ENE Electropolish MS 111

ENE Electropolish MS 111 is a unique acidic electrolyte developed to anodically produce a uniform matt non-reflective surface on a variety of steel and stainless-steel alloys.

Features & Benefits

High quality raw materials	Product consistency and performance
Rigorous quality assurance	Product consistency and performance

Operating Conditions

Concentration	Full strength (as received)
Operating temperature range	Ambient - 120°F
Anode current density	50 – 300 amps/ ft^2
Voltage	3 – 15
Agitation	Optional (air or anode rod, depending on part and immersion time)
Times	Dependent upon metal and finish required
Ventilation	150 – 250 cf/m per ft^2 of solution surface area (approximately 80,000 cm^3/sec)

Note: Operating temperature will be dependent upon alloys processed.

Equipment

Tank	Polypropylene, suitably fabricated to contain the weight of solution
Heating/Cooling Coils	Chemical lead, quartz, Teflon
Cathodes	Chemical lead or carbon
Racks	Copper coated splines, titanium contacts

The operating temperatures and voltages will be dependent upon alloy processed and finish required. The operating conditions are best determined by experimenting with specific parts to be processed.

Electropolishing Operation

Parts are racked to insure good electrical contact. The work is made positive (anodic). The parts to be processed are arranged in such a manner to allow the greatest area to be exposed to the cathodes. The cathode to anode area ratio should be at least two to one respectively. Rack splines are best constructed of copper, due to its high conductivity per area but should be suitably coated. Rack tips should be made of titanium. All portions of the rack not contacting the part to be processed should be insulated with rack coating.

Cathodes may be made of carbon or lead; the latter being preferred. In the case of deep recesses, care must be taken in racking, so gas is not trapped. No processing will occur in a gas pocket. In some cases, it may be necessary to build conforming cathodes.

Electropolishing Control

In use the ENE Electropolish MS 111 will dissolve metals from the work piece. These metals will accumulate in the electrolyte with usage and build to an equilibrium level at which they should be maintained by decantation and replenishment with fresh electrolyte. Excessive accumulation of metals in the bath may form a hard-crystalline deposit on the tank bottom. It is desirable to avoid this condition.

The specific gravity of fresh ENE Electropolish MS 111 as received is 1.44. This will increase depending on the concentration of dissolved metals. Once successful operating conditions are established the specific gravity should be maintained within +/- 0.03 by decantation and replenishment with fresh solution.

Waste Disposal

Discharge to a disposal system. To be completely informed on the latest regulations for your area, please contact the local authorities.

Caution

ENE Electropolish MS 111 is a strong inorganic acid mixture and should be handled with the same precaution as a concentrated mineral acid. Avoid skin and eye contact. Flush exposed areas immediately with clean cold water. Wear protective clothing and eye goggles when working with the solution. In case of skin burns contact a doctor. For eye contact flush with cold water and immediately contact a doctor.

Our people. Your problem solvers.

For more information on this process please call us at
1-800-648-3412
or techservice@hubbardhall.com