Potters KLY

Liquid General Purpose Wire Drawing Product

Potters KLY **Product Bulletin**

Potters KLY drawing compound is an emulsifiable oil designed for drawing fine steel and copper wire. Formulated to overcome the problems usually met in wire drawing, it also eliminates objectionable features common to other drawing compounds. The balanced formulation provides continuous, clean wire draws and measurably extends die life.

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Technical Data	Typical Properties
Appearance	Dark reddish liquid
pH 2% soln	9
Solubility, 10%	Stable emulsion
Cloud Point, °C	30
Volatiles, %	35

Advantages

1. *Liquid Nature* - **Potters KLY** drawing compound readily mixes with water to form drawing emulsions. This is a distinct advantage, since many paste products are difficult to disperse even in hot water.

2. *Long Bath Life* - Formulated with a built-in affinity for water, **Potter KLY** drawing emulsions resemble true solutions. This characteristic promises increased bath life by reducing lubricant drag-out. Bath strength is maintained for longer periods with fewer Babcock tests required to control fat content.

3. *Prevents Copper and Lime Soap Formation* - **Potters KLY** is formulated to prevent the formation of copper soap in draw baths. These hard soaps tend to score dies and clog feed lines and screens. Restricted flow also contributes to die scoring. **Potters KLY** prevents this condition by absorbing and dispersing copper soaps as they are formed. Its detergent properties clean the lines and screens as it circulates.

   Potters KLY compound also prevents the formation of insoluble lime soaps when drawing lime coated steel wire. "Carry-over" acids, which form sludges destructive to die life, are also deactivated.

4. *Foaming* - Traditionally, fine wire drawing compounds have been plagued with foam problems. **Potters KLY** compound reduces foam and ensures adequate lubricant film "on the wire at the die."

5. *Extended Die Life* - **Potters KLY** emulsions maintain adequate bath strength for extended periods. Contaminants are deactivated and die life is increased. The results are accelerated production and reduced shutdowns for die changes.

Application

Potters KLY drawing compound can be used for low carbon, galvanized, and liquor-finished fine steel wire. It is also recommended for fine and intermediate copper, bronze, and brass wire.

Potters KLY emulsions are easily prepared. Simply add the required amount of **Potters KLY** drawing compound to a given volume of water to produce the desired fat content. Since emulsion strengths depend on the type and size of wire produced and the equipment used, individual requirements must be determined on an empirical basis.

The following concentrations have been found effective for the wire type indicated:

Fine Steel	2.0 - 3.0%
Fine Copper	0.5 - 1.5%
Intermediate Copper	1.5 - 2.5%

Product - Water Ratios for Given Fat Concentrations

Potters KLY Drawing Compound / gal	Water / gal	Approximate Fat Content by Babcock Method* / % vol
1	99	0.5
2	98	1.0
3	97	1.5
4	96	2.0
5	95	2.5
6	94	3.0
7	93	3.5
8	92	4.0
9	91	4.5
10	90	5.0

* A Technical Data Report, "Babcock Method for Determining the Fatty Matter Content of Oil Emulsions," is available upon request.

Potters KLY drawing compound works best in a pH range of 8.5 to 9.0. Sufficient sodium carbonate should be added to restore alkalinity when bath pH is reduced to 8 or below.

Note: No pre-flushing is needed if system is free of excessive fat and soap deposits. If heavy deposits are present, system should be cleaned manually and a 2% **Potters KLY** solution circulated through the system for a period from 24 hours to 36 hours. This "pre-flush" need not be dumped if it is not too heavily loaded with soap and fat deposits.

Packaging, Storage & Handling

Potters KLY is shipped in bulk or 55 gallon (200L) lined steel drums. Maintain storage at 50°F / 10°C minimum and protect from freezing.

Additional handling information is contained in a Material Safety Data sheet, which is available upon request.