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A2LA Accredited ISO/IEC 17025:2005 Certificate # 2558.01

Acid Prep TM Acid Pickle & Activator

Acid Prep TM is a unique buffered pickling and activating acid mixture that conditions the metal surface in order to maximize subsequent electrolytic or electroless nickel deposition. Acid Prep TM is a concentrated liquid product that is non-fuming and has long bath life.

Acid Prep TM has a relatively high pH (3.2 is typical) and is not classified by the D.O.T. as corrosive. Although it is not as corrosive as other acid pickles, it removes rust and scale rapidly leaving a clean and active surface for subsequent finishing. Acid Prep TM is an excellent choice for multi-metal applications that can provide challenges to metal finishers:

- Long bath life and economy of operation
- Selective pickling and activation on HSLA steels
- No hydrogen embrittlement induced (per ASTM STP 543)
- Buffered to maintain consistent pH
- Ideal for cast iron, nickel on nickel, or nickel on Kovar® or brass
- Wide temperature range ambient to 150°F.
- Can be used electrolytically

EQUIPMENT

TANK: Mild steel lined with PVC or rubber or use polyethylene or polypropylene tanks. If heat is required for the application then stainless steel tanks are recommended.

HEATERS: Quartz, 316 stainless steel, titanium or Teflon® coated coils are recommended.

OPERATING GUIDELINES:

Acid Prep TM	15-25% by volume with water
Temperature	70°-150°F
Dwell Time	2-6 minutes
pH	2.7-3.4

SOLUTION MAKEUP:

- **Fill cleaned and prepared tank 2/3 full with water**
- **Add required amount of Acid Prep TM slowly to avoid splashing**
- **Mix thoroughly and fill tank to operating level with water and stir**
- **Heat to operating temperature, if required**

CONTROL ANALYSIS:

- **Pipette 10 mLs cooled sample of working solution into a 250 mL E-flask**
- **Add 50 mLs of DI water**
- **Add 3-5 drops of phenolphthalein indicator**
- **Titrate with 1.0N sodium hydroxide from clear to red**

Calculation: mL sodium hydroxide x 2.3 = % by volume Acid Prep TM

PROCESS CYCLE RECOMMENDATIONS:

The process cycle recommendations listed below are for typical applications, modification may be required for your specific application. Some variable factors are the condition of basis metal, part configuration, type and extent of soils to be removed. Equipment considerations and plating requirements can also be a factor. Please contact your Accu-Labs representative to assist you in determining the best product and process for your particular application.

HSLA 4130 & 4100 Series:

- **Soak clean (as required)**
- **Water rinse**
- **Anodic (Reverse) Electroclean 160°-175°F at 60-75 ASF for two minutes**
- **Acid Prep TM 20% by volume at room temperature for 3-5 minutes**
- **Water rinse**
- **Repeat Electroclean step**
- **Water rinse**
- **0.5% Ammonium Hydroxide dip at room temperature for 15-30 seconds**
- **Electroless Nickel Plate**
- **Rinse and dry**

HSLA 4340 and 4300 Series:

- Soak clean (as required)
- Water rinse
- Anodic (Reverse) Electroclean 160°-170°F at 60-75 ASF for three minutes
- Water rinse
- Acid Prep TM 20% by volume at room temperature for 3-5 minutes
- Water rinse
- 0.5% Ammonium Hydroxide dip at room temperature for 15-30 seconds
- Electroless Nickel Plate
- Rinse and dry

SAFETY AND HANDLING: Acid Prep TM is an acidic solution, always wear protective gear when handling or working with this product. Read MSDS prior to using this or any Accu-Labs product.

DISCLAIMER: *The information contained in this bulletin is true and accurate to the best of our knowledge. Because use and conditions are beyond our control, no guarantee is expressed or implied for the aforementioned suggestions or recommendations. Accu-Labs, Inc. will not incur any liability in connection with the use of these suggestions and/or technical data.*