Metalworking Fluids Product Guide

DuBois
Sustainable Cleaning Solutions

PRODUCT SELECTION GUIDE

DuBois is a trusted leader in metalworking fluids. This guide is intended to aid in the selection of products for your process. In our experience, the best practice for product selection starts with a test or trial of possible products. This trial compares the product selection with established parameters to determine if the product is appropriate.

Product selection should also consider the type of metal being machined and the operation to be performed. In today's world of multitask machining, working from the most difficult to least difficult process will make product selection more successful. Post-machining operations such as: in-process cleaning, painting, assembly, storage, rust protection, and shipping are also important information in the product selection process.

DuBois sales representatives are available to assist you with product selection and process analysis.

Ferrous Metals

	Cast Iron	Carbon Steels	Resulferized Steels	Alloy Steels	Stainless Steels
Lubricoolant 930	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●
Lubricoolant 2050 AC	● ● ● ●	⊙ ⊙ ● ●	⊙ ⊙ ● ●	⊙ ⊙ ● ●	⊙ ⊙ ⊙ ⊙
Diverse-A-Cut 50	● ● ● ●	⊙ ⊙ ● ●	⊙ ⊙ ● ●	⊙ ⊙ ● ●	⊙ ⊙ ⊙ ⊙
Lubricoolant Sol 300	● ● ● ●	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙
Lubricoolant Sol 2000	● ● ● ●	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙
Lubricoolant XL		⊙ ⊙ ● ●	⊙ ⊙ ● ●	⊙ ⊙ ● ●	⊙ ⊙ ● ⊙
Lubricoolant 2025	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙	⊙ ⊙ ● ●	⊙ ⊙ ● ●	⊙ ⊙ ● ●
Lubricoolant SS 200	⊙ ● ● ⊙	⊙ ● ● ⊙	⊙ ⊙ ⊙ ⊙		
Lubricoolant SS 500	⊙ ● ● ⊙	⊙ ● ● ⊙	⊙ ⊙ ⊙ ⊙		
Lubricoolant SS 1300	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙	⊙ ⊙ ⊙ ⊙	⊙ ⊙ ⊙ ⊙
DuBois 200 & 200NT	⊙	⊙	⊙	⊙	
DuBois 103 SW	⊙	⊙	⊙	⊙	
Lubricoolant 310	⊙ ⊙ ⊙ ⊙	⊙ ● ⊙ ⊙	⊙ ⊙ ⊙ ⊙	⊙ ● ⊙ ⊙	⊙ ● ⊙ ⊙
Lubricoolant 31NF	⊙ ⊙ ⊙	● ● ⊙	⊙ ⊙ ⊙	● ⊙	●
Lubricoolant Syn 100	● ⊙	●	⊙	⊙	⊙
Lubricoolant Syn 425	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●
Lubricoolant Syn 600	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙	⊙ ⊙ ● ⊙
Lubricoolant Syn 50 (carbide only)*					
IMA-10	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●

Key:

●=Applicable

⊙=Preferred

- Turning, Milling, Boring, End Milling, Chamfering, Trepanning
- Drilling, Reaming, Broaching, Threading, Thread Rolling, Tapping, Gear Hobbing, Band Sawing
- Surface Grinding, Double Disc Grinding, Rotary Grinding
- Centerless Grinding, OD/Cylindrical Grinding, Crush Dressing, Creep Feed Grinding

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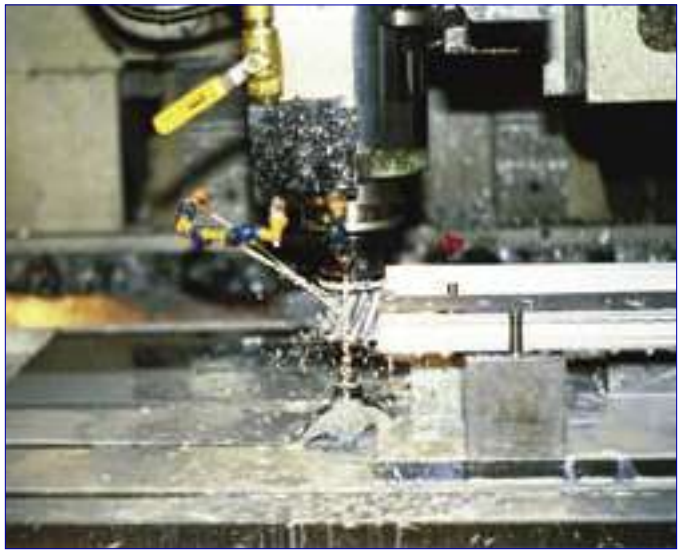
Nonferrous Metals

