



SOLUBLE

SOLUBLE oil is a metal-working fluid designed to emulsify easily with water and is especially effective in the machining of ferrous metals. It is also suitable for the machining of non-ferrous metals where some discoloration of the work-piece is acceptable. It has an effective rust inhibitor and a bactericide to prevent disagreeable odors.

Features

- Effective rust inhibitor
- Prevents disagreeable odors
- EP agent to prolong tool life

Benefits

- Versatile – can be used for many machining operations
- Effective – forms a stable emulsion for maximum cooling benefit
- Convenient – Initial bactericide is already included

In heaviest concentrations (1 part oil to 10 parts water) it is suitable for slow-speed, medium to heavy machining operations that include threading, tapping, drilling, broaching and planing. In lesser concentrations (1:20 or 1:30) **SOLUBLE** oil is suitable for medium and high speed machining, and it gives very good results in finishing applications.

The action of shearing a chip away from a metal surface, which is the basis of virtually all machining operations, generates great amounts of heat. Unless this heat is removed it can affect the work finish and shorten the tool life. Water is the best medium to remove this excessive heat, while a lubricant will help to reduce heat generation by reducing rubbing friction. Soluble oils have shown themselves to offer the best of both worlds. Heavy machining operations can cause the chip material to erode away the tool face and shorten tool life, so that an EP agent is helpful in reducing this damage.

For long fluid life it is very important to keep the fluid clean. The fluid should be filtered to remove swarf. The pH of the emulsion must be controlled to prevent the growth of bacteria and fungi otherwise they will weaken the emulsion, causing the oil to separate and releasing objectionable smells. The pH can be adjusted with the addition of a suitable agent. If an incorrect pH causes a problem, it can be corrected by adding a bactericide or fungicide.

For stable emulsion, always start by adding the oil to water, about 1 part oil to 4 parts water. Then dilute the emulsion with more water to the desired strength. Refer to the chart overleaf.



Typical Performance Results

METAL	IRON			ALUMINUM	COPPER, BRASS, BRONZE	MAGNESIUM
MACHINABILITY	< 55%	55% - 70%	> 70%			
MILLING, DRILLING & BORING	1:10	1:15	1:20	1:20	1:20	N.R.*
BROACHING	1:10	1:10	1:15	N.R.*	1:15	N.R.*
HOBGING	N.R.*	N.R.*	N.R.*	1:15	N.R.*	N.R.*
FORM GRINDING	1:20	1:25	1:30	N.R.*	1:30	N.R.*
PLAIN GRINDING	1:25	1:40	1:40	1:40	1:40	N.R.*
REAMING	1:10	1:10	1:10	1:20	1:20	N.R.*
SAWING, TURNING, TAPPING, THREADING	1:10	1:15	1:20	1:20	1:20	N.R.*

* N.R. = **NOT RECOMMENDED**

DO NOT USE any soluble cutting oil for machining Magnesium because of the risk of fire.

DO NOT ALLOW TO FREEZE: Storage for long periods at low temperatures can affect the solubility of various components in this product, causing them to separate. The product then forms unstable emulsions when mixed with water.

Available Package Sizes

SOLUBLE LIGHT #2

- 20 L (5.28 US gal.) Pail
- 210 L (55.5 US gal.) Drum
- 500 L (132 US gal.) Cube
- 1000 L (264 US gal.) Cube

