Anupam Enterprises

Protective Coatings Division

Anumastic - 102

Epoxy High Build Aluminium Mastic Coating

Product Description

Anumastic - 102 is two-component high solid high build epoxy mastic maintenance coating. This self-priming coating exhibits superior adhesion to bare, lightly rusted or previously painted steel. This flexible coating has exceptional combination of corrosion, abrasion, chemical and impact resistance, plus impermeability to gases and vapours not possessed by any other coating.

Features and Benefits

- Easy to apply and can be applied via airless spray, conventional spray, brush or roller.
- Can be used as primer, intermediate or topcoat.
- **Anumastic - 102** is filled with metal flakes which orient themselves in the film in such a manner as to form a *labyrinth.* As Anumastic - 102 cures, chemical reaction between hardener, epoxy resin and metal flakes cause the metal flakes to form into a plate-like structure. It is the plate-like structure of the metal flakes that retards the passage of corrosive elements through the film by lengthening the path they must travel. Corrosive molecules must take the circuitous route around the layers of the metal flakes. Also, the high film build increases the distance corrosives must travel to reach the substrate.
- The tremendous **Anumastic - 102** advantages over conventional coatings is that it penetrates right through existing rust down to the steel substrate because of its excellent wetting ability. Most conventional coatings do not have this ability. Failure to penetrate through rust not only prevents good adhesion to the substrate ----- and therefore, encourages undercutting by penetration of water and chemical vapours along the coating film ----- but also allows moisture and air to remain entrapped in the porous rust film.
- The binder in **Anumastic - 102** is shielded against degradation by ultra-violet light from the sun and other sources because metal flakes are opaque. That means that chalking and other signs of UV attack are controlled at a much slower rate than with conventional coatings.
- The metal flakes have unique reflective property. This reflective property not only prevents UV attack on the binder system, but also reflects away a high percentage of energy reducing the surface temperature of the coating compared to many types of conventional coatings. The lower surface temperature, of course, results in an increase in service life and a decrease in rate of breakdown.
- It does not soften existing coatings as most conventional coatings do because it is a high solid coating. It can be applied over many types of coatings like alkyds, without crazing, lifting or exhibiting poor adhesion. Although some coatings will possess few of the above mentioned properties, **Anumastic - 102** is unique in its inclusion of ***all*** of the above to set up an unequaled corrosion defense system
- Formulated with lead and chromate-free rust inhibitive pigments to provide maximum protection against severe weather, moisture and general chemical attack.
- Provides excellent protection against fumes, splash and moisture condensation.
- Can be used for the repair of aged inorganic zinc coatings.

- Excellent resistance to splash and spillage of dilute acids, alkalis, certain chemicals and solvents.
- Has excellent resistance to radiation and has decontamination properties.
- Ideal for high humidity, moisture, marine atmospheres, heavy rains, high temperature, damp conditions, very dusty and fungus prone conditions.

Recommended uses:

Anumastic - 102 is intended for exterior/interior use where one coat high build barrier type protection is required for the properly prepared metal substrates such as steel, aluminium or hot dipped galvanized steel and for properly prepared masonry. It is also recommended for applications over rusty (tightly adherent) steel and for previously painted steel where surface preparation by blasting to **SSPC - SP 6** Commercial Blast Cleaning or **SSPC - SP 10** Near White Blast Cleaning grades is either impractical or cost-restrictive. Outstanding performance is obtained over sand blasted steel surfaces. *Service life is in direct proportional to surface preparation.*

Highway Bridges	Piping
Exteriors of Tanks & Silos	Fencing and Railings
Galvanized Steel	Oil Refineries
Food & Beverage Plants	Water Towers
Industrial Process Facilities	Lighting Columns & Steel Furniture
Marine Installations	Electricity Transmission Towers
Off-shore Platforms	Fertilizer Plants
Pulp & Paper Mills	Chemical & Petro-Chemical Plants
Containment Areas of Nuclear Plants	Pharmaceutical Industry
Rusted Steel Surfaces	Previously Painted Surfaces

Resistance Guide:
***Immersion Resistance* @ 25° C**

- Fresh water, Sea Water, Salt Water, Demineralized and Distilled Water.

