

ETHYL SILICATE ZINC N 1661

PRODUCT DESCRIPTION

Two-component inorganic zinc ethyl silicate. Provides galvanic anticorrosive protection to carbon steel.

RECOMMENDED USE

Anticorrosive primer for protection of metal structures, plates, bridges, containers, and port cranes. Widely used in the offshore and naval industry, as well as maritime platforms. Suitable for internal protection of ethanol storage tanks (consult WEG Technical Department for more information).

CERTIFICATIONS AND APPROVALS

Complies with Petrobras Standard N 1661.

When supplied to comply with the ROHS Directive (Restriction of Certain Hazardous Substances), this product includes the letter R in its nomenclature description.

Complies with SSPC Paint 20 Composition and Performance Requirements Level 1.

Complies with ET-053 PEMEX standard, System 3.

Modified RP-4 B

PACKAGING

Component A	0.9L Package containing 0.65L
Component B	3.6L Package containing 2.95L

CHARACTERISTICS

Color	Gray.
Gloss	Matte
Volume Solids	52 ± 2% (ISO 3233)
Shelf Life	12 months
Dry Film Thickness	70 µm - 80 µm
Dry Heat Resistance	Maximum temperature 500 °C. The product maintains its chemical properties up to a temperature of 500 °C, but from 150°C, color and gloss variations in the paint may occur.
Theoretical Coverage	6,93 m ² /l without dilution at a dry film thickness of 75 µm. Loss factors during application are not considered.
Specific Gravity	Min: 7 Max: 7.2 g/cm ³

DRYING

Drying			
	10 °C	25 °C	35 °C
Touch	15 min	14 min	8 min
Manipulation	80 min	60 min	45 min
Final	192 hours	168 hours	144 hours
Recoat Drying			
	10 °C	25 °C	35 °C
Minima	24 hours	4 hours	2 hours
Maxima	-	-	-
Topcoat Recoat Drying			
	10 °C	25 °C	35 °C
Minima	6 hours	4 hours	3 hours
Maxima	20 hours	16 hours	12 hours

SURFACE PREPARATION



Standard Surface Preparation

The performance of this product is related to the degree of surface preparation. In case of doubts, for more information, consult WEG's Technical Department.

Remove accumulated dirt using a dry brush, clean dry cloth, compressed air blow, vacuum, or a combination of these. Remove soluble salts by washing with plenty of fresh water, preferably under low pressure (up to 5,000 psi), according to SSPC-SP12/NACE No. 5 standard.

Recommended Surface Profile

It is recommended a roughness profile between 40 and 85 micrometers.

Abrasive Blasting

For bottom, boot-top, and hull areas, it is recommended to paint on surfaces blasted to Sa 2½ or SSPC-SP10. Visual standard ISO 8501-1.

Inspect the freshly blasted surface, observing defects that may appear after treatment. Correct them by grinding, filling with welds and/or epoxy putty.

If oxidation occurs between the end of abrasive blasting and coating application, the surface must be blasted again until the specified visual standard is achieved.

APPLICATION PREPARATION

Mixing	Homogenize the content of component B using mechanical or pneumatic stirring. Ensure no sediment remains at the bottom of the container. Add approximately 40% of component B to component A, homogenize by mechanical or manual stirring until a smooth, lump-free paste is obtained. Add the remaining component B and homogenize. Pass the mixture through an 80-100 mesh sieve. Application should only be done with equipment that provides mechanical agitation during the entire application.
Mixing Ratio	By volume: 0.22 A x 1 B.
Thinner	ZINC ETHYL SILICATE DILUENT
Dilution	Depending on the application method, dilute to a maximum of 25%.
Notes	The amount of Diluent may vary depending on the type of equipment used and environmental conditions during application. Only add Diluent after complete mixing of the other components. Do not dilute with solvents not allowed by local legislation, and do not exceed the indicated dilution percentage. Excessive dilution may affect film formation, appearance, and make it difficult to achieve the specified thickness.
Pot Life	4 h The shelf life of the mixture is reduced as the ambient temperature increases. The pot-life test of the mixture is carried out according to ABNT NBR 15742; however, different volumes of paint prepared at once, combined with varying ambient and paint temperatures, will affect the mixture's shelf life, potentially resulting in outcomes different from those stated in this technical bulletin.
Induction Time	Wait 15 to 20 minutes before application. In very hot locations, we recommend consulting WEG's Technical Department.

