Anupam Enterprises

Protective Coatings Division

HEATGUARD

Silicone High Heat Resistant Coatings

Product Description:

HEATGUARD coatings are silicone resin Aluminium based high heat resistant coatings designed to withstand temperatures from 450°C to 650°C.

Features and Benefits:

- Economical and have higher covering capacity.
- Available in ready-to-us conditions and no primer or thinner are required.
- Easy to apply and can be applied via airless spray, conventional spray, and brush.
- Excellent resistance to dilute acids, aqueous chemicals, salts, solvents, chemical fumes, corrosive gases in marine, chemical, textile, fertilizer and other industries.
- Improved thermal stability and resistance to oxidation compared with typical organic systems and do not get burnt, peeled off, crack, blister, and destroyed or even tarnished at higher temperatures.
- Exhibit extremely low toxicity.
- Excellent water repellency and can be washed with detergents or hot water to remove dirt, dust, grease and oil stains etc.
- Excellent ultra-violet and radiation resistance.
- Can withstand several thousand hours of continuous exposures at certain temperatures.
- Have excellent weathering properties and are non-yellowing and non-chalking largely due to water repellency, low water absorption and UV-radiation resistance.
- Have outstanding heat stability, high corrosion resistance, excellent adhesion, colour and gloss retention largely due to their excellent bond energy.
- After the coatings are fully cured, they are unattacked by temperature variation of minus 40°C to plus 250°C to 650°C and also are unaffected by gases, steam, saline, petroleum solvents, spirit, water, oils and even direct flames etc.
- Suitable for varied end applications i.e. ideal for heavy industrial, chemical, marine, splash and spillage, fresh water, sea water and chemical immersion.
- Versatile coatings that combine various outstanding properties in single coating.
- Provides excellent long-term protection and are cost-effective.
- Withstand mold and fungus growth.

Recommended uses

HEATGUARD coatings are used mainly where heat resistance and excellent weather and chemical resistance is most important considerations. They are comparatively expensive coatings but their long life compensates for this by extending re-painting cycles and thereby reducing labour and application costs.

Ovens	Space-heaters
Chimneys	Lighting fixtures
Exhaust manifolds	Boiler doors
Smoke stack engines	Electrical equipments
Missiles	Gas burning equipments or flames
Insulation materials or refractory lining	Solar collectors or absorbers
High temperatures reactors	Autoclaves
Pressure vessels	Pre-heater cyclone-tanks
Heat exchangers	Oil and steam pipelines
Oil extraction units	Air-conditioning and refrigeration units
Automobile silencers	Lab-equipments

Surface Preparation:

Steel - The surface should be blast cleaned to **SSPC-SP 10-63T** or **NACE No. 2** i.e. loose rust and scales, dirt, grease, oil, paint, wax, weak oxide films and other contaminants should be removed. Blast cleaning to **SSPC-SP 5-63** or **NACE No. 1** is recommended where heavy corrosive conditions exist. That means a surface with a grey-white uniform metallic colour, slightly roughened to form a suitable anchor pattern for coatings. This surface is free of all oil, grease, dirt, mill scale, rust, corrosion products, oxides, paint and other foreign matter. In absence of blast cleaning, prepare the metal surface by wire brushing, sanding, grinding, scrapping or chipping with hand or power tools. Some bonderizing treatment, such as phosphates should be avoided because of their poor heat stability.

Application Procedure:

No primer is required. The use of any metal primer will cause blistering and flaking because metal primers are not formulated to withstand high temperatures. (*In certain circumstances*, **ANUZINC 2001 TP** *Inorganic Zinc Silicate Coating can be used as primer)*. It is important to apply **HEATGUARD** COATINGS directly to a cool, clean steel surface. The surface should be free from rust, dirt, scale, and old paint. **HEATGUARD** COATINGS because of their ultimate requirements must be applied at the recommended film thickness and surface preparation. Special care should be exercised in using these coatings for maximum performance. If the film is thicker, thermal stress will readily promote cracking, blistering and lifting. Too thin a film build with result in premature failure. The danger of applying such coatings on hot surfaces is that brush or roller equipment will warm and produce excessive thick films, the coating can then fail prematurely from internal thermal stresses. Likewise, failure can occur when the coating is sprayed on a hot surface in which solvent rapidly evaporates, promoting poor film adhesion. AFTER PAINTING, INCREASE TEMPERATURE OF SURFACE AT PRESCRIBED RATE FOR PROPER CURING. These coatings dry to touch but require heat for proper cure. If a coating is under-cured, it will be relatively soft and provide poor adhesion to the substrate. In such applications where oven curing is impossible, for example on chimneys, furnaces or other large equipments, the coatings are cured ***in situ*** when the unit is put into service. Do not shake the coating with mechanical shaker or overly agitate as protective coating on the minute aluminium flakes may be removed, thus the coatings appear dull, non-uniform and mottled.

Recommended Systems:

One coat (Interior): Allow to air-dry for 4 to 24 hours. Slowly raise heat to operating temperature, taking about one hour going through the recommended temperature range.

Two coats (Exterior): Allow the solvent from first coat to flash off in about 1-2 hours. Apply second coat to cooled surface. Allow for air dry 24 hours. Slowly raise heat to operating temperature taking about one hour going through the recommended temperature range.

TECHNICAL DATA

Name/Description	**HEATGUARD 450**	**HEATGUARD 650**
Type	Single pack heat cured	Single pack heat cured
Composition	Modified Silicone/Aluminium Flakes	Silicone/Aluminium Flakes
Colour	Aluminium	Aluminium
Finish	Bright Metallic	Bright Metallic
Volume Solids (mixed)	20 ± 1%	28 ± 1%
Dry film thickness per coat	15 - 20 microns	20 microns
Coverage-(theoretical-no loss)	10 - 13.33 m² /litter	14 m² /litter
Serviceability @ 30°C Dry to touch Re-coat	 30 minutes See recommended systems	 30 minutes See recommended systems
Cure schedule	60-120 minutes at 250°C	60-120 minutes at 250°C
Application Temperature -minimum -maximum	 10 ℃ 35°C	 10 ℃ 35°C
Relative Humidity	85% maximum	85% maximum
Solvent/Thinner	Anusol - SRT Thinner	Anusol - SRT Thinner
Flash Point	Above 25°C	Above 25°C
Maximum Service Temperatures- Short Term Continuous	 450°C 175°C	 650°C 275°C
Precaution	Flammable. Keep away from heat and open flame. Maintain good ventilation and avoid breathing vapors.	Flammable. Keep away from heat and open flame. Maintain good ventilation and avoid breathing vapours.
Packing	4 & 20 litres	4 & 20 litres
Shelf Life	6 months	6 months

Notes

- Brushes and spray equipments should be cleaned with **Anusol - SRT Thinner,** otherwise the equipments may render unserviceable**.**
- The contents should be stirred thoroughly prior to use.
- Keep containers tightly closed.

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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