

Surface Preparation and Application of Ethyl Silicate Coatings

Technical Support Procedure TP-9204-18



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RONASS TECHNICAL SUPPORT TEAM

WWW.RONASS.COM | SUPPORT@RONASS.COM

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www.ronass.com



Introduction

Inorganic Zinc Silicate coatings are composed of two components (Ethyl Silicate and Zinc Powder) that undergo a chemical reaction once they have been combined. This chemical reaction happens between the two components, moisture, as well as the metal or steel substrate that the coating is being applied on. Ethyl Silicate coatings form a highly durable film which is extremely resistant to corrosion and heat. Due to the nature of these coatings, it is very important to observe the following surface preparation and application guidelines.

Please refer to the product's technical datasheet (TDS) for more information.

Surface Preparation

Prior to application of the coating, the substrate (Steel or Metal) should be completely clean and free of all possible contaminations and grease. Prepare the surface according to Swedish STD. Sa. 3 and use compressed air or a vacuum cleaner to remove any contaminants that are left behind from blasting.

Mixing Ratio and Instructions

Please refer to the specific product's technical datasheet (TDS) for specific mixing ratios and instructions.

Mix component A well before using and according to the code and technical specifications of the product, then add the component B slowly to it and continue to mix with electric or pneumatic mixer until you are left with a completely uniform mixture. Use the prepared mixture according to the Pot Life (the time allowed for color consumption after mixing the components) specified in the technical specifications.

After mixing the components, wait for the initial reaction time (pre-reaction Time) for 5-10 minutes. Once the pre-reaction period has passed, you may thin down the mixture using 3 – 5% T-767 (Ethyl Silicate Thinner) by weight if required. Do not thin down each component separately.

Application Conditions

Prior to applying the coating, observe weather conditions, the speed and direction of wind, ambient temperature and ambient humidity. Apply the coating using an airless or conventional spray system. Due to the nature of the coating and the tendency of zinc power to settle in the coating, it is highly recommended to continue to mix the coating during application.

Conditions for Completing the Reaction (Curing)

In Ethyl Silicate coatings, the chemical reaction that occurs between the coating's components and the metal substrate requires the absorption of humidity within suitable ambient conditions to complete its curing process. Therefore, if there is not enough moisture present, or if the ambient conditions are not suitable, the chemical reaction speed will be very slow. In these unsuitable conditions, it will be required to place the painted part in artificially created conditions where the reaction's moisture and temperature requirements are met.

In suitable conditions, the reaction complete after 24 hours, resulting in a durable film.