	Aluminum	Brass, Copper, Bronze	Magnesium	Titanium	Nickel/Nickel Alloys
Lubricoolant 930	⊙ ⊙ ⊙ ⊙	⊙ ⊙ ⊙ ⊙		⊙ ⊙ ⊙ ⊙	● ● ⊙ ⊙
Lubricoolant 2050 AC	⊙ ⊙ ⊙ ⊙	⊙ ⊙ ⊙ ⊙		⊙ ⊙ ⊙ ⊙	⊙ ⊙ ⊙ ⊙
Diverse-A-Cut 50	⊙ ⊙ ⊙ ⊙	⊙ ⊙ ⊙ ⊙		● ● ● ●	⊙ ⊙ ⊙ ⊙
Lubricoolant Sol 300	⊙ ⊙ ⊙ ⊙	⊙ ⊙ ⊙ ⊙		⊙ ⊙ ⊙ ⊙	⊙ ⊙ ⊙ ⊙
Lubricoolant Sol 2000	⊙ ⊙ ⊙ ⊙	⊙ ⊙ ⊙ ⊙		⊙ ⊙ ⊙ ⊙	⊙ ⊙ ⊙ ⊙
Lubricoolant XL	● ● ● ●				⊙ ⊙ ⊙ ⊙
Lubricoolant 2025	⊙ ⊙ ● ●	⊙ ⊙ ● ●		⊙ ● ● ●	⊙ ● ● ●
Lubricoolant SS 200	● ● ● ●	● ● ● ●		● ● ● ●	● ● ● ●
Lubricoolant SS 500	● ● ● ●	● ● ● ●		● ● ● ●	● ● ● ●
Lubricoolant SS 1300	● ● ● ●	● ● ● ●		⊙ ⊙ ⊙ ⊙	⊙ ⊙ ⊙ ⊙
DuBois 200 & 200NT					
DuBois 103 SW					
Lubricoolant 310	●	● ●		●	●
Lubricoolant 31NF	●	● ●		●	●
Lubricoolant Syn 100					
Lubricoolant Syn 425	⊙ ⊙ ⊙ ⊙	● ● ● ●		⊙ ⊙ ⊙ ⊙	⊙ ⊙ ⊙ ⊙
Lubricoolant Syn 600				⊙ ⊙ ⊙ ⊙	⊙ ⊙ ⊙ ⊙
Lubricoolant Syn 50 (carbide only)*					
IMA-10	● ●	● ●	● ●	● ●	● ●



Key:

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- Turning, Milling, Boring, End Milling, Chamfering, Trepanning
- Drilling, Reaming, Broaching, Threading, Thread Rolling, Tapping, Gear Hobbing, Band Sawing
- Surface Grinding, Double Disc Grinding, Rotary Grinding
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PRODUCT SELECTION GUIDE

Cutting Fluids Chemical Components

	Type	Chlorine EP	Sulfur EP	Phosphorus EP	Mineral Oil	Fatty Oil	Silicones	Foam Control
Lubricoolant 930	WSO			●	●			✪✪
Lubricoolant 2050 AC	WSO			●	●			✪✪✪
Diverse-A-Cut 50	WSO			●	●			✪✪✪
Lubricoolant Sol 300	WSO	●			●		●	✪✪✪
Lubricoolant Sol 2000	WSO	●			●		●	✪✪
Lubricoolant XL	WSO	●	●		●			✪✪
Lubricoolant 2025	SS		●		●			✪✪
Lubricoolant SS 200	SS				●			✪
Lubricoolant SS 500	SS				●			✪
Lubricoolant SS 1300	SS	●			●			✪✪
DuBois 200 & 200NT	SYN							✪✪
DuBois 103 SW	SYN							✪✪
Lubricoolant 310	SYN							✪✪✪
Lubricoolant 31NF	SYN							✪✪✪
Lubricoolant Syn 100	SYN							✪✪✪
Lubricoolant Syn 425	SYN							✪✪✪
Lubricoolant Syn 600	SYN							✪✪✪
Lubricoolant Syn 50	SYN							✪✪✪
IMA-10	SO				●	●		N/A