Resistance to spillage and splash - not immersion

- Aliphatic solvents, gasoline, kerosene, fuel oil : **Severe**
- Weak solutions of acids and alkalis : **Severe**
- Aromatic Solvents, formaldehyde : **Severe**
- Glycol ethers, alcohols, chlorinated solvents : **Moderate**
- Fats & oils, lubricating oils, cutting oils : **Severe**
- Fresh and Sea Water : **Severe**

Surface Preparation:

Steel - (Moderate Service)
Minimum surface preparation for steel is either **SSPC - SP 2-63** Hand Tool Cleaning or **SSPC - SP 3-63** Power Tool Cleaning. These specifications describe the methods of preparing metal surfaces by removing loose mill scale, loose rust, and loose paint by wire brushing, sanding, scrapping or chipping with hand or power tools.

Steel - (Severe Service)
Where heavy corrosive conditions exist, blast cleaning to **SSPC - SP 6-63** Commercial Blast Cleaning is highly recommended. 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.

Steel - (Immersion Service)
Where the coating is required for immersion service, 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.

Aluminium & Galvanized Iron:
Aluminium & Galvanized metal surfaces should be prepared **SSPC - SP 1-63** Solvent Cleaning which describes the methods of removing oil, grease, dirt and certain chemical compounds by wiping, etching or scrubbing with brushes or by solvent washing or vapour degreasing. It is important to note that galvanized iron should be weathered for a minimum period of 6 months prior to painting. Apply one coat of **Anuprime - 291** Wash Primer for obtaining maximum adhesion. Then, one or two coats of **Anumastic - 102** should be applied. Polyurethane, Epoxy and Chlorinated Rubber topcoats can be applied as per requirements.

Previously Coated Surfaces:
Maintenance painting will frequently not permit or require complete removal of all old coatings prior to re-painting. However, all surface contamination such as oil, grease, loose paint, mill scale, dirt, foreign matter, rust, mold, mildew, mortar, efflorescence and sealers must be removed to assure sound bonding to the tightly adhering old paint. In addition, glossy surfaces of old paint films must be cleaned and dull before re-painting. Thorough washing with an abrasive kitchen cleanser will clean and dull in one operation or wash thoroughly and dull by sanding. Remove sanding dust. Recognize that any surface preparation short of total removal of the old coatings may compromise the service length of the system. Always check for the compatibility of the previously painted surface with **Anumastic - 102** by applying a test patch of 2 to 3 square feet. Allow to dry thoroughly. Check adhesion.

Concrete:
New concrete surfaces should be allowed to cure for a minimum period of 30 days before application. New or old concrete surfaces should be grey or grey-white color and free from pits, pockets and holes. Prepare the surface with abrasive blasting or power tools. Surface imperfections should be filled in with **DURAPATCH**. No cement dust or sand should be dislodged. In absence of blasting, etch the surface with 10-15% muriatic acid diluted in water. Allow this acid solution to remain on the surface for 10-15 minutes or until the bubbling stops. Thoroughly rinse the floor with water to remove all traces of acid. Allow the floor to dry completely before painting.
Concrete surface requiring a primer should be primed with **Durapoxy 200** Clear or **Anumastic - 102 Colour** reduced 33% with **Anusol - ETP** Epoxy Thinner for assuring maximum penetration of the coating into the concrete and a better bond of coating system to the substrate. After the initial coat has dried for 24 hours, apply 2-3 full coats of **Anumastic - 102** coating unreduced.

Top-coating:
Anumastic - 102 is self-priming and does not require top-coating to achieve barrier properties, but it may be top-coated where aesthetics or special conditions are desired. It may be top-coated with epoxy, polyurethane, chlorinated rubber, vinyl and acrylic latex coatings.

Recommended Systems

Steel : Moderate Service
Total DFT 150 microns
1 coat Anumastic - 102 Aluminium @ 150 microns per coat
Minimum Surface Preparation - **"SSPC-SP 2-63" Hand Cleaning**
or **"SSPC-SP 3-63" Power Tool Cleaning**
Note: Where obvious metal loss has occurred and /or pitted substrate occurs, a second coat of Anumastic - 102is recommended.

