



# SAWING AND METALWORKING FLUIDS

High Performance Fluids To  
Optimize Your Sawing Operation

Environmentally Friendly

Outstanding Lubricity

Exceptional Cooling

Extended Tool Life

Increased Shop Productivity



**LENOX** is a leading supplier of industrial products and services to high production facilities in the metalworking industry. We produce a comprehensive range of **BEST-IN-CLASS** cutting products and complement these with high performance metalworking fluids and delivery systems designed to optimize your machining operations. Our advanced lubricants are used in operations that produce high quality components for the automotive, aerospace, energy, transportation, and construction industries.

## EFFICIENCY, QUALITY AND CONSISTENCY

LENOX sawing and metalworking fluids are used to machine a variety of metals from aluminum to high-strength steels. Our fluids can dramatically increase the productivity of your shop. They are manufactured with quality and consistency to deliver the following benefits to your cutting operation:

### EXCELLENT LUBRICATION

Reduces frictional heat between the tool and work piece

### EXCEPTIONAL COOLING

For extended blade life

### EASIER TOOTH PENETRATION

Better chip formation, evacuation, and faster cutting rates

### LESS MACHINE WEAR

Decreased maintenance costs

### MINIMIZED DOWNTIME

Fluids require less maintenance and last longer

### IMPROVED PART FINISH

Reduces secondary processing.  
Leaves no residue stains, corrosion or rust.

### ENVIRONMENTALLY FRIENDLY

LENOX recognizes the importance of environmentally friendly products that enable a safe work environment. Our products do not contain chlorine, sulphur, sulphonates, or any other damaging chemical components. The fluids are designed to be physically and chemically stable for the long term, which leads to decreased fluid consumption and reduces disposal costs. Our *MICRONIZER*® delivery systems reduce the amount of fluid used per day, while providing a safe and clean work environment.

### LENOX SYNTHETIC FLUIDS

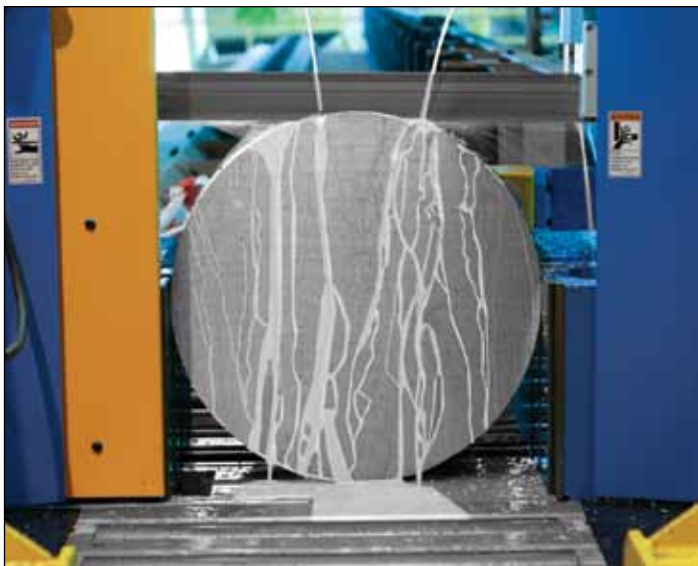
These formulations provide excellent cooling with the ability to wet the work piece without the use of oil. They offer the best heat reduction, superior rust control, and the longest sump life. Like semi-synthetics, these solutions contain performance additives such as lubrication aids, biocides, and rust inhibitors.

### LENOX SEMI-SYNTHETIC FLUIDS

An emulsion of synthetic oil (2-30%) and water provides lubrication, reduced heat, rust protection, and a longer sump life than soluble oils. Biocides, corrosion inhibitors, and anti-foaming agents are added to improve performance and extend life.

### LENOX SOLUBLE OILS

Soluble oils contain higher oil content (30-85%) and are formulated with emulsifiers to aid mixing with water. The increased oil improves lubrication for moderate to heavy duty machining applications. Soluble oils reduce machine wear and inhibit rust, but often require more maintenance to extend sump life.