Key:

WSO=Water Soluble Oil
SS=Semi-Synthetic
SYN=Synthetic
SO=Soluble Oil

●=Applicable

✪=Good
✪✪=Better
✪✪✪=Best

DuBois Cutting Fluids are to be mixed with water from 1:10 to 1:20 and make up approximately half of initial charge.

Lubricoolant 930 WSO
An excellent product for easy-to-stain metals such as brass. It is low foaming and resists bacteria and mold growth without the use of rancidity control ingredients, therefore skin and health concerns are minimized.

Lubricoolant 2050AC WSO
Our best selling cutting fluid. Easy to mix and provides excellent sump life. Contains a unique polymer and phosphorus extreme pressure additives for more difficult machining. Can be used throughout the shop and is excellent for use on aluminum.

Diverse-A-Cut 50 WSO
This product is strategically priced and can be universally applied the same as Lubricoolant 930 or Lubricoolant 2050AC. Does not contain sulfur or chlorinated extreme pressure ingredients, but contains a phosphorus extreme pressure additive.

Lubricoolant Sol 300 WSO
An economical cutting fluid that is used for a variety of heavy-duty machining applications such as CNC machining and band saws.

Lubricoolant Sol 2000 WSO
Contains chlorinated E.P. and used for CNC machining and general shop use on a variety of metals.

Lubricoolant XL WSO
A moderate to heavy-duty fluid that contains more chlorinated extreme pressure additive than our other products. Prior to use on brass or copper, simple stain tests should be conducted. Excellent for use in CNC machining, band saws, drilling, and tapping.

Lubricoolant 2025 SS
A high oil content fluid that provides excellent lubricity. Used in CNC machines, band saws and various machines throughout the shop.

Lubricoolant SS 200 SS
An economical fluid with low oil content for general purpose machining.

Lubricoolant SS 500 SS
A low oil content product with good rancidity control for use on a variety of metals.

Lubricoolant SS 1300 SS
Contains a chlorinated extreme pressure ingredient for more difficult jobs. CNC machining, band sawing, and general machining are done using Lubricoolant SS 1300.

DuBois 200/DuBois 200 NT SYN
Used on ferrous metals only and works best on blanchard rotary, I.D., and surface grinding. Should not to be used for centerless grinding. DuBois 200 NT is an undyed version of DuBois 200. (DuBois 200=green, DuBois 200NT= amber.)

DuBois 103 SW SYN
Our best synthetic grinding fluid. Offers excellent rust protection for both the workpiece and the machine. Used on ferrous metals only and should not be used for centerless grinding.

Lubricoolant 310 SYN
An excellent synthetic cutting fluid that rejects tramp oil and has more lubricity than our popular Lubricoolant 31NF. It is very low foaming and easy to clean off.

Lubricoolant 31NF SYN
Used on numerous machining and grinding applications of both ferrous and nonferrous metals. Its low foaming formula is especially good for centerless and OD grinding of ferrous metals and the machining of cast iron.

Lubricoolant Syn 100 SYN
An economically priced product that can be used in a variety of machining and grinding operations for ferrous metals only.

Lubricoolant Syn 425 SYN
Low foaming product that is an excellent choice when machining aluminum.

Lubricoolant Syn 600 SYN
A low foaming product that rejects tramp oil. Used on ferrous metal only and is an excellent choice for moderate to heavy-duty applications.

Lubricoolant Syn 50 SYN
A product specifically designed for grinding carbide. Its unique formula maintains low levels of dissolved cobalt when maintained at correct mix ratios.

