



LECTRASEAL ANODIC ELECTROPAINT

Product code (Transparent form)- 242B193

PRODUCT DESCRIPTION

LECTRASEAL combines all the advantages of the anodic electropaint application technology with outstanding chemical resistance, high build capability to confer wear resistance, and excellent weathering properties due to a high degree of UV resistance. These together with excellent decorative properties make LECTRASEAL an advanced coating system for selected substrates in a wide range of applications (see section 7).

SUPPLY FORM

The base resin concentrate of LECTRASEAL is a pale tan colored, free flowing liquid of moderate viscosity. Pigmented and matted variants will vary in appearance and viscosity accordingly. Packaging is 20 kg American Pails. Other packing types and sizes may be available on request.

SUPPLY SPECIFICATION

This will vary according to product type. The base resin concentrate is supplied in ready-to-dilute form, solids content 60 - 65% by weight (determined gravimetrically at 120°C for 1 hour).

METHOD OF DILUTION

Anodic electropaint concentrates should always be pre-mixed with either high purity de-ionized water, or bath material at coating solids, when making a new bath or replenishing an existing bath respectively.

Pre-mixing must take place in a suitable clean vessel equipped with a motorized stirrer. Diluting material is added gradually to the concentrate, under stir, until a solids content of less than 18% is achieved. At this stage, at least 10 minutes stirring is applied to achieve complete emulsification. Subsequently, this pre-mix may then be further diluted to the required solids or added to the bath as appropriate.

Certain anodic electropaint concentrates may be added directly into de-ionized water or into the bath without this pre-mixing procedure - specific advice is available from the local CLEARCLAD supplier



CONDITIONING OF NEW BATHS

A period of at least 24 hours, and preferably 48 hours, should elapse between initial bath make up and commencement of production. During this time, the bath should be kept circulating through adequate particle filtration at its normal operating temperature, and at least one bath volume of ultrafiltrate permeate should be eliminated. Solvent loss due to permeate elimination is not significant, but the MEQ (corrected) should be maintained at a minimum value of 50 by appropriate additions of recommended Anodic Emulsion Stabilizer.

BATH OPERATING PARAMETERS - LECTRASEAL BASE RESIN

<i>Parameter</i>	<i>Range</i>
Solids % w/w	8.0 - 10.0
pH	7.7 - 8.2
Conductivity microsiemens/cm (ms)	550 - 900
MEQ @ 10% solids	50 - 60
Solvent PM A264 %w/w	1.0 - 1.5
Operating temperature	23 – 29°C (73 – 84)°F
Coating voltage	30 – 180 VDC dependent upon load type and required thickness. (up to 30µm available)
Coating time (seconds)	60 - 120
Curing schedule	160°C for minimum 20 minutes metal temperature.
Particle filtration	One (1) micron cartridge type for clear or tinted products. Higher micron ratings required for matted and pigmented systems.
Ultrafiltration	Preferably used in conjunction with TRAP UF ion exchange system.
Bath temperature control	Heating, if applicable, should preferably be via indirect means. Direct heating should only be via low wattage quartz type immersion heaters. Always take



Product Data Sheet

	advice on this. Cooling may be effected via immersed stainless steel coils using circulating cold water as the cooling medium. Any control system should be capable of maintaining the recommended operating temperature plus/minus 1°C.
Circulation	Continuous pumped circulation from a skim weir and return via submerged sparge pipe. Circulation turnover rate for clear and tinted systems is 3 - 5 volumes per hour. Matted and pigmented systems require 8 - 10 bath volumes per hour.
Cathodes	316 grade stainless steel. Anode:cathode ratio 1:1
Bath turnover rate	In order to maintain the optimum properties, the feed replenishment rate should be consistent with one bath turnover within three months.

SUITABLE SUBSTRATES

Anodic electropaint systems are deposited by a mechanism involving liberation of oxygen and creation of an acid pH at the anode surface. This will dissolve and oxidatively degrade many metals and so limits the application of anodic electropaints in these cases. However, certain metals, most notably aluminum, positively benefit from the formation of an adherent oxide layer between the underlying metal and the electropaint coating. This situation enhances adhesion and corrosion resistance. LVH has special process modifications for its anodic electropaint systems enabling outstanding adhesion & physical and chemical resistance over aluminum for very demanding applications. Other suitable substrates are phosphated mild steel, certain grades of stainless steel; gold, nickel and chrome electroplate; and magnesium. LVH anodic electropaints can provide a superior coating system over particular substrate/treatment combinations, but any such system design should be the subject of careful evaluation. Advice is available from LVH or the local CLEARCLAD supplier.

ASSESSMENT OF CURE

The appropriate degree of cure (polymerization) should be established for the particular application and this should be related to the resistance to a solvent rub test. In this way, a quick end-of-line test for correct degree of cure can be established. Obviously, this is a destructive test even in the case of a pass, and so when it is applied to selected production pieces as part of a quality control procedure re, the pieces should be discarded or re-worked as appropriate.



COVERING POWER

One kilo of the base resin concentrate of LECTRASEAL will apply a coating of 1 micron over approx 5810 square feet assuming 100% efficiency. Near to 100% efficiency can be achieved using closed-loop ultrafiltration reclaim. Without a reclaim system, efficiency and consequently covering power will reduce. "Tinted" systems, using relatively low concentrations of colorants, will have covering power very similar to the base resin concentrate. Other types of pigmented systems, incorporating significant concentrations of dense colorants or matting agents will have lower covering power. This will depend entirely on the particular product and such information will form part of the appropriate data sheet.

RESISTANCE OF LVH ANODIC ELECTROPAINT COATINGS TO ULTRAVIOLET LIGHT

In addition to this product's excellent resistance to a great variety of chemicals, it has been formulated to have high resistance to UV light in order to render it suitable for exterior applications where resistance to the effects of weather is essential. As a transparent coating, its UV resistance is generally superior to conventionally applied exterior-quality acrylics or polyesters. When combined with suitable UV resistant colorants, it can provide an outstanding decorative/protective one -coat finish in effects not attainable by conventional painting.