**LENOX** is **COMMITTED** to providing high performance solutions that deliver **SUPERIOR PERFORMANCE.**



## CYCLE HD™

Heavy Duty, Water Soluble Oil with No Harmful Additives

### EXTENDS BLADE LIFE

Exceptional lubrication protects the blade from premature wear

### EXTREMELY VERSATILE

Engineered for a variety of applications. One fluid for the whole shop

### A BETTER SOLUTION FOR THE ENVIRONMENT

Enhanced performance without the harmful additives associated with typical EP packages

No chlorine, no phosphates, no nitrites, and no sulphur

### DESIGNED FOR LONG TERM STABILITY

Controls bacterial attacks, which extends sump life

Smaller oil droplets prevent separation of the oil from water

### INCREASED SHOP PRODUCTIVITY

Reduced machine wear decreases maintenance and downtime

Provides less drag off, which lowers fluid replacement costs

### OPERATOR FRIENDLY

Mild to the skin, low foaming, and low misting



PRODUCT NO	CONTAINER SIZE GALLON	LITER	CONTAINERS PER CASE	NFPA CODE SPECS
97125LNX	1	3.8	4	<b>HMIS/WHMIS</b> HEALTH INDEX – 1 FLAMMABILITY – 1 REACTIVITY – 0 PERSONAL PROTECTION – A <div> <div>HEALTH</div> <div>1</div> <div>FIRE</div> <div>0</div> <div>REACTIVITY</div> <div>SPECIAL HAZARD</div> </div>
97128LNX	2-1/2	9.5	2	
97129LNX	5	18.9	—	
97130LNX	55	208.2 drum	—	
97133LNX	275	1,040.9 tote	—	

Not recommended for use as a spray lubricant. Mix this product with water as recommended. Not for use on magnesium.

## BAND-ADE®

High Performance, Semi-Synthetic Sawing Fluid

General purpose flood coolant designed for light to moderate-duty machining applications involving both ferrous and non-ferrous metals

### EXTENDS BLADE LIFE

Increased lubrication aids in chip formation and evacuation

### EXCEPTIONAL COOLING

Water-soluble formulation helps to reduce frictional heat and improves cutting performance

### INCREASES PRODUCTIVITY

Faster cutting and reduced machine wear increases efficiency

### ENVIRONMENTALLY FRIENDLY

Products are biodegradable, safe for the operator to use, and do not contain harmful chemicals like chlorine and sulphur

### SURFACES CAN BE WELDED AND PAINTED OVER



PRODUCT NO	CONTAINER SIZE GALLON	LITER	CONTAINERS PER CASE	NFPA CODE SPECS
68004	1	3.8	4	<b>HMIS/WHMIS</b> HEALTH INDEX – 0 FLAMMABILITY – 0 REACTIVITY – 0 PERSONAL PROTECTION – A <div> <div>HEALTH</div> <div>0</div> <div>FIRE</div> <div>0</div> <div>REACTIVITY</div> <div>SPECIAL HAZARD</div> </div>
68005	2-1/2	9.5	2	
68003	5	18.9	—	
68001	55	208.2 drum	—	
68007	275	1,040.9 tote	—	

Not recommended for use as a spray lubricant. Mix this product with water as recommended. Not for use on Magnesium.

**SAW MASTER™**

High Quality, Synthetic Sawing Fluid

Specially formulated flood coolant for light to moderate-duty applications on ferrous metals and alloys

**LONGER BLADE LIFE. FASTER CUTTING.**

Lubricates and cools to get the most from your blade or tool

**REJECTS MOST TRAMP OILS**

Unwanted oils can be separated and removed to keep the fluid performing longer

**EXCELLENT SUMP LIFE**

Advanced anti-microbial agents control bacterial growth and prevent rancidity, which lowers fluid replacement costs

**CAN BE USED IN MOST HARD WATER APPLICATIONS**

Eliminates filtration problems and residue

**SURFACES CAN BE WELDED AND PAINTED OVER****LOW TO NON-FOAMING**

PRODUCT NO	CONTAINER SIZE GALLON	LITER	CONTAINERS PER CASE	NFPA CODE SPECS
68064	1	3.8	4	<b>HMIS/WHMIS</b> HEALTH INDEX – 1 FLAMMABILITY – 0 REACTIVITY – 0 PERSONAL PROTECTION – A
68061	5	18.9	—	
68062	55	208.2 drum	—	
68063	275	1,040.9 tote	—	



*Not recommended for use as a spray lubricant. Mix this product with water as recommended. Not for use on Magnesium.*

**MAINTENANCE**

Taking the time to properly maintain your fluids will keep them working well longer. Over time, the chemical and physical properties can change as water evaporates and contaminants get into the sump. Following these steps will extend the life of the product, which will minimize downtime and decrease the cost of the operation.