IMA-10 SO
A blended mineral/fatty straight oil that provides excellent boundary lubricity. Used for machining operations such as automatic screw machines where a thin viscosity oil is needed. Does not stain metals such as brass and certain grades of aluminum.

WSO=Water Soluble Oil SS=Semi-Synthetic SYN=Synthetic SO=Soluble Oil

DuMETER System for Metalworking Fluids

Real Simple, Real Effective

The DuMETER System provides concentration and cost control because the price is calculated based upon the mix ratio used.

The pay-as-you-go concept saves you money by:
• Eliminating wasted chemicals
• Eliminating cash tied up in inventory of metalworking fluids

Concentration Control

Proper mix ratios ensure optimal fluid performance leading to longer sump and tool life.

With the DuMETER System concentrations are set and secured under lock and key. Your DuBois representative works with you to determine the correct mix and services the system monthly.

Not only do you pay-as-you-go but you eliminate the bucket brigade. Poor concentration control means poor cost control.

DuBois Lubricoolants®

The DuMETER System for Metalworking Fluids is designed for use with DuBois Lubricoolant brand cutting and pressworking fluids.

DuBois Lubricoolants provide outstanding tool and sump life.

Why Wait?

Start saving money now with DuMETER. Real simple and real effective!

DuMETER Wall Mount

Concentration and system are locked.

Pay for only the chemical you use, eliminating waste!

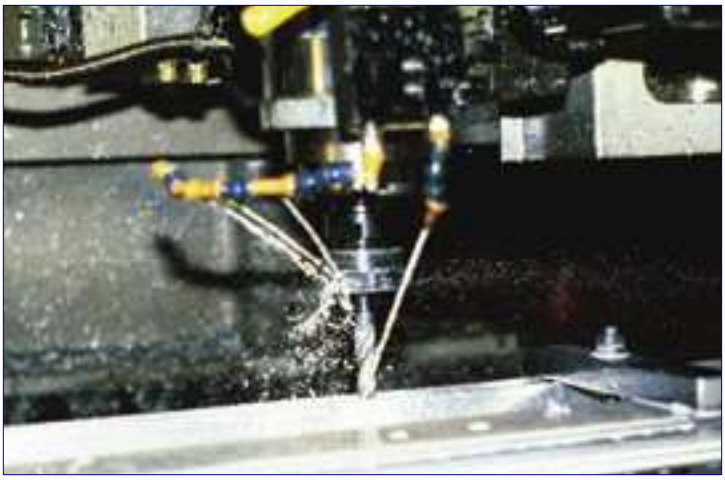
Metalworking Fluids Control

Concentration control affects all aspects of metalworking fluid performance including: tool life, biocontrol, cleanability, and costs.

DuBois offers concentration control equipment such as the DuMETER to automate the mixing process. This eliminates guesswork helps control results, costs, and inconsistencies.

Your DuBois sales representative will help you select the proper equipment for your process.

Coolant mixing system for precision concentration control.



Biocontrol

Biocontrol of metalworking fluids is an issue that affects every shop at some time and can degrade fluid performance. Poor housekeeping and fluid control can cause problems but there are other factors.

PRODUCT SELECTION GUIDE

Product selection for DuBois Pressworking Fluids is best achieved by conducting a trial using one or two products. We recommend starting with a product selection that takes into consideration bends, depth of draw, and whether or not the part will require cleaning after the pressworking process.

For example, ask the question: "Is the part only cleaned for in-process reasons such as: assembly, storage, rust inhibition, or painting?" This will aid you in the selection of the best product for you.

And remember, DuBois is known for pressworking fluids that can be cleaned off easily.

