metallic zinc dust and ethyl silicate that form inorganic silicate oxide in the dry film. It contains at least 85% per weight zinc in the dry film. Provides proven electrocathodic anticorrosive protection even in the most difficult chemical environment with excellent scratch resistance. The temperature resistance of this primer depends on the melting point of the zinc dust (420°C). The various drying conditions (temperature 0 °C to 40°C and moisture 60 to 100%), the adhesion (up to 35 µm dry film), the ability to be recoated with any coating system and the resistance to the sudden temperature changes are some of the quality characteristics of this product. It is recommended for areas where strong anticorrosive protection is needed such as chemical plants, energy production plants, shipyards and harbor equipment.

It is certified by a European Institute for its anticorrosive-protective properties according to standard ISO 12944.

Technical Information

Shade Grey of metallic zinc
 Gloss Mat
 Specific Weight (A) 3,10 kg/lit, (B) 0,93 kg/lit,
 (A+B) 2,05 (±0,05) kg/lit (EN ISO 2811)
 Solids (A+B) 48 ±2% by volume
 71 ±2% by weight (EN ISO 3251, non-volatile)
 Theoretical Coverage 4,80m²/kg /50µm, (9,6m²/lt/50µm)
 Mixing ratio A:B-2,7:1 by weight, (A:B-0,82:1 by volume)
 Pot Life 8 hr (25°C)
 Temperature Resistance Up to 420 °C
 VOC* READY FOR USE (+0% THINNING) MAXIMUM: 490 g/lit
 limits EE 2010: 500 g / lit
 SUBCATEGORY: j - Special two-component coatings, primer coat
 for ferrous substrates, Type SB

Drying Time

5 °C
 15 °C
 25 °C
 40 °C

	Touch dry	Drying	Recoating (Min)	Recoating (Max)	Full drying
5 °C	1 hr	16 hr	18-36hr	No limits	2-10 days
15 °C	40 min	10 hr	16-24 hr	No limits	1-7 days
25 °C	30 min	8 hr	12-18 hr	No limits	1-7 days
40 °C	15 min	4 hr	7 hr	No limits	½-4 days

The above times are indicative and refer to the specified temperatures, in dry film thickness of 50µm and relative humidity 70%.

Maximum recoating time is unlimited, but after properly surface preparation.

Surface Preparation

All applications on steel, including welding, cut with flame and smoothing, must be terminated before the preparation of the surface. All the remnants of welding process must be removed. Cleaning of the surface from dust and other materials like oil, grease etc. using detergent or water. The alkaline remnants of the recent welding joints as well as the traces of soap, must be removed with fresh water and rubbing. This primer is not suitable for cast iron, especially for porous cast iron. For better results, sandblast is recommended at least Sa 2 1/2, ISO 8501-1 or for prolonged exposure of the surfaces, Sa 3. The minimum film thickness must be 35-50 µm. Lower film thickness from the suggested, can cause bad adhesion and bigger film thickness can cause cracking. Before recoating, the prepared surfaces must be cleaned from dust and other materials like oil, grease etc. using detergent or water. Fixing of any damages caused during the transportation at least St 3 with 751 Zinc Rich Epoxy primer. Removal of white rust (products of zinc oxidation) with high pressure water.

When top coating 851 Inorganic Zinc Primer (and generally all zinc-rich primers) and especially in low temperatures, small bubbles may form in the wet topcoat from the escape of air or

Application

solvent vapors trapped in the porous binder. This effect may be avoided by expanding the overcoating intervals or/and by applying a mist coat (a thin, quick coat) and allowing it to dry (for about 1-2 hours, depending on the top coat) before applying a full topcoat. In any case, Inorganic Zinc Primer (and generally all zinc-rich primers) must be recoated with a tie coat (i.e., an epoxy intermediate) in order to create a surface with good aesthetic result.

A component, B component and the thinner are mixed together. The product is applied approximately 10 minutes after the mixture. It is applied with:
AIRLESS after 0-5% thinning with thinner (nozzle 0,43-0,58mm (0,017-0,023in))
AIR PISTOL (diameter: 2,0-2,2 mm, pressure: 3-5 bar) after thinning 0-5% with thinner

Suggested film thickness 50-75 µm (higher film thickness than 100-120 µm can cause mud cracking)

Application temperature 5-40°C

Substrate temperature 5-35°C

Relative humidity >60% (important: 60% minimum)

Dew point The substrate temperature shall always be at least 3°C higher than the calculated dew point.

Suggested thinners 1131-1120
The choice of suitable thinner depends on the application method, the temperature and the humidity conditions. For a suitable choice, please contact the technical department of our company.

It is reminded that this primer is based on ethyl silicate and needs high moisture (water) and high temperature for its polymerization. **The recommended conditions are temperature 25 °C and moisture 70%. In temperatures between 5 °C and 40 °C curing needs minimum 60% relative humidity.**

All the above conditions must be followed both during the application process and throughout the drying. In lower humidity levels, the curing is retarded. This may affect the drying and recoating times, the chemical and the mechanical properties of the film.

In this case the surface must be sprayed with a fine water mist about 30 min after application and for several times.

A safe method to ensure that the film is cured and ready to be overcoated is the Solvent Rub MEK Test according to ASTM D4752. (For more information, please contact our technical department).

Storage

Up to 3 months (B component), up to 8 months (A component), in a dry and cool place. (5-30°C).

Safety

Please consult the Material Safety Data Sheet. Available upon request.

This Technical Data Sheet replaces and cancels every previously issued. The information, instructions, recommendations and specifications mentioned in this data sheet, represent the results and experience obtained from testing under controlled or specially adapted conditions. The accuracy and relevance of these results to the actual conditions, in which you apply the product, must be determined and depend only on the purchaser and/or applicator.