



CLEARCLAD NS MATT

Product code - 252B454

Product Description

ClearClad NS Matt is a cathodically depositable electropaint process that delivers a semi-transparent, semi-gloss effect over various substrates.

Delivery Form

Tan coloured liquid of moderate viscosity. Solids content 41-46% w/w (determined gravimetrically at 120C for 1 hour).

Application Form

Diluted to required solids content with D.I. water for original make up or with system permeate or existing bath material for replenishment. (See "User determined bath parameters" section).

Process Details

Required equipment:

Coating bath: Standard design with overflow weir feeding main circulation pump with return via a horizontal bottom mounted sparger. Bath turnover rate should be between 3 and 5 turnovers per hour. Ultrafiltration/TRAP utility and heat exchanger in main circulation line. TRAP treated ultrafiltrate permeate counter-flowed back to coating bath via drag-out bath to form closed-loop reclaim system. Coating bath electrodes composed of 316 grade stainless steel.

Ultrafiltration: Cross flow membrane system capable of producing raw permeate at a minimum rate equivalent to 10% of the coating bath volume per hour. Recycled raw permeate should be continuously treated with TRAP ion-exchange resin.

Particle filtration: Separate circulation system incorporating pleated filters with nominal 1micron retention capability for normal use. Absolute rated filtration may be required in case of exceptional particle contamination.



Conditioning of New Baths

At least two bath equivalent volumes of ultrafiltrate permeate should be dumped. MEQ and Solvent PM levels are then re-balanced and the bath is circulated with the appropriate particle filtration in operation for at least 48 hours before commencing production.

Substrate Preparation

The substrate should be completely clean and electrically active. Pre-rinsing should be by immersion in D.I. water to an extent that minimizes carried-over chemicals from cleaning and pretreatment processes.

User Determined Bath Parameters

<u>Condition</u>	<u>low</u>	<u>high</u>	<u>optimum</u>
Solids % w/w	10.0	15.0	12.5
MEQ corrected:	50	60	55
Solvent PM % w/w	2.0	5.0	3.0 – 4.0
Temperature °C (°F)	23° (72°)	29° (84°)	26° (79°)

Derivative conditions:

Conductivity ms/cm	300	800	500
pH (not controlled)	typically 3.5 – 4.5		

Conductivity can be controlled by the management of the ultrafiltration/TRAP system. Contaminant electrolytes causing a rise in conductivity are captured continually by the TRAP ion-exchange resins and can be eliminated intensively by dumping bulk quantities of raw ultrafiltrate permeate to waste. Routine continuous dumping of ultrafiltrate permeate at a rate equivalent to 1% of the coating bath volume per operating hour is recommended to eliminate any non-electrolytic water soluble contaminants that enter the process.

Deposition Conditions

Voltage: 60 – 150 depending on thickness required and load size.
Amps (peak): allow up to 1.6 amps per ft² of cathode area.



Product Data Sheet

Post Deposition Rinsing

Multiple immersions in the closed-loop ultrafiltration permeate rinse followed by D.I. water rinses with the final rinse containing 1ml/liter 460A114 Rinse Aid solution. Waiting time after final rinsing should be consistent with the coating deposit being free of rinse water before entering the curing oven.

Curing

160 – 180°C for minimum 20 minutes metal temperature in an air-circulated convection oven.

Health & Safety

For Health & Safety and environmental information - see separate MSDS.

The information given in this data sheet is provisional and may be subject to change without notice. Users should satisfy themselves that this product is suitable for their application.