Ferrous and Nonferrous Metals

	Punching, Blanking, Forming, Bending	Tube Bending	Hot Rolled Steel	Cold Rolled Steel	Brass	Aluminum	Stainless	Drawing
Polydraw 3000	LM	LM	MH	MH	MH	MH	LM	LM D**
Polydraw Sol 173A	LM	LM	LM	LM	LM	LM	LM	LM D**
Polydraw Sol 306	MH	MH	MH	MH	MH	MH	MH	MH D**
Polydraw Sol 346	MH	LM**	MH	MH D**	MH D**	MH D**	LM	MH D**
Polydraw 660	MH	MH	MH	MH	MH	MH	MH	LM D
ILS-11	LM	LM	LM	LM	LM	LM	N/A	LM D**
Polydraw Syn 610	MH	MH	MH	MH	N/A	MH**	MH	MH D**
Polydraw Syn 650	MH D**	LM**	MH	MH D**	MH D**	MH D**	LM	MH D**
Polydraw Syn 700	MH	MH	MH	MH	MH**	MH**	MH	MH D**
Polydraw Syn 700CS	MH D**	LM**	MH D**	MH D**	N/A	MH D**	MH**	MH D**
Roll Form 20	N/A	N/A	MH	MH	N/A	N/A	N/A	N/A
Roll Form 2152	N/A	N/A	MH	MH	LM	LM	N/A	N/A
IMA-10	MH	MH	MH	MH	MH	MH	MH	N/A
Polydraw 847M	MH	N/A	MH	MH	MH	MH	MH	D

Key:

LM=Light to Moderate
MH=Moderate to Heavy
D=Deep
N/A=Not Applicable

** Testing will be required.

Consideration has to be given as to how the product will be cleaned off since the higher lubricity products typically require higher temperatures and stronger cleaners.

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Chemical Components

	Type	Chlorine EP	Sulfur EP	Phosphorus EP	Mineral Oil	Fatty Oil	Silicones	Foam Control
Polydraw 3000	WSO			●	●			✪✪✪
Polydraw Sol 173A	WSO				●		●	✪✪✪
Polydraw Sol 306	WSO	●		●	●			✪✪
Polydraw Sol 346	WSO				●			✪✪
Polydraw 660	WSP							✪✪✪*
ILS-11	SYN							✪
Polydraw Syn 610	SYN							✪✪
Polydraw Syn 650	SYN						●	✪✪
Polydraw Syn 700	SYN		●					✪✪✪
Polydraw Syn 700CS	SYN		●					✪✪
Roll Form 20	SYN							✪✪✪
Roll Form 2152	SYN							✪✪✪
IMA-10	SO				●	●		N/A
Polydraw 847M	SO	●	●	●	●	●		N/A

Key:

WSO=Water Soluble Oil
WSP=Water Soluble Paste
SYN=Synthetic
SO=Soluble Oil

●=Applicable

✪=Good
✪✪=Better
✪✪✪=Best

* Polydraw 660 typically will not foam during the pressworking process but will create foam if cleaned off with a caustic cleaner in the washer.

DuBois Pressworking Fluids are to be mixed with water from 1:5 to 1:20 and make up approximately half of initial charge (except Polydraw 847M and Polydraw 660).

Polydraw 3000 WSO
Used to manufacture a variety of parts from automotive to light fixtures. Excellent for drawing, blanking and forming both ferrous and nonferrous metals. It has a unique blend of polymer and phosphorus extreme pressure ingredients to provide excellent lubricity.

Polydraw Sol 173A WSO
A moderate-duty pressworking fluid that can be used for drawing, blanking, and roll forming, or as a tube bending fluid. It is chlorine free and is used on ferrous and nonferrous metals.

Polydraw Sol 306 WSO
A chlorinated pressworking fluid that is economically priced for general purpose blanking, forming, and drawing.

Polydraw Sol 346 WSO
An excellent moderate to heavy duty stamping and drawing fluid for stainless steel, cold roll steel, galvanized steel and some nonferrous operations. Easy to clean off and contains no SARA reportable chlorine.

Polydraw 660 WSP
A water soluble paste that can be diluted "water thin" or diluted to whatever consistency is desired. Can also used undiluted and is applied straight via paint roller or brush. It does require mechanical mixing such as a lightning mixer, paint stir rod, or PBB unit. It will spray in leaner mix ratios but will not spray well when mixed heavier than 5% with water.

Pressworking Fluids

ILS-11 SYN
Provides excellent lubricity for moderate-duty blanking, forming, and drawing. Works well on brass, copper, steel, and aluminum.

Polydraw Syn 610 SYN
Used for forming moderate to deep draws, this product is chlorine and sulfur free.