**1) Monitor the concentration and pH of the fluid**

If the concentration becomes too high, it can lead to foaming and residue formation. If the concentration falls too low, it can decrease lubricity and give bacteria the chance to grow. Controlling the concentration and pH level will keep the level of bacteria at a minimum making the solution more effective and the workplace more pleasant.

**2) As the concentration of the fluid changes, take steps to restore the original dilution ratio**

A pre-mixed blend of fluid and water should be added to the sump, based on readings obtained from your refractometer.

**3) Remove tramp oil regularly with a skimmer or filtration system**

Tramp oils will separate from the solution and float to the top of the sump. They can be damaging to the solution and decrease the effectiveness if they are not removed.

**4) Keep the sump free of contaminants**

The presence of chips, swarf, dirt, food, and trash can impact pH and allow bacteria to grow.

**5) Aerate the fluid when not in use**

Mixing the fluid or installing an air pump will prevent the growth of anaerobic bacteria and will eliminate foul odor.

**6) Clean the system**

Use LENOX Machine Cleaner between charges.

## LENOX MACHINE CLEANER

Prepares Your Sump for the use of LENOX Sawing Fluids

### CLEANS THE MACHINE BETWEEN CHARGES

Eliminates bacteria and fungi

### EXTENDS THE LIFE OF THE SAWING FLUID

Helps loosen dirt and contaminants for easier removal and a cleaner system

### PREVENTS CONTAMINATION WHEN CONVERTING FLUIDS



PRODUCT NO	CONTAINER SIZE		CONTAINERS PER CASE	NFPA CODE SPECS
GALLON	LITER			
68006	1	3.8	4	<b>HMIS/WHMIS</b> HEALTH INDEX – 1 FLAMMABILITY – 0 REACTIVITY – 0 PERSONAL PROTECTION – A

*For industrial use only.*

*Mix this product with water as recommended*



## REFRACTOMETER

Measures Sawing Fluid Concentration

### IMPROVE FLUID EFFECTIVENESS

Maintaining the proper water to fluid ratio increases tool life and ensures longer fluid performance

### EASY TO USE AND CALIBRATE

Calibrate with a drop of water, put a small amount of sawing fluid in the refractometer. A quick look through the lens shows the fluid ratio.



PRODUCT NO	DESCRIPTION
68012	Refractometer

## DELIVERY SYSTEMS

LENOX has two delivery systems for operations that require Minimum Quantity Lubrication (MQL). These precision applicators effectively reduce fluid consumption, maintenance costs, and clean up. When coupled with LENOX LUBE® and C/Al Lube, you can eliminate hazardous misting and ensure a safe work environment. The MICRONIZER and MICRONIZER, Jr. can deliver a precise amount of lubricant straight to the cutting tool, which improves cutting performance, extends blade life, enhances finish quality and lowers costs.



## CHOOSING YOUR *MICRONIZER* SYSTEMS

If you are using a band saw machine with a blade width of 1-1/4" (34mm) or wider, the *MICRONIZER* system should be installed. If you are using a band saw machine with a blade width of 1" (27mm) or narrower, the *MICRONIZER, Jr.* should be used. Both units are suitable for circular sawing, drilling, and tapping operations. (May require a special nozzle.)

### ***MICRONIZER***

**Use the answers below to select the best configuration for your application.**

**1) Select the number of lines that are needed**

The *MICRONIZER* can utilize one or two lines.

**2) Choose the type of nozzle needed for the application**

This system can use the LENOX Saw Nozzle, flex nozzle, or a copper nozzle.

**3) Decide if the unit should have a manual shut-off (included) or turn on automatically when the machine is operating**

For the automatic operation, a solenoid valve needs to be installed.

**4) Select the best fluid for the job**

If you are cutting thin-walled tubing or pipe, use LENOX *LUBE*. If you are cutting metals that require higher lubricity, select C/Al Lube. C/Al Lube can be used for ferrous and non-ferrous metals and works well when cutting large structural beams and small solids.

### ***MICRONIZER, Jr.***

**1) Choose the reservoir size that best suits the application**

The *MICRONIZER, Jr.* can have a 7 oz (200ml) or 37 oz (1.1 liter) reservoir.

**2) Choose the type of nozzle needed**

Flex nozzle or copper splitter block nozzle.

**3) Select tubing diameter**

For the 7 oz unit, select the tubing diameter 1/8" or 1/4". The 37 oz unit comes standard with 1/4" tubing. The units with 1/4" tubing have more air volume.





