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SMG CoateX

A Chemistry For Performance

Manufacturer of Electrophoretic & Spray Lacquers, Anti Corrosive Paints Coatings and Epoxies Color Dyes & Pigments, Plating Chemicals & Brighteners. Sealants & Adhesives.

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DX 60 MATTE

DX 60 MATTE is Electrophoretic PU MATTE lacquer blended with high solids. Lacquer has extra stability and hardness for longer life. That gives direct matte finish without satin nickel plating. The average coverage of the total job work by the product is excellent. It has extreme Dye compatibility, that is any kind of dye can be mixed in this product. It can be applied on hardware & jewelry as well. It gives Metallic matte finish.

Process to use –

1. Bath Preparation :- Lacquer 225 Gm + 775 Gm DM Water (Demineralized Water- 0 to 2 TDS) Dye 15 ml to 30 ml per kg maximum. Use dye SMG CoateX (strictly recommended for better results) . Preparation shown for per liter . Multiply it with required volume. DO NOT ADD ANY SOLVENTS .
2. Cartridge filter :- Run the filter continuously without candle .To avoid sedimentations. Stop filter at the time of use.
3. Rectifier operations :- Voltage 75 to 80 - Timing 25 to 35 seconds.
4. Oven Stoving:- Minimum 150° for 60 minutes, for good life and strength of the coating.
5. Ultra filter:- DO NOT RUN IN FRESH BATH PREPARATION . Run Ultra Filter in case Refractive Index - RI / Degree of the permeate increase above 1. Discard the permeate and lower the Refractive Index RI / Degree up to 0.5

To Increase life of matte finish -

1. Surface preparation for Hardware items:- Make the surface rough / matte with sanding pad. Eliminate oil/ Grease substances with electro less cleaning system.
2. Surface preparation for jewelry items :-
 - a) After silver plating get a dip of Sulfuric Acid (2 % to 5 % solution). Then wash it in warm water in 2 - 3 tanks.
 - b) Give a Pre Pass Plating (Pre Pass solution – add 50 to 60 gm Potassium Dichromate lab grade per liter DM) with 12 voltage rectifier for 1 to 1.5 minutes at 3 volts (It will make a white coverage).

Supply Material Data –

Test	Specification	Unit
Color	Pale Yellow	NA
Viscosity	19 – 24	Pas
Density as per DIN 53217	1.0-1.1	G/CCM
Non Volatile Solid Content	59	%
MEQ value (100% Solids)	38 – 40	mMOL
Shelf life Storage 4° to 35° C	Maximum -12	Months
Hazard category as per VbF	NA	NA
Solid Contents (150° C/1 Hour)	54	%
Flash Point as per DIN 53213	>21	°C

A) Procedure for Bath Preparation:

Formula (For 10 % solids i.e. Refractive Index = 16.5)

Part A - DM water => 810 grams/ml

Part B – Supply resin => 190 grams

Total - Bath volume 1000 grams

B) Procedure for rinses (Drag out Solution) Bath Preparation:

Formula (1000 ML)

Part A - DM water => 990 ml

Part B – Refractive => 10 ml

Total - Bath volume 1000 grams

Mixing Procedure:

Measure exactly 10 ml of rinses Aid solution (Part B). Measure 990 ml of DM water in a container. Add rinses Aid solution to the DM water under stirring in 5 Minutes. Ensure complete mixing before stirring is stopped.

Note:-

1. Ensure proper cleaning of the apparatus before making the bath.
2. Use Plastic/ Glass/ SS apparatus for mixing.

C) Procedure for use of Dye

SMG COATEX approved dye (water/ solvent based) may be used to impart any specific color to lacquer film as required by the customer. But care to be taken to add the required quantity of dye to supply resin material and then bath be made.

Note:- No dye solution should be added directly in the bath as it may hamper the bath solution

D) Bath conditioning For Dye Bath

1. For jewelry items where DFT required is less than 10 microns, bath may be given a overnight aging.
2. Maintain the PH of the bath around 4.6
3. For high buffed jewelry surfaces, add SOLVENT 2 around 20 ml per kg lacquer.

E) Bath conductivity Control

Conductivity of bath rises continuously on regular production. Regular dumping of permeate is recommended to control the conductivity. Though conductivity limit is 1100 uS/cm, it is recommended to control below 900 uS/cms.

F) Bath Processing Parameters

Test	Specifications	Units
Substrate	Surfaces with any kind of plating or pure metal/ alloys	
Specific conductivity @ 25° C	Maximum 900	uS/cms
Bath solids 120° C/1 Hour	8 – 10	%
Deposition Time	30 – 60	Seconds
Coating Voltage	65 – 80	Volts
Deposition Equivalent	35 – 45	As/gm
Ramp Time	25 – 35	Seconds
Bath Temperature	25 – 35	Degree C
Coating Thickness	10 – 20	Microns
PH Value @ 25° C	4.5 to 4.8	-
MEQ value (100% solids)	38 - 40	mMol
Density of Solids	1.0 – 1.15	G/ cc
Theoretical coverage	10 Micron DFT	19 gms- supply material- m ²
Baking Time	150°	60 Minutes
Flash off/ Pre drying Zone	Hot Air Blow	-

Note: Testing on Brass Panel.

G) Mechanical Characteristics of Dry Film

Gloss / Clarity	Matte
Adhesion (1mm*1mm)	Passes 100%
Pencil Hardness	6H
Cupping test (Din – ISO 1520)	> 6 mm
Mandrel bend test (DIN – ISO 1520)	Passes 5.2 mm
Impact resistance 980g/20cm/2 inch	Passes direct / indirect

Note: It is recommended to check the hardness & perspiration cycle test after 72 Hours of the coating of the surface.

H) Chemical Characteristics of the Dry Film

Acetone Rub Test	Passes Min 195 On Brass Panel
Acid Resistance (N/ 10 HCL)	Passes Minimum 87 Dip Hours
Alkali Resistance (N/ 10 NaOH)	Passes Minimum 103 Dip Hours

I) Corrosion protection of the Dry Film

Salt Spray Test (ASTMB 117)	Passes Min 140 Hours
Water Resistance	Passes Minimum 119 Hours
Humidity Resistance (IS 101)	Passes Minimum 119 Hours

Note: - Lacquer film DFT = min 15Microns.

J) Out Durability of the Dry Film:

Weather -0-0meter Sunshine	Min 675 Hours
Xenotest 150	Min 675 Hours

Note: -

1. *Performance of Lacquer is dependent upon quality of electroplating & surface Processing parameters. In case of coating with dye, outdoor durability of coating depends on upon the light – fastness of dye used.*
2. *This is general procedure of bath commissioning SMG COATEX technical person should be consulted before commissioning the for possible variations in this procedure for special application.*

This information complies with present state of our knowledge and intended to provide information concerning our products and their possibilities for operation. In that capacity, then it does not possess the significance of legally enforceable assurance of the specific characteristic of products or of their suitability for a specific application.

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