Steel : Severe Service
Total DFT 300 microns
1 coat Anumastic - 102 Aluminium @ 150 microns per coat
1 coat Anumastic - 102 Aluminium/Colour @150 microns per coat
Minimum Surface Preparation - **"SSPC-SP 6-63" Commercial Blast Cleaning**

Steel : Immersion Service
Total DFT 300 microns
1 coat Anumastic - 102 Aluminium @ 150 microns per coat
1 coat Anumastic - 102 Aluminium/Colour @150 microns per coat
Minimum Surface Preparation - **"SSPC-SP 5-63" White Metal Blast Cleaning**

Steel : Epoxy Topcoat
Total DFT 210-230 microns
1 coat Anumastic - 102 Aluminium @ 150 microns per coat
2 coats Durapoxy 200 Epoxy Enamel @ 30-40 microns per coat

Steel : Chlorinated Rubber Topcoat
Total DFT 210-230 microns
1 coat Anumastic - 102 Aluminium @ 150 microns per coat
2 coats Anuchlor 555 LB Chlorinated Rubber Enamel @ 30-40 microns per coat

Steel : Polyurethane Topcoat
Total DFT 210-220 microns
1 coat Anumastic - 102 Aluminium @ 150 microns per coat
2 coats Anuthane Enamel Aliphatic Polyurethane Enamel @ 30-35 microns per coat

Application:
Application of the coating by airless or conventional spray is highly recommended. It may be brushed also. Clean spray equipment and brush with Anusol - ETP epoxy thinner. Strong solvents in the material may soften old residual paint and cause blocking of the equipment during spraying. Clean between extended periods of down time.
Mix base and hardener components thoroughly before blending. Thoroughly mix equal parts by volume of base and hardener and mix well before application.

TECHNICAL DATA

Name/Description	**Anumastic - 102**
Type	Two pack cold cured
Composition	Modified Epoxy with Special Curing Agent / aluminium flakes and pigments.
Colour	Aluminium, off-white, green, light grey, dark grey. (Shades do not match with standard shade-card)
Finish	Semi Glossy
Volume Solids (mixed)	88± 3%
Mixing Ratio	Base : Hardener 1 : 1 by volume
Pot Life @ 50% R. H. @ 30°C - unreduced -reduced	 1-2 hours 3-4 hours

Dry film thickness per coat -by brush -by spray	 125 - 175 microns 150 - 225 microns
Coverage-(theoretical-no loss)	5.87 m² /litre @ 150 microns
Serviceability @ 30° C - Dry to touch - Hard Dry - Re-coat - Full Cure	4 - 8 hours Overnight 16 hours minimum and 7 days maximum. If maximum re-coat time exceeds, brush blast before applying topcoat. 7 days
Dry heat resistance	120° C
Application Temperature -minimum -maximum	 10° C 35° C
Relative Humidity	85%
Resistance to corrosion under conditions of condensation @ 38°C for 1500 hours. (ASTM - D 2247)	No Failure
Resistance to Salt Spray for 1000 hours (ASTM - B 117)	No Failure
Outdoor Durability	2 years minimum except for slight chalking & darkening
Flexibility & Adhesion	Satisfactory
Flash Point	23° C
Solvent/Thinner	Anusol - ETP Thinner
Precaution	Flammable. Keep away from heat and open flame. Maintain good ventilation and avoid breathing vapours.
Packing	8 & 40 litres
Shelf Life	6 months

Notes

- Brushes and spray equipment should be cleaned with **Anusol - ETP Epoxy Thinner.**
- The contents should be stirred thoroughly prior to use.
- When over-coating the weathered or aged **Anumastic - 102**, ensure that the coating is fully free from all contamination such as oil, dust, grease, stains etc.
- This coating should always be thinned with **Anusol - ETP Epoxy Thinner.** The use of alternative thinners can severely inhibit the curing mechanism of the coating.

Product Limitations:

- Do not apply over loose or flaking rust and paint.
- The solvents contained in **Anumastic - 102** may lift some aged alkyd coatings. A test patch is recommended prior to application
- Like most epoxies, **Anumastic - 102** lose gloss and chalks on exterior exposures. However, it should be noted that film integrity is not at all affected.
- Oil, alkyd, oil modified polyurethane and epoxy-ester topcoats are not recommended.

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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