

E-Kleen™ 173-E

Combination Electrolytic and Soak Cleaner for Zinc Die Castings as well as Copper, Brass and Steel

E-Kleen 173-E is a mildly alkaline powdered mixture which is highly fortified with surface active agents, detergents, suspension agents and builders which is dissolved in water for the fast, effective cleaning of metals.

E-Kleen 173-E is an emulsifiable (doesn't float oil) cleaner.

E-Kleen 173-E contains a chrome reducer.

E-Kleen 173-E is recommended for applications where there is limited cleaning equipment - no secondary soak available. It is excellent for short cleaning cycles.

It is recommended as a cathodic cleaner for diecast zinc and white metal with a short current reversal to anodic just prior to removal of a rack, if reversing switches are available. If not, leave cathodic at low current.

It is an excellent combination soak and anodic electrocleaner for steel and works well anodically on brass and copper.

E-Kleen 173-E removes light buffing compounds and light oils.

BENEFITS

1. Long life.
2. Excellent chrome reducing properties which are advantageous when racks are not stripped.
3. Free rinsing.
4. Does not scum with hard water.
5. Resists drying tendency with long transfer times when used at temperatures of 130° to 150°F.

CONCENTRATION

Eight (8) to 10 wt oz/gal of water.

TEMPERATURE

130° to 150°F

VOLTAGE

5-7 volts for anodic current
4-6 volts for cathodic current
1/2 - 1 volt for cathodic cleaning of zinc die cast

AMPERAGE

15 to 20 amps per square foot

TIME

10 to 40 seconds

EQUIPMENT

Tanks should be constructed of mild steel or stainless steel. Racks, baskets and barrels must be compatible with other metal finishing solutions used thereafter. Do not use galvanized steel, bronze, copper, tin or aluminum. Immersion heaters may be of mild steel.

SOLUTION MAKE UP

Dissolve the powdered **E-Kleen 173-E** in warm water while stirring. When charging a production tank, premixing in a partially filled tank is recommended.

The **E-Kleen 173-E** solution concentration is maintained with periodic additions of cleaner to replace that consumed by removing the surface soils and due to solution dragout. When making replenishments to a hot cleaning solution they should be made cautiously to avoid spattering of the solution due to heat being generated when the chemicals are dissolved. The strength of the solution is determined chemically with either a burette titration or dropping bottle test. When cleaning solution becomes excessively contaminated with soils, it should be dumped and a new cleaning solution made up.

SOLUTION CONTROL

A. Titration Method

1. Take a sample of the **E-Kleen 173-E** solution from the bath with a beaker and allow to cool to room temperature.
2. Pipette 10 ml of the sample into a clean 125 ml Erlenmeyer flask. Add 25 ml of water.
3. Add five (5) drops of Phenolphthalein Indicator solution.
4. Titrate with 1.0N Hydrochloric Acid to a complete fade of the pink color.
5. Calculation:

Concentration of **E-Kleen 173-E** (oz/gal) = ml of Hydrochloric Acid x 1.143

B. Dropping Bottle Method

1. Take a 10 ml sample of the **E-Kleen 173-E** solution with a 10 ml graduated cylinder and add along with 25 ml of water to a 250 ml beaker.
2. Add 4 to 7 drops of Phenolphthalein Indicator to produce a pink colored solution.
3. Add dropwise 5N Sulfuric Acid from a dropping bottle while counting the drops and swirling the solution.
4. Stop adding drops when solution suddenly changes color from pink to colorless.

Concentration E-Kleen 173-E (oz/gal) = number drops 5N Sulfuric Acid x 0.57

CAUTION

THIS MATERIAL CONTAINS CAUSTIC SODA. MAY CAUSE SEVERE BURNS. Do not get in eyes, on skin or clothing. Avoid breathing dusts or mists. Do not take internally. When handling, wear goggles or face shield. While making up solutions, or adding powder to solutions, add slowly to surface of solution to avoid violent spattering. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. For eyes, call a physician.

Do not mix **E-Kleen 173-E** with acidic materials, or any other chemical substances. **Do not** work with **E-Kleen 173-E** without first reading and understanding the **SAFETY DATA SHEET** furnished by **EPI**.

PACKAGING

100 and 500 pound drums

IMPORTANT NOTICE! For Industrial Use Only

The following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose: seller's and manufacturer's only obligation shall be to replace such quantity of the product as proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. **Neither seller nor manufacturer shall be liable either in tort or in contract for any loss or damage, direct, incidental or consequential, arising out of the use or the inability to use the product.**

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