Anupam Enterprises

Protective Coatings Division

Anuzinc 2001 TP

Inorganic Zinc Silicate Primer

Product Description

Anuzinc 2001 TP is a solvent based, high solids, self-curing, inorganic ethyl silicate, two-component zinc rich coating containing 83% by weight of zinc in the dry film.

Features and Benefits

- Ideal for high humidity, low temperature or very high temperature application conditions.
- With high concentration of zinc, assures optimum cathodic protection to the base metal.
- Displays 10 15 years performance in normal atmospheric exposures.
- Attains water resistance in 20 minutes of application.
- Unaffected by weathering, rain, dews, bacteria, fungus, etc. and has no tendency to blister on exposure.
- It has the unique ability to protect, should the coating experience minor damage such as scratching and gouging.
- Highly resistant to abrasion and mechanical damage.
- Can be used successfully as one coat maintenance coating or permanent primer in non-severe exposures or may be applied as a primer for subsequent application of organic topcoats for severely corrosive exposures.
- Has excellent chemical and solvent resistance.
- Ideal for shop or field application.
- Does not undercut or not susceptible to under-film corrosion.
- Has no deterious effect on normal cutting and welding operations.
- Heat resistant up to 400° C.
- Economical replacement for galvanizing at similar or better levels.

Recommended uses:

Drilling Rigs	Off-shore Platforms
Shipbuilding	Refineries
Underground Piping	Barges and Small Watercrafts
Chemical Plants	Power Plants
Pulp & Paper Mills	Cooling Tower Piping
Stacks and Hot Surfaces	Petro-chemical Industry
Water Treatment Plants	Internal Coating for Tankers, Containers, Pipelines
Drying Ovens	Material Handling Equipment
Nuclear Power Plants	Bridges

Resistance Guide:

Immersion Resistance @ 25° C

*Aetates, alcohols, aliphatic hydrocarbon solvents, aromatic hydrocarbon solvents, esters, gasoline, glycols, jet fuel, kerosene, ketones, motor oil.

Limits: <100 PPM water max.> (Note - 1 & 2)

*Chemicals with pH 6-10.

*Crude Oil Service limited to level of free sulfur content.

*Demineralized water, fresh water and sea water. (Note - 3)

Resistance to fumes, splash and spillage @ 25° C

Animal fats and oils - **Severe (Note - 4)** Fuels/Organic Solvents (except chlorinated solvents) - **Severe**

Notes:

- The resistance of the coating to denatured alcohol is dependent upon the type of denaturant used. Ammonium Hydroxide denatured alcohol is definitely unsuitable.
- Products such as esters, acetates and halogenated compounds tend to hydrolyze in presence of water and forms acids or alkalis. Water should not exceed 100 parts per million (PPM).
- Anuzinc 2001 TP has excellent resistance to cyclic sea water and fresh water exposure (including demineralized and distilled water), but coating life is reduced @ 25 microns per year under direct and continuous water exposure.
- Animal and vegetable oil and fats contain variable amounts of free acids according to origin and age of oil. The content of the *free fatty acid* should be less than 2% for satisfactory results.

Surface Preparation:

Steel - (Severe Service)

Steel surfaces should be blast cleaned to **SSPC - SP 6-63T** or **NACE No. 3** Commercial Blast Cleaning. That means a surface from which all oil, grease, dirt, rust scale and foreign matter have been removed except for slight shadows, streaks or discolourations caused by rust stain or mill scale oxide binder. At least two-thirds of any square inch should be free of all visible residues and the remainder should be limited to slight discolouration, slight staining or light residues mentioned above. Blast profile should not exceed 40 to 60 microns. Where the coating is required for immersion service or heavy corrosive conditions exist, blast cleaning to **SSPC - SP 5-63** White Metal Blast Cleaning is mandatory. That means a surface with a grey - white, uniform metallic colour, slightly roughened to form an anchor pattern for coatings. This surface is free of all oil, dirt, grease, mill scale, rust, corrosion products, oxides, paint and other foreign matter. Degrease the surface with tri-chloroethylene.

Galvanized Iron:

Small surfaces should be wire brushed or wipe cleaned. Large surfaces should be BRUSH OFF BLAST cleaned to **SSPC SP 7-63T** or **NACE No. 4** prior to painting. That means a surface from which oil, grease, dirt, loose rust scale, loose mill scale, and loose paint are removed but tightly adhering mill scale, rust, paint and coatings are permitted to remain if they are exposed to the abrasive blast pattern so that numerous flecks of the underlying metal are uniformly distributed over the entire surface.

Weathered Primer:

Weathered **ANUZINC 2001 TP** must be sweep-blasted with fresh water as zinc salts could develop if exposed for longer periods. Oil, grease, dirt etc. should be removed with degreasing solvents like trichlroethylene and subsequently washed off with fresh water. Allow the surface to dry completely before painting.

Repair or Touch-Up:

If the coating is applied for repair or touch-up work only, use needle gun or spot-blast to **Near White Metal (SSPC SP 10-63T)**. Clean surrounding weathered zinc coating with stiff brush or high-pressure water. Surface must be dry before painting.