Polydraw Syn 650 SYN SYN
A moderate to heavy duty synthetic stamping and drawing fluid recommended for ferrous and nonferrous metals. It may be used for a wide variety of metal forming operations.

Polydraw Syn 700 SYN
A heavy-duty pressworking fluid that has replaced straight oil in some cold roll steel forming operations. Nonferrous metals should be spot tested for staining prior to use.

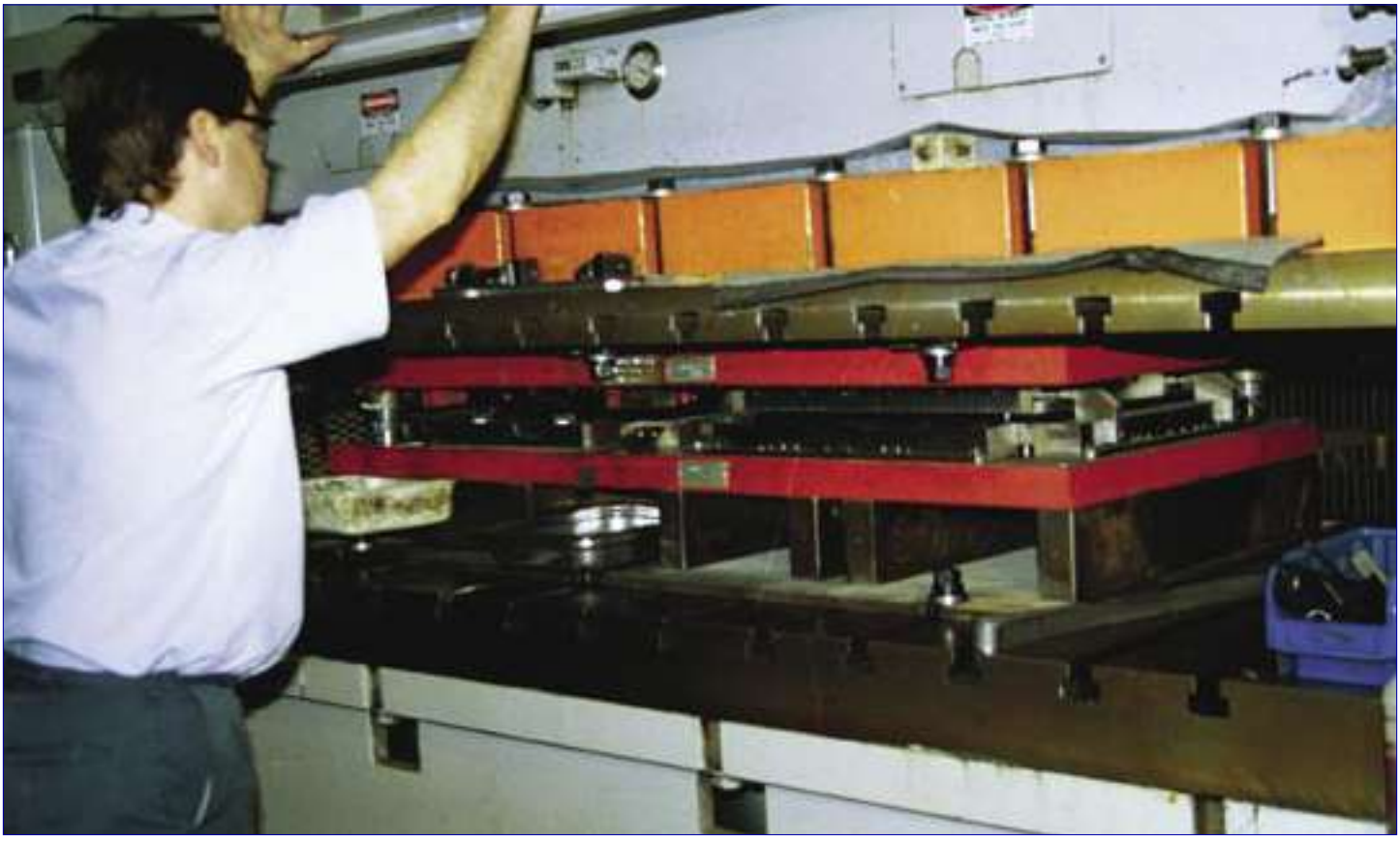
Polydraw Syn 700CS SYN
A heavy duty sulfurized pressworking fluid that is designed for use with carbide dies. It provides excellent lubricity for punching and drawing of ferrous metals and some nonferrous metals.

