



PRODUCT INFORMATION

LUBRITA FERRO M 3000

DESCRIPTION

SEMISYNTHETIC, METALWORKING FLUID CONCENTRATE

APPLICATIONS

LUBRITA FERRO M 3000 is semi-synthetic Low Oil, translucent concentrate with no EP contents. **LUBRITA FERRO M 3000** is a general-purpose fluid formulated with special paraffinic oil, coupling agents and a high level of emulsifiers which form very stable emulsions, even with relatively hard waters and high dilution ratios. Exhibits high level of detergency and reserve alkalinity, low foaming tendencies, and contains a bactericide to combat a wide spectrum of micro-organisms commonly found in sumps & reservoirs. **LUBRITA FERRO M 3000** is recommended for light machining applications such as drilling, planning, milling, sawing and turning operations on a variety of carbon and alloy steel ranging from soft to medium hardness, particularly where carbide tip tooling is being used. Recommended for grinding operations where very dean emulsion are typically required to permit rapid settling of fines.

Metals:

Cast Iron, Alloy Steels, Carbon Steels, High Speed Steels, Tool Steels, Stainless Steel, Cast Steel, Bronze, Brass, Copper Metals.

FEATURES & BENEFITS

- 1) **Efficient machining and grinding:** - High level of detergency prevents sticking on grinding wheels with grits and fines so there is no continuous dressing of grinding wheels, thus the wheel life increases, and also assists in flushing and setting of chips. Low foaming is an advantage in high speed operations.
- 2) **High Precision & Surface Finish:** - Excellent cooling and lubricity properties of the emulsion transfer heat from the cutting zone and reduce friction between the tool and work piece, to provide dimensional accuracy and good surface finish on parts. High detergency keeps grinding wheels free cutting, producing excellent finishes.
- 3) **Low maintenance:** - Level of detergency assets in flushing and settling of grinding dirt promotes longer wheel life. The selected base oil component of the emulsion provides effective rust protection of machine and machined parts, and high level of reserve alkalinity reduces acids that develop in emulsion system with use.
- 4) **Longer Emulsion Life:** - Carefully balanced combination of base oil, emulsifiers and coupling agents produces stable, long lasting emulsion. The high level of reserve alkalinity improves the emulsion's resistance to bacterial degradation. The effective bactericide component combats micro-organisms.



LUBRITA FERRO M 3000 is free from Boron Additives, Triazine biocides, Chlorine EP, Sulphur EP, Sodium Nitride, Phemolic couplers & Coloring dyes.

RECOMMENDED STARTING DILUTIONS OR INDUSTRIAL USE ONLY

Recommended Starting Dilution: 5% (1:20)

Typical Operating Range: 5% (1:20) to 10% (1:10)

For concentrations outside this range contact Lubrita Technical Service

LUBRITA FERRO M 3000 is to be mixed with water for use (add concentrate to water). Add no other substances to the concentrate or mix unless approved by Lubrita Technical Services.

Not recommended for use with magnesium or alloyed magnesium.

SERVICE CONSIDERATIONS

System Cleaning:

For optimum performance & for long life of coolant firstly we have to thoroughly clean the system to remove residues, machining debris / fines, bioaccumulations like fungi etc. from previously used products. Lubrita suggest to disinfect, clean and remove the harmful contaminants by

SYSTEM CLEANER Lubrita.

Emulsion Preparation:

As guided by Lubrita engineers (as per application requirements) concentration and water to be used in the emulsion should be charged (at room temperature) into a separate mixing vessel. Slowly add the amount of oil required to obtain the correct emulsion concentration with thorough mixing. Remember while preparing emulsion manually; always add the concentrate to the water with maximum agitation. **Use automatic mixers.**

LUBRITA FERRO M 3000 is formulated to be compatible with water up to 1000 mg/L hardness (Calcium Carbonate). For best results, water of low hardness should be used in emulsion preparation and make-up. Never use hard water as it tends to deplete the emulsifiers, resulting in surface scum and soap formation over extended periods of time thus reducing the coolant life.

Monitor Dilution Regularly:

You can extend the service life of **LUBRITA FERRO M 3000** through the use of good fluid monitoring practices. Which are Check emulsion strength regularly, always premixing emulsion prior to adding to system. Where possible, adjust concentrate by adding pre-mixed emulsion of suitable concentration. Pre-mixed **LUBRITA FERRO M 3000** emulsion should only be added to the system where there is adequate fluid movement for thorough mixing, and never directly before the filter.

The pH should be periodically checked and maintained within the range of 8.8 to 9.5. Maintenance of correct emulsion strength is generally sufficient to maintain the pH. Checking for bacterial / fungal growth should be carried out using bacteria / fungi dip slides or other suitable test kits.

**Remove Tramp Oil and Other Contaminants:**

Elimination of tramp oil and other contaminants is essential to prolonging emulsion life. Since the presence of tramp oil provides nutrients for bacterial (Aerobic & Anaerobic) growth, any tramp oil should be periodically skimmed from sumps and reservoirs. Foreign materials such as machining debris and fines should be periodically removed by filtration or other suitable means.

Handling Practices

It is recommended that **LUBRITA FERRO M 3000** be stored indoors at room temperature to protect against the effects of temperature extremes. **LUBRITA FERRO M 3000** should never be stored at temperatures below 4°C for extended periods, since low temperature storage conditions may lead to stratification and/or layering of components. If outdoor storage is necessary and separation is observed, the product can usually be reconstituted by agitation to remix the ingredients. Overheating of the product may result in removal of water and/or coupling agents, which will adversely affect the balance of ingredients and make the product unusable. In addition, extreme care should be taken to prevent the oil from becoming contaminated during storage. Any contaminants could have very unfavorable effects on the emulsification and performance characteristics of the product

TYPICAL PARAMETERS:-

TYPICAL APPLICATION	CONCENTRATION %
GENERAL MACHING FLUID	5-6
THREAD CUTTING	6-8
REAMING	8-10
GRINDING	3-5

TYPICAL DATA	RESULTS
CONCENTRATE	
APPEARANCE	CLEAR AMBER LIQUID
PH @ 5%	9.4
IP 287, BREAKPOINT %	3.0
THERMAL STABILITY TEST	PASSES
R I FACTOR	2.4

HANDLING, HEALTH AND SAFETY

Lubricant consisting of highly refined mineral oils with specific additives. In normal conditions of use this lubricant presents no particular toxic hazard. All lubricants, of any kind should be handled with great care; avoiding any contact with the skin is desirable. Store under cover and away from any risk of pollution. Disposes off the used oil correctly, don't pour down drains, into watercourses or the soil