

E-Kleen™ 125

Combination Electrolytic and Soak Cleaner for Zinc Diecastings As Well As for Copper, Brass and Steel

E-Kleen 125 is a powdered mixture of surface active agents, detergents, suspension agents and builders which is dissolved in water for the fast effective cleaning of metals.

The highly buffered material is recommended as a heavy duty electrolytic and soak cleaner which **will not** attack zinc diecastings and slush castings.

It electrolytically removes smut while preventing the redeposit of soils and preparing the surfaces for electroplating.

E-Kleen 125 is the preferred soak cleaner to be used without an intervening water rinse prior to an electrolytic solution of **E-Kleen 125**.

E-Kleen 125 may also be used as an electrolytic and soak cleaner for copper, brass and steel.

OPERATING PARAMETERS –

	<u>Electrolytically</u>	<u>Soak</u>
Concentration:	4 to 10 oz/gal. of water	8-16 oz/gal of water
Temperature:	140° to 200°F	140 - 200°F
Immersion Time:	15 seconds to 2 minutes (zinc and copper) 1 to 5 minutes (steel)	5 – 10 minutes
Polarity:	Anodic (reverse current)	N/A
Current Density:	10 to 30 amps. (zinc and copper) 50 to 100 amps. (steel)	N/A

Lower temperatures (140° to 160°F) may be required with copper and brass. There will be some mild oxidation (darkening) of the copper and brass surfaces during electrolytic cleaning. These oxides are easily removed with a short acid pickle prior to electroplating.

When used as a **soak cleaner** the concentration is maintained at 8 to 10 oz/gal. and temperatures in excess of 160°F. The required cleaning time will depend upon the type and degree of soil on the surfaces and on the concentration and temperature of the solution.

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 125** in warm water while stirring. When charging a production tank, pre-mixing in a partially filled tank is recommended.

The **E-Kleen 125** 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 or 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 125** solution from the bath with a beaker and allow to cool to room temperature.
2. Measure out 25 ml of the sample with a 25 ml pipet and transfer to a clean 125 ml Erlenmeyer flask. Add 25 ml of water.
3. Add five (5) drops of 0.5% Methyl Orange Indicator to produce a yellow colored solution.
4. Titrate with 1.0N Hydrochloric Acid to an orange-pink color.
5. Calculation:

$$\text{Concentration of E-Kleen 125 (oz/gal)} = (\text{ml of HCL}) \times (0.3125) \times (\text{Normality of HCL})$$

B. Dropping Bottle Method (Test kit available from **EPI**)

1. Take a 10 ml sample of the cleaning solution and add along with 10 ml of water to a 150 ml beaker.
2. Add 4 to 5 drops of Phenolphthalein Indicator to beaker.
3. Add dropwise 5N Sulfuric Acid from a dropping bottle while counting the number of drops and swirling the solution.
4. Stop adding the drops when the color suddenly changes from pink to colorless.
5. Calculation:

$$\text{Concentration of E-Kleen 125 (oz/gal)} = \text{number drops Acid} \times 0.278$$

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 125** with acidic materials, or any other chemical substances. **Do not** work with **E-Kleen 125** without first reading and understanding the **MATERIAL SAFETY DATA SHEET** furnished by **EPI**.

PACKAGING

100 lbs., and 400 lbs. (net in plastic lined, non-returnable containers) Keep lid on when not in use. Store indoors in a dry area.

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.**

2-27-06