Priming:

ANUZINC 2001 TP is moisture curing coating and cures by absorbing atmospheric moisture. Curing is rapid in warm and high humidity conditions and slower in cold and low humidity conditions. When applied below 60% relative humidity or on hot surfaces or on interior objects, curing will be retarded and hardness should be checked before top coating. Hosing down the surface with a low-pressure water spray can accelerate development of curing. It is recommended to leave the coated objects or surfaces exposed to the weathered elements for two or four weeks to achieve maximum cure.

Top Coating:

Suitable top coating will provide additional service life in severe service environments. **Anuzinc 2001 TP** should not be top coated until fully cured. Coin hardness is one of the best methods used to determine adequate curing. Simply rub the primer with the edge of a coin; if the film burnishes, it is acceptable. If the humidity is low, it is recommended to hose down the coated surface with a low-pressure water spray. Otherwise, longer time periods are requires for top coating. If the topcoats are applied over uncured coating, the topcoats will pinhole or delaminate from the coating. While top coating provides thorough ventilation, suitable application and surface temperature conditions. Avoid dry-spray of topcoats. If pin holing develops, apply a first coat of material reduced 1:1 with recommended to reduce up to 15% with **ANUSOL-123** when the first coat is dry-to-touch. If the first coat is weathered and exhibits salt formation, sweep blasting between coats is recommended and the surface must be allowed to dry before re-coating. Recommended topcoats are epoxy, urethane, vinyl, chlorinated rubber, coal tar epoxy, acrylic latex based coatings.

For high temperature conditions, it can be over coated with <u>HEAT GUARD - 650</u> coating. Though the intermittent heat resistance of **Anuzinc 2001 TP** is 400° C, if top coated with HEAT GUARD 650, the dry heat resistance will be 540° C.

Application Procedure:

Anuzinc 2001 TP comes into two pre-measured containers which when mixed, provide of ready-toapply material. No *sweat-in* period is required. Mix enough material to apply within 8 hours at normal temperature and humidity. Stir *Binder* portion thoroughly. With continuous air driven agitation, slowly stir all of *Zinc Dust* into all of binder until mixture is completely uniform. Never add the liquid or Binder portion to the Zinc Dust component. Material should be filtered prior to application. Always re-stir mixture prior to use if allowed to stand longer than 5 minutes. Do not use or try to reclaim heavily thickened material with solvents. Best control of film thickness is obtained over large areas by using an air-less spray with Re-circulation Chamber Valve. This is also the best way of maintaining a good suspension and avoiding waste of material. If Pressure Pots are used, they must be fitted with an agitator or an efficient stirrer. Use agitator pressure pot on same level as, or above spray applicator. Pressure pots, mixing containers and fluid feed lines must be clean and dry since moisture in equipment or air supply will cause gellation. Pressure will depend upon ambient temperature and hose length which should be shortest convenient.

Application by brush is recommended for touch-up or repair work only. Clean brushes with **Anuslol** - **123.** Continue mixing all the times. Application by conventional spray is also possible. Add 5% to 10% of Anusol – 123 Thinner in order to attain spraying consistency.

Material should be thinned if required by job conditions to obtain full wet coats without dry spray. In hot or windy weather, coating can be reduced up to 10% with recommended thinner. In this condition, the gun should be held closer and pressure should be reduced as much possible to avoid dry spraying. Cold weather applications require slight reduction to obtain spraying viscosity. In normal weather conditions, it should be applied without reduction.

Name/Description	Anuzinc 2001 TP
Туре	Two pack self-curing
Composition	Ethyl Silicate / Metallic Zinc.
Colour	Greenish Grey
Finish	Smooth Matt
Volume Solids (mixed)	61± 3%
Pot Life @ 50% R. H. @ 30° C	8 hours
Coverage-(theoretical-no loss)	8.13 m ² /litre @ 75 microns
Dry film thickness per coat	75 microns
Dry heat resistance	400°C
Serviceability @ 30° C -Dry to touch -Dry to handle -Re-coat	Within 30 minutes 3-4 hours 24 hours
Place in Service -Atmospheric -Immersion	7 days 30 days
Application Temperature -minimum -maximum	0° C 38° C
Relative Humidity	20 to 90%
Resistance to corrosion under conditions of condensation @ 38° C for 2000 hours. (ASTM - D 2247)	No Failure
Resistance to Salt Spray for 2000 hours (ASTM - B 117)	No Failure
Thermal Shock Resistance	Excellent
Resistance to UV Radiation	Excellent
Flash Point	15° C
Solvent/Thinner	Anusol - 123 Thinner
Precaution	Flammable. Keep away from heat and open flame. Maintain good ventilation and avoid breathing vapours.

TECHNICAL DATA

Packing	20 or 25 litres
Shelf Life	6 months

Product Limitations:

- 1. Though intermittent dry heat resistance of the coating is up to 400° C, severe discolouration may occur above 175° C. This does not affect coating performance at all.
- 2. Untopcoated coatings are not suitable for acidic and alkaline environments.
- 3. Oil, alkyd and epoxy-ester topcoats are not suitable.

Disclaimer:

Information provided herein is based upon tests believed to be reliable. It does not guarantee the results to be obtained. Nor does it make any express and implied warranty or merchantability, or fitness for a particular purpose concerning the effects or results of such case. It does not release you from the obligation to test the products supplied by us as to their suitability for the intended uses. The application, surface preparation and use of the products are beyond our control and, therefore, entirely your own responsibility.

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