Roll Form 20 SYN
Designed for use in tube and post forming mills. Used primarily on ferrous metals but can be used on nonferrous as well. For tube and post mills it is typically mixed at 1:20.

Roll Form 2152 SYN
A tube and post forming fluid that was originally designed for brass and protects from tarnishing even when the tubes are bundled.

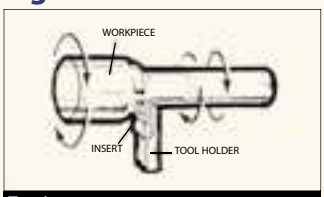
IMA-10 SO
A blended mineral/fatty straight oil that provides excellent boundary lubricity. Used for pressworking applications where a thin viscosity oil is needed. Also used for light- to medium-duty wire drawing operations. Does not stain easy-to-stain metals such as brass and certain grades of aluminum.

Polydraw 847M SO
A fatty, mineral oil blend that is heavy in viscosity improving contact to the metal being worked. Nonferrous metals should be spot tested prior to use for staining. Can be diluted with regular mineral oil if a thinner viscosity is desired. It cleans off with a mild alkaline cleaner at approximately 140ºF.

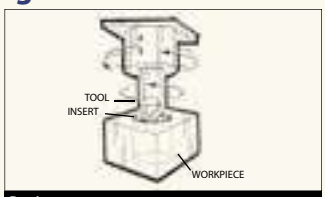


WSO=Water Soluble Oil SS=Semi-Synthetic SYN=Synthetic SO=Soluble Oil

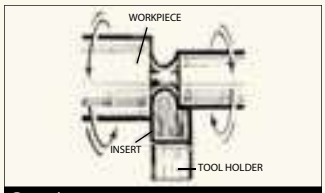
Light to Medium Machining



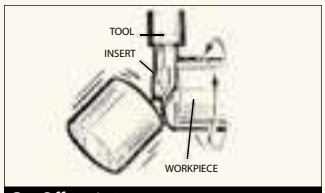
Turning



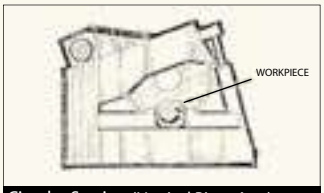
Boring



Grooving

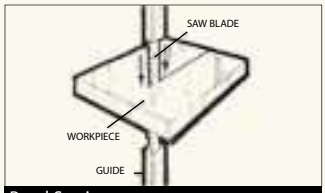


Cut Off (Lathe)

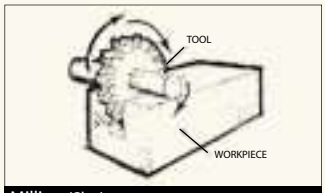


Circular Sawing (Vertical Pivot-Arm)

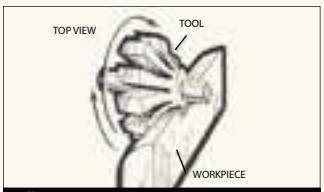
Power Hack Sawing (Horizontal)



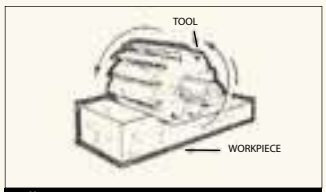
Band Sawing



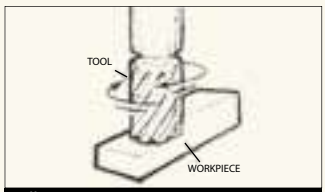
Milling (Slot)



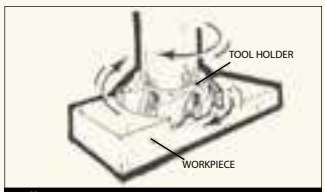
Milling (Form)



