

FLC-380 Clear
Precision Ferrous Metal
Grinding Fluid

FLC-380 Clear is the first in a new family of fully synthetic high-performance machining and grinding fluids that are environmentally friendly and highly waste treatable. FLC-380 Clear is recommended for use in all types of machining and some grinding operations on ferrous metals, cast iron, and some harder nonferrous metals. Operations include machining, milling, drilling, gun drilling, broaching, reaming, and many other operations requiring high levels of tool life and surface finish.

Superior Finish – FLC-380 Clear is formulated to produce the highest levels of surface finishing possible, even on hard to finish metals such as chrome, stainless steel, and cast iron.

High Line Speeds – FLC-380 Clear is formulated with high levels of lubricity additives, allowing increased line speeds. FLC-380 Clear contains no reactive chemistry or extreme pressure additives used in most conventional metalworking fluids. It also does not contain phosphorous, chlorine or sulfur and is completely ashless in high heat operations such as gun drilling, broaching, reaming, turning, and milling.

Highly Dilutable – FLC-380 Clear can be diluted to extended levels (30:1) with water, and produce a perfect pass in the ASTM Cast Iron Chip test.

Outstanding Corrosion Protection – FLC-380 Clear provides significantly higher levels of in-process and machine corrosion control than most competitive materials.

Non-Sticky – FLC-380 Clear will not build up on floors and equipment. It will reject most lubricating, hydraulic, and way oils as well as most solvents. For this reason, FLC-380 Clear has very low susceptibility to biological attack, and parts are more easily cleaned after manufacturing.

Biological Stability – FLC-380 Clear provides extended tank life and low sludge levels due to biological build up.

Safe on Most Metals – FLC-380 Clear will not attack most ferrous or non-ferrous metals. It will not attack electrical components and contacts.

Waste Treatable – FLC-380 Clear rejects tramp and way oils; therefore, it is easily waste treated by simple and inexpensive methods. Levels of treatment chemicals needed to treat FLC-380 Clear may be only one-half the amount needed for most standard metalworking fluids. System retention time is much lower than most standard coolants. Always contact local and state agencies before disposing of this or any other material.

Calculating Starting Amount of Coolant – To calculate the correct amount of coolant to be added to the sump, multiply coolant sump volume by 7.5 (the number of gallons of liquid in a cubic foot).

Example:

Tank width = 2 ft

Tank length = 6 ft

Tank depth = 2 ft

Volume = 2 x 6 x 2 = 24 cu ft

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Liquid Volume = 24 x 7.5 = 180 gal

For a 50:1 concentration, add 180/50 = 3.6 gal to the coolant tank.

Adding FLC-380 Clear to the Coolant Tank – When diluting FLC-380 Clear, ensure that the machine sump is clean and free of built up glass fines and other foreign materials. Always add water to the sump first after cleaning, and then add FLC-380 Clear. Circulate the sump for several minutes before starting production to give the tank time to completely mix.

Checking Concentration – Coolant concentration should be checked daily whenever possible. The simplest method is with a hand held refractometer. For the best results, always filter the coolant through a 1-micron filter before reading the solution concentration. Once the coolant has been filtered, place a drop or two on the face of the refractometer. Hold the instrument up to the light and read the number just at the light colored line on the screen face. Write down and use it to refer to the refractive index chart enclosed with the product. Find the reading on the refractometer and locate it on the left-hand side of the chart. Now read to the right and down to determine the current dilution.

Recommended Starting Dilutions

Grinding 20:1 to 25:1

Typical Properties

Appearance	Clear Blue Liquid
Volatile Component	Water
Freeze Point	32°F
Boiling Point	212°F
pH	10 - 10.3
Evaporation Rate	NA
Odor	Mild
Vapor Pressure	NA
Vapor Density	NA
Specific Gravity	1.04 – 1.05
VOC	None
Weight per Gallon	8.65 - 8.75
Solubility in Water	Infinite

Packaging and Handling – FLC-380 Clear is a liquid packed in non-returnable drums, Tote Bins, Pails, and Bulk. Refer to the Material Safety Data Sheet for suitable materials of construction, for handling, and storing of this product. Observe all safety precautions shown on the label and in the Material Safety Data Sheet.

Health	1
Flammability	1
Reactivity	0
Personal Protection	B

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