## MICRONIZER®

Precision Lubricant Applicator

DESIGNED TO DELIVER A SMALL AMOUNT OF LUBRICANT

PRECISE FLUID PUMP AND AIR PRESSURE CONTROLS

A VARIETY OF NOZZLES ARE AVAILABLE

RECOMMENDED FOR PRODUCTION SAWING OPERATIONS



68090  
Shown

PRODUCT NO	DESCRIPTION
68090	1 Line Unit w/LENOX Saw Nozzle, 32 oz. (.95 liter) reservoir and manual on/off switch
1770276	1 Line Unit w/Flex Nozzle, 32 oz. (.95 liter) reservoir and manual on/off switch
1770277	1 Line Unit w/Copper Nozzle, 32 oz. (.95 liter) reservoir and manual on/off switch
1770278	1 Line Unit w/LENOX Saw Nozzle, 32 oz. (.95 liter) reservoir and 110V solenoid valve
1770279	1 Line Unit w/LENOX Saw Nozzle, 32 oz. (.95 liter) reservoir and 220V solenoid valve
1770280	1 Line Unit w/Flex Nozzle, 32 oz. (.95 liter) reservoir and 110V solenoid valve
1770401	1 Line Unit w/Copper Nozzle, 32 oz. (.95 liter) reservoir and 110V solenoid valve
1770402	2 Line Unit w/LENOX Saw Nozzle, 32 oz. (.95 liter) reservoir and manual on/off switch
1770403	2 Line Unit w/Flex Nozzle, 32 oz. (.95 liter) reservoir and manual on/off switch
1770188	2 Line Unit w/Copper Nozzle, 32 oz. (.95 liter) reservoir and manual on/off switch
1770406	2 Line Unit w/LENOX Saw Nozzle, 32 oz. (.95 liter) reservoir and 110V solenoid valve
1770407	2 Line Unit w/Flex Nozzle, 32 oz. (.95 liter) reservoir and 110V solenoid valve
1770408	2 Line Unit w/Copper Nozzle, 32 oz. (.95 liter) reservoir and 110V solenoid valve

## MICRONIZER, JR.

Lubricant Applicator

PORTABLE DESIGN FOR USE ON MANY APPLICATIONS

FOR SMALLER BAND SAW MACHINES AND  
OTHER MACHINE TOOLS

CONVENIENT DESIGN

SEVERAL NOZZLE STYLES AVAILABLE



68160  
Shown

PRODUCT NO	DESCRIPTION
68260	7 oz (200ml) Unit with copper nozzle, Shut-off valve and 6' (1.8m) of 1/4" (6mm) tubing
68160	7 oz (200ml) Unit with copper nozzle, Shut-off valve and 6' (1.8m) of 1/8" (3mm) tubing
68258	7 oz (200ml) Unit with flex nozzle, Shut-off valve and 6' (1.8m) of 1/4" (6mm) tubing
68158	7 oz (200ml) Unit with flex nozzle, Shut-off valve and 6' (1.8m) of 1/8" (3mm) tubing
68161	37 oz (1.1 liter) Unit with copper nozzle, Shut-off valve and 6' (1.8m) of 1/4" (6mm) tubing
68159	37 oz (1.1 liter) Unit with flex nozzle, Shut-off valve and 6' (1.8m) of 1/4" (6mm) tubing



**LENOX LUBE®**

## Clean, Synthetic Lubricant for Spray Applications

Advanced formula enables superior cutting performance when Minimum Quantity Lubrication (MQL) is required

**EXTENDS TOOL LIFE**

Extreme pressure lubricant reduces frictional heat, prevents chip welding, and delivers an excellent work piece finish

**CLEAN AND ENVIRONMENTALLY FRIENDLY**

Synthetic, water-based formulation is safe for the shop and operator

**REDUCES COSTS**

No disposal costs and use only ounces per day

**OPTIMUM PERFORMANCE ON FERROUS METALS**

Use with our *MICRONIZER®* systems to lubricate carbon/alloy steels and stainless steels. Works best on pipe and thin-walled tubing

**SURFACES CAN BE WELDED AND PAINTED OVER**

Easily cut structural metals when used with LENOX® Rx® blades.