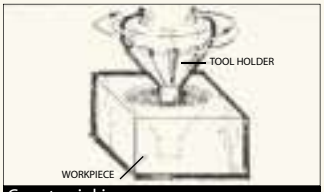
Milling (Slab)



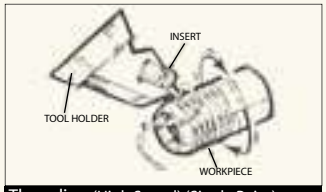
Milling (End)



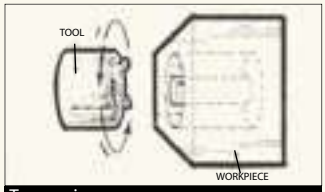
Milling (Face)



Countersinking

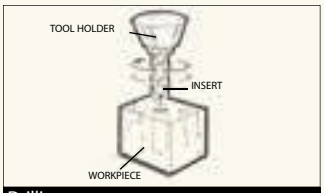


Threading (High Speed) (Single Point)

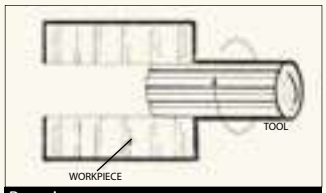


Trepanning

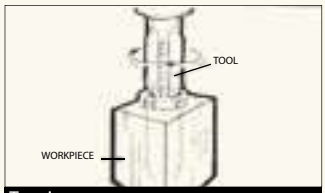
Heavy Machining



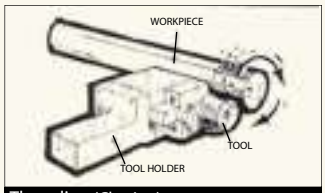
Drilling



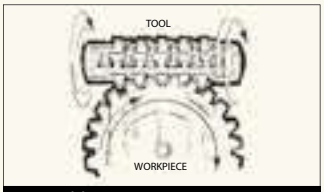
Reaming



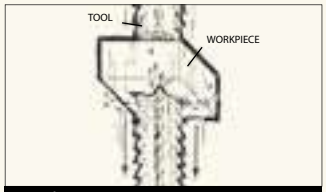
Tapping



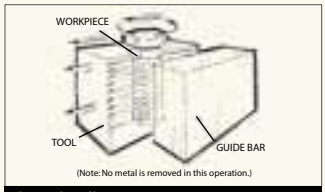
Threading (Chasing)



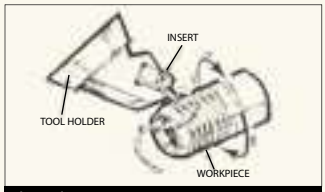
Gear Hobbing



Broaching

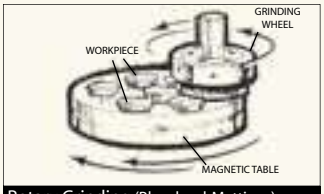


Thread Rolling (Forming)

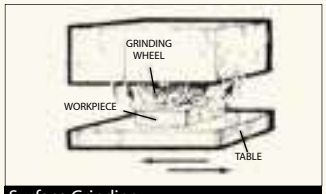


Threading (High Speed) (Single Point)

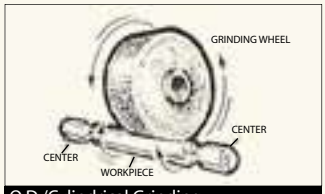
Light to Medium Grinding



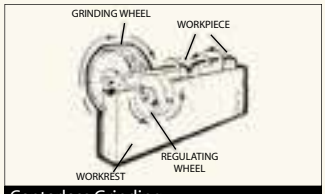
Rotary Grinding (Blanchard, Mattison)



Surface Grinding



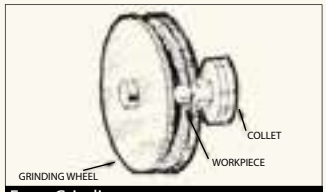
O.D./Cylindrical Grinding



Centerless Grinding

Heavy Grinding

Double Disc Grinding



Form Grinding

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