



CLEARCLAD LC408

Product Code - 252B358

Product Description

LC408 is a development of the low temperature cure range of cathodic electrocoat systems. The coating type is polyurethane. Its special features are these:

- Excellent hardness, scratch resistance and chemical resistance even at cure temperatures as low as 130C.
- Non-yellowing even on over bake at 190C.
- Excellent clarity and flow maintained without solvent addition.

Supply Form

Moderate viscosity liquid, solids content 45 - 50% w/w determined gravimetrically at 120C for one hour. Packaging is 20 liter American pails. Other packing types and sizes may be available on request.

Process Equipment

All coating, handling and other process equipment is standard as described in the relevant sections of the *CLEARCLAD Process Installation and Operation Manual*.

Dilution Method

See relevant section of the *CLEARCLAD Process Installation and Operation Manual*.

Bath Control

1) User determined parameters	<u>Low</u>	<u>High</u>	<u>Optimum</u>
Solids w/w:	8.0	10.0	9.0
MEQ corrected:	30	35	33
Solvent A264 w/w:	2.0	7.0	3.0 - 4.0
Temperature °C (°F):	23° (73°)	29° (84°)	26° (79°)



2) Bath Control - Derivative parameters

Conductivity ms/cm: Recommended range 400 - 600

pH (instrumental): Normal range 3.6 - 4.4

Note: New baths should be conditioned for 24 - 48 hours before use. At least one bath volume of UF permeate should be eliminated during this conditioning period. The MEQ and solvent content should be adjusted as necessary before commencing production.

Deposition Conditions

Depending on required thickness, 30 - 150 volts for 30 to 90 seconds

Curing Conditions

LC408 is able to cure at temperatures as low as 120C. However, to exploit the enhanced chemical resistance it is practical to use 130C for up to 60 minutes at metal temperature as a minimum temperature regime. Increasing the metal temperature up to 190C will increase resistance properties without discoloration of the coating in correctly maintained ovens.

Covering Power

The area covered in square feet using one (1) liter of LC408 can be determined by dividing 4890 by the coating thickness in microns (25 micron = ~ .001" (1 mil)) [This assumes 100% efficiency by the use of the TRAP UF reclaim system].

For example: At a coating thickness of 13 microns (~ 0.5 mils):

Area covered per liter is $4890 \div 13 = 376$ square feet



CLEARCLAD LC408 – Physical Properties and Performance Data

Physical Properties

(Cure schedule is 160°C (320°F) for 20 minutes metal temperature unless otherwise stated to attain these characteristics)

Normal coating thickness range: 10 - 25 microns depending on application specification

Pencil hardness (ASTM D3363): 5 - 6H at 3 Newtons

Abrasion resistance (ASTM D968): Coefficient = 25 liters/mil with Ottawa sand

Flexibility: Conical Mandrel - Excellent

Impact: Direct and reverse - Excellent

Adhesion: 1mm cross cut with tape pull - Pass 100%

Scratch resistance (Erichsen 318): 1.5 Newtons to mar, 15 Newtons to gouge.

Acetone rub test for cure: Pass 1000 double rubs.

Resistance to perspiration (ANSI/BHMA): Up to 4 cycles depending on cure schedule.

Environmental Resistance

Humidity: Excellent

Salt spray (ASTM B117): 200 - 2000 hours can be achieved depending on substrate and pretreatment.

Ultraviolet light (ASTM G53): 500 hours with no loss of decorative aspect. Mass loss less than 5 mg/dm².

Resistance to chemicals

CLEARCLAD LC408 has excellent resistance to normal household products and many commonly used industrial chemicals.

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.