PRODUCT NO	CONTAINER SIZE GALLON	LITER	CONTAINERS PER CASE	NFPA CODE SPECS	HEALTH	FIRE	REACTIVITY	SPECIAL HAZARD
68014	1	3.8	4	<b>HMIS/WHMIS</b> HEALTH INDEX – 0 FLAMMABILITY – 0 REACTIVITY – 0 PERSONAL PROTECTION – A	0	0	0	
68018	5	18.9	—					
68017	55	208.2 drum	—					
68016	275	1,040.9 tote	—					

Use this product as it comes from the container—do not mix with water.

**C/AI LUBE**

## High Lubricity, Synthetic Formulation for Spray Applications

Synthetic oil formulated for cutting solids and structurals in a Near Dry Machining (NDM) application

**WORKS EFFECTIVELY ON ALL TYPES OF MATERIALS**

Use on a variety of steels and non-ferrous metals. Works well on large structural beams, small solids, and all shapes of aluminum (billets, plates and castings)

**INCREASED PRODUCTIVITY**

Enhances lubrication for higher cutting speeds and feed rates

**EXTENDS TOOL LIFE**

Enables tooth penetration and chip formation which decreases wear on the machine and blade

**CONTROL COSTS**

Decreases the volume consumed and lowers replacement costs when used with our *MICRONIZER* systems



PRODUCT NO	CONTAINER SIZE GALLON	LITER	CONTAINERS PER CASE	NFPA CODE SPECS	HEALTH	FIRE	REACTIVITY	SPECIAL HAZARD
68024	1	3.8	4	<b>HMIS/WHMIS</b> HEALTH INDEX – 1 FLAMMABILITY – 1 REACTIVITY – 0 PERSONAL PROTECTION – A	1	1	0	
68026	5	18.9	—					
68025	55	208.2 drum	—					
68028	275	1,040.9 tote	—					

Use this product as it comes from the container—do not mix with water.

MSDS available in hard copy or downloadable from [lenoxtools.com](http://lenoxtools.com)

## LUBE TUBE

Manually Applied Lubricant Stick

### EXTREME PRESSURE LUBRICANT

Prevents the build-up of frictional heat

### DESIGNED TO BE APPLIED TO BAND SAW BLADES AND OTHER CUTTING TOOLS

Improves overall tool life and productivity when sawing, drilling, milling, grinding, threading and tapping. Works well on abrasives (belts, sanding discs and pads)

**CAN BE USED ON FERROUS AND NON-FERROUS METALS, ALUMINUM GATES AND RISERS, PLATES AND EXTRUSIONS**  
**BIODEGRADABLE, NON-TOXIC AND NON-STAINING**



PRODUCT NO	CONTAINER SIZE OUNCES GRAMS	TUBES PER CASE	NFPA CODE SPECS
68020	14.5 411.1	12	<b>HMIS/WHMIS</b> HEALTH INDEX – 0 FLAMMABILITY – 0 REACTIVITY – 0 PERSONAL PROTECTION – A



## PROTOOL LUBE®

Extends Tool Life

### A UNIQUE SYNTHETIC EMULSION DESIGNED TO INCREASE TOOL LIFE

For cutting, milling, reaming, tapping and drilling metal, wood and plastics

### SHORTENS CUTTING TIME BY UP TO 50%

Provides smoother, cleaner cutting and dramatically longer blade life

### REDUCES HEAT AND FRICTION

Water-soluble so it cleans up with water

### BIODEGRADABLE AND NON-TOXIC

**EASY TO USE, FLIP-TOP BOTTLE FITS IN YOUR TOOL BOX**



PRODUCT NO	DESCRIPTION	NFPA CODE SPECS
68040	6 oz / .17 liter bottle (12 per pack)	<b>HMIS/WHMIS</b> HEALTH INDEX – 1 FLAMMABILITY – 0 REACTIVITY – 0 PERSONAL PROTECTION – A
68047	1 gallon / 3.8 liter	
68048	5 gallon / 18.9 liter	
68050	55 gallon / 208.2 drum	



*Use this product as it comes from the container—do not mix with water.*

## ANTI-SPATTER

Wipe Away Welding Spatter

### SAFE TO USE

Non-toxic, non-explosive, non-combustible, and non-carcinogenic. No silicone or chlorine. No CFC's

