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Technical Data Sheet

CHEMEON® Bright Dip

Description:

Will smooth, brighten and deburr Aluminum Bright dip alloys. Can attain true mirror-bright finishes. Operation and maintenance is virtually problem free.

Use Directions:

The CHEMEON Bright Dip solution is used at 100% by volume. Several hours "break-in" is required on new solutions to obtain maximum results. Specific Gravity should be maintained in a range from 1.70 to 1.72. Nitric acid concentration should be maintained at 3 to 4%. The operating temperature range is from 195 degrees F to 230 degrees F. (Normally 200 degrees F) Immersion time is 1 to 4 minutes.

Solution loss due to drag-out is to be replenished by adding CHEMEON Bright Dip in the correct amount. Bright dip baths have a finite life after prolonged operation. The CHEMEON Bright Dip solution is maintained in balance (other than additions required to replace solution loss due to drag-out) by the addition of the components lost during operation. This is determined by chemical analysis.

Finishes and Surface Conditions:

Buffing is commonly used to remove die lines and light scratches. Great care should be used during handling and storage to prevent scratching and fingerprint corrosion.

For uniform results parts must be clean prior to bright dipping. Soak tank cleaning is satisfactory. It is important to note that all aluminum oxides must be removed to achieve consistent and uniform results. Grease, oil or soil, if not removed, will form a film or scum on the surface of the bright dipping solution. This must be avoided to prevent its adhering to parts going in or out of the tank. CHEMEON Cleaner 1000 is specially formulated to work in conjunction with bright dip operations. After bright dipping a triple counter flowing rinse or a combination immersion/spray rinse is recommended before anodizing.

CHEMEON Bright Dip Solution Maintenance:

Nitric acid concentrations are reduced due to reaction and heat. Chemical analysis for nitric acid should be performed each four hours. Additions of nitric acid should be made based on the nitric acid chemical analysis.

The specific gravity will tend to rise during operation due to the evaporation of water. A specific gravity determination should be made at least every eight hours and water should be added to maintain a specific gravity of 1.71 plus or minus .01.



During operation aluminum concentrations will rise initially but will stabilize due to drag out and the slowed dissolution of aluminum. The operating conditions will change as the aluminum concentration rises.

g/l Aluminum	20	30	40	50
Specific Gravity	1.70	1.71	1.72	1.73
Temperature Degrees F	195	200	210	220

Nitric Acid Titration:

1. Add 50 ml 85% Phosphoric Acid to a 150 ml beaker.
2. Carefully add 2 ml of the cooled CHEMEON Bright Dip bath.
3. Heat the contents of the beaker to 125 degrees F.
4. Titrate with 0.7 N Ferrous Ammonium Sulfate solution to a permanent brown color.
5. Record the ml of Ferrous Ammonium Sulfate used.
6. % by weight Nitric Acid = $\frac{(\text{ml Ferrous Ammonium Sulfate Used})(\text{Factor})}{\text{Specific Gravity}}$

Determination of the Ferrous Ammonium Sulfate Factor:

1. Pipet a 3 ml sample of the Ferrous Ammonium solution into a 250 ml flask.
2. Add 75 ml of DI water.
3. Add 25 ml 50% Sulfuric Acid.
4. Add 3 or 4 drops of Ferroin Indicator.
5. Titrate with 0.1 N Ceric Sulfate solution to a sudden blue endpoint.
6. Record the number of mls 0.1 N Ceric Sulfate used.
7. Calculation: Factor = $\frac{\text{mls 0.1N Ceric Sulfate}}{25}$

Note: 0.6% wt. = 1% vol. Nitric Acid

The information contained in this data sheet is for our customers and to the best of our knowledge is accurate. For specific applications the User should determine if the information is correct for the conditions.

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