APPLICATION METHODS

Conventional Spray Gun	Gun: JGA 5023-67 Devilbiss or equivalent. Fluid nozzle: EX or FF. Air cap: 704. Atomization pressure: 30-50 psi. Tank pressure: 10-20 psi. Thinning: 25%
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Airless Spray Gun	Airless: use minimum 60:1 pump Fluid pressure: 1500-2500 psi Hose: 1/4" inner diameter Tip: 0.015-0.021" Thinning: Max. 10%
Roller	Not recommended.
Brush	Recommended only for small area touch-ups or "stripe coat" (screws, nuts, weld beads, sharp corners, and touch-ups).
Cleaning of the equipments:	ZINC ETHYL SILICATE DILUENT
Notes	<p>The data presented serves as a guide and similar equipment may be used.</p> <p>Changes in pressures and nozzle sizes may be necessary to improve spraying characteristics. Purge the compressed air line to avoid paint contamination.</p> <p>Do not allow catalyzed product to remain in contact with application equipment, as at temperatures above the indicated "pot life", the paint will show variation in flow and will harden, making cleaning difficult.</p> <p>Before application, ensure that the equipment and respective components are clean and in optimal condition.</p> <p>After mixing two-component products, if there are application stops and the pot life has been exceeded (paint shows variation in flow), it can no longer be re-thinned for later application.</p> <p>Reinforce all sharp corners, gaps, and weld beads with a brush to avoid premature failures in these areas.</p> <p>Clean all equipment immediately after use.</p>

APPLICATION PERFORMANCE

During application, the paint must remain under constant agitation. Failure to agitate may cause zinc sedimentation, leading to coating defects such as lack of adhesion, cracking, and fissures. The same problems may occur when applying above the recommended thickness.

It is recommended that, before applying the subsequent coat, a curing test be performed with a specific solvent according to ASTM D 4752. A value of 4 indicates a satisfactory degree of cure, allowing reapplication.

For coatings applied in coastal areas exposed to sea spray, it is recommended to wash with fresh water between coats to remove deposited impurities.

Do not apply the product after the pot life has been exceeded.

No paint application should be performed during rain, fog, or mist, or when relative humidity is above 85%, nor when there is an expectation of reaching this value. In the case of zinc ethyl silicate-based paints, relative humidity must be between 60% and 85% to ensure proper curing of the coating. If it is necessary to assess the degree of cure, the procedure described in ASTM D 4752 standard must be used, or another under the guidance of the WEG Technical Department. No subsequent coat of paint should be applied without confirming the proper curing of the zinc ethyl silicate paint.

For optimal application properties, the paint temperature should be between 21°C and 27°C before mixing and application.

Painting is recommended only if surface temperature is at least 3°C above the dew point.

Substrate temperature, climatic and environmental conditions during application and curing, as well as applied film thickness, may affect drying time.

Small variations in color, appearance, and gloss (more noticeable in dark colors), as well as delayed curing and performance compromise, may occur during high humidity, rainy days, cold locations, or when parts dry outdoors.

SAFETY PRECAUTIONS

Product developed for industrial use intended for handling by qualified professionals. Carefully read all information contained in the SDS of this product, available at: www.weg.net.

Store in a covered and well-ventilated place. Keep the container tightly closed and away from sources of heat or ignition.

Use only in well-ventilated areas, avoiding the accumulation of flammable vapors. Keep the product away from heat and sources of ignition.



Do not inhale mists/vapors/aerosols generated during handling and/or application. Use protective gloves/protective clothing/eye protection/face protection.

Empty containers and materials with paint residues must be disposed of according to current legislation. Take care of the environment.

NOTE

The information contained in this technical bulletin is based on the experience and knowledge acquired in the field by WEG's technical team.

In the event of using the product without prior consultation with WEG regarding its suitability for the purpose for which the customer intends to use it, the customer acknowledges that the use will be at their own exclusive responsibility, and WEG is not liable for the behavior, safety, suitability, or durability of the product.

Some information mentioned in this bulletin is only an estimate and may vary due to factors beyond the manufacturer's control. Therefore, WEG does not guarantee and assumes no responsibility for performance, efficiency, or any material or personal damages resulting from the incorrect use of the products in question or from the information contained in this Technical Bulletin.

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