### ADVANCED 14 OUNCE CAN

Naturally compressed air (no propellants), easy to hold and use even with gloves

### SPRAYS UPSIDE DOWN

### NO WASTED PRODUCT

Full use of all 14 ounces

### PROTECTS JIGS AND FIXTURES



PRODUCT NO	CONTAINER SIZE		CONTAINERS PER CASE	NFPA CODE SPECS
	GALLON	LITER		
69040	14 oz	397 gram compressed air can	12	<b>HMIS/WHMIS</b> HEALTH INDEX – 1 FLAMMABILITY – 0 REACTIVITY – 0 PERSONAL PROTECTION – A
69041	33 fl oz	946 ml trigger spray bottle	12	
69039	1	3.8	4	
69038	5	18.9	—	
69037	55	208.2 drum	—	



MSDS available in hard copy or downloadable from [lenoxtools.com](http://lenoxtools.com)



# FLUID REFERENCE CHART

Properties and Applications

LENOX METAL- WORKING FLUID	TYPE			METALS				APPLICATIONS					
	FLOOD COOLANT	SPRAY LUBRICANT	MANUAL APPLICATION	USE WITH SOLID METALS	USE WITH STRUCTURAL METALS	USE WITH FERROUS METALS	USE WITH NON-FERROUS METALS	BAND SAWING	CIRCULAR SAWING	DRILLING	TAPPING	MILLING	GRINDING
<i>CYCLE HD™</i>	•			•	•	•	•	•	•	•	•	•	•
<i>BAND-ADE®</i>	•			•	•	•	•	•	•	•		•	
<i>SAW MASTER™</i>	•			•	•	•		•	•	•			•
<i>LENOX LUBE®</i>		•		•	•	•		•	•	•	•	•	•
<i>C/AI LUBE</i>		•		•	•	•	•	•	•	•	•	•	•
<i>LENOX PROTOOL LUBE®</i>			•	•	•	•	•		•	•	•		

LENOX METALWORKING FLUID	CHEMICAL PROPERTIES							
	TYPE	COLOR	BIOCIDES	RUST/ CORROSION INHIBITORS	CONTAINS MIN- ERAL OR PETROLEUM OIL	CONTAINS CHLORINE OR SILICONE	CONTAINS SULFUR/ SULFONATES	CONTAINS CARCINOGENS
<i>CYCLE HD™</i>	Soluble Oil	Amber	Yes	Yes	Yes	No	No	No
<i>BAND-ADE</i>	Semi- Synthetic	Translucent Pink	Yes	Yes	No	No	No	No
<i>SAW MASTER™</i>	Synthetic	Translucent Pink	Yes	Yes	No	No	No	No
<i>LENOX LUBE</i>	Synthetic Emulsion	Translucent Green	Yes	Yes	No	No	No	No
<i>C/AI LUBE</i>	Synthetic Oil	Translucent Blue	No	Yes	No	No	No	No
<i>LENOX PROTOOL LUBE</i>	Synthetic Emulsion	Translucent Yellow	Yes	Yes	No	No	No	No

LENOX METALWORKING FLUID	PHYSICAL PROPERTIES						
	SOLUBILITY IN WATER	SPECIFIC GRAVITY (H <sub>2</sub> O=1)	pH RANGE	VISCOSITY AT 72°F	FLASH POINT	FREEZING POINT	BOILING POINT
<i>CYCLE HD™</i>	Emulsion	0.9-1.0	8.8-9.5	275 SUS	>93°C/200°F	<-26°C/-14.8°F	>93°C/200°F
<i>BAND-ADE</i>	100%	1.02	8.8-9.2	43 SUS	None	-6°C/21°F	99°C/210°F
<i>SAW MASTER™</i>	100%	1.076	9.7-10.0	42.7 SUS	None	-12°C/10°F	99°C/210°F
<i>LENOX LUBE</i>	100%	1.015	7.8-8.2	60 SUS	None	-7°C/19°F	99°C/210°F
<i>C/AI LUBE</i>	Insoluble	0.823	N/A	121 SUS	COC 290°F	N/A	N/A
<i>LENOX PROTOOL LUBE</i>	100%	1.03	8.0-8.5	500 SUS	None	-25°C/-13°F	99°C/210°F

DILUTION RATIO*	FLUID CONTENT	WATER CONTENT	APPLICATIONS
5:1	20%	80%	Heavy-duty sawing, difficult milling
10:1	10%	90%	Moderate to heavy-duty sawing, drilling, tapping and milling
20:1	5%	95%	Light-duty work
30:1	3%	97%	Grinding, light-duty work

\*Dilution ratios are for flood coolants only.  
LENOX recommends 5:1 or 10:1, depending  
on the severity of the operation

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