BOELUBE®

A BOEING DEVELOPED LUBRICANT

BOELUBE® SOLIDS

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The Orelube Corporation holds an exclusive worldwide license from Boeing Intellectual Property Licensing Company to manufacture and market the BOELUBE® series of lubricants.

Boelube® Solids

Save time and money while being environmentally responsible.

Historically, the metalworking industry has used metalworking fluids by flood application in machining operations. But because the costs associated with use, management, and disposal of flood coolants has risen over the years, in part due to increasing federal, state, and local regulations aimed at worker safety and fluid disposal, there has been a growing trend to utilize methods requiring less metalworking fluid to reduce cost, protect the environment, and improve and protect worker health, without sacrificing productivity and quality.

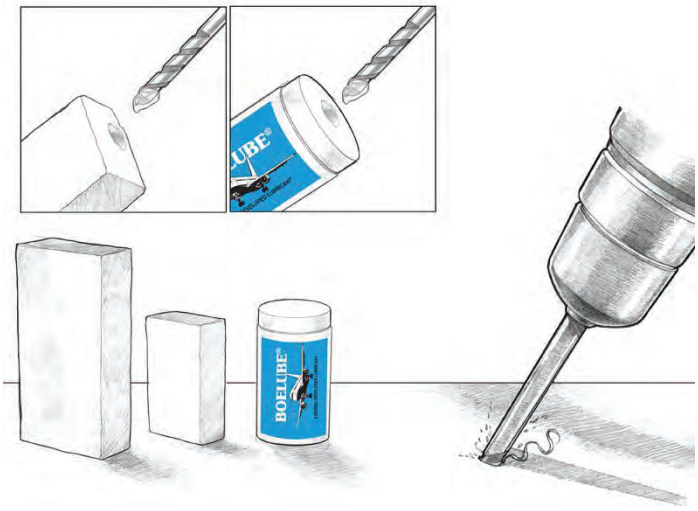
A metalworking lubricant should impart sufficient lubricity between the tool and the workpiece to cause a significant reduction in friction to occur. BOELUBE® is a technologically advanced lubricant that significantly reduces friction (one of the major elements in generating heat during the material removal process).

In near dry machining the goal is high efficiency, which is achieved as a result of using a minimal quantity of lubricant. Because minimal quantities are used and consumed for the most part in the machining process, BOELUBE® Solids produce near dry workpieces and chips with little or no clean-up or related costs and no disposal costs.

BOELUBE® Solids come in a variety of shapes and sizes to accommodate ease of application in drilling, reaming, abrasive belts, deburring, grinding wheels, band, circular and hand saw blades.

Typically, the BOELUBE solid is applied to the tool before use. In a block or tube form, it can be hand-held and a drill bit can be touched to the solid before drilling or the solid may be swiped across the surface to be drilled. Only a minimal amount is required when drilling through thin material.

Drilling is one of the most widely used machining processes to produce circular holes in metallic and nonmetallic materials. A drill is a rotary end-cutting tool, with the most common type being the twist drill. The drill, attached to either a stationary machine or hand held, is used to originate or enlarge a hole in a solid material.



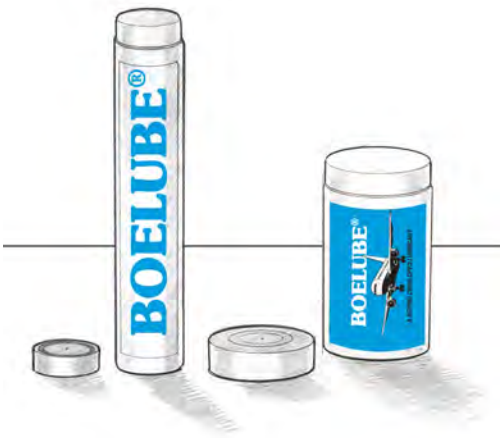
BOELUBE® Solids are extremely cost effective in single point work such as drilling and reaming.

For Drilling and Reaming

A drill will have cutting edges and straight or helical grooves or flutes, which allow for movement of chips and cutting fluids/coolants. Drill wear is not proportional to the number of holes drilled, but occurs at an accelerated rate.

A reamer is a rotary cutting tool (similar to a drill) with one or more cutting elements, used to enlarge to an exact size and impart a smooth finish to, a previously drilled hole. Reaming is essentially a finishing operation; Drilling can be characterized as in a rough form, whereas reaming is the exact form.

Improve tool life by reducing heat build-up by applying BOELUBE push-up tubes or individual blocks to the tool before start-up in belt, disc and wheel grinding operations



Major Benefiits

- BOELUBE® is non-corrosive, non-flammable, chemically stable and free of halogens, sulfur, phosphorus, silicone, petroleum or paraffin wax.
- BOELUBE® does not contain any ingredients considered a hazardous substance by OSHA, WHMIS, IARC, NTP and State Regulatory Lists. Refer to Safety Data Sheets for additional information.
- BOELUBE® will not promote dermatitis, provides a high degree of worker safety, and presents a safe effective method to machine various types of materials without special handling, fluid recycling or typical disposal issues.
- BOELUBE® can be removed from surfaces using isopropyl alcohol, denatured alcohol, MEK, or aqueous cleaner.
- BOELUBE® has indefinite shelf life.
- BOELUBE® does not need to be removed prior to heat treat.
- BOELUBE® is in most cases compatible with paints and sealants (though it is highly recommended that compatibility be determined before use).
- BOELUBE® provides superior lubrication when machining or forming the increasingly complex range of materials now being used in Aerospace, and a wide range of other manufacturing industries.

Cost Savings

Cost savings are derived through longer tool life, better surface finish, increased productivity, reduction in lubricant usage and subsequent cleaning and disposal costs, reduced environmental impact, and improved housekeeping.

Environmentally Non-Hazardous

Manufactured from personal care ingredients, BOELUBE® is non-irritating and biodegradable.

BOELUBE®

Product Name			Description
70104	Appearance	Red Liquid	
	Boeing Number	100A	
	Boeing Process Specification	BAC5008	Application of Lubricants
		BAC5054	Taper Shank Fastener Installation
		BAC5063	Fastener Installation in Composite Structures
		BAC5492	Machining and Cutting Titanium
		BAC5540	Hole Preparation, Machining, and Grinding of Steels
		BAC5578	Manufacture of Advanced Carbon Fiber Reinforced Advanced Composite Structure with Toughened Epoxy Systems, +350 F Cure
		BAC5657	Manufacture of Carbon Fiber Reinforced Composite Structure by Automated Fiber Placement, +350 F Cure Epoxy Systems
70106	Appearance	Clear Liquid	
	Boeing Number	100F	
	Boeing Process Specification	BAC5008	Application of Lubricants
		BAC5054	Taper Shank Fastener Installation
		BAC5063	Fastener Installation in Composite Structures
		BAC5492	Machining and Cutting Titanium
		BAC5540	Hole Preparation, Machining, and Grinding of Steels
		BAC5578	Manufacture of Advanced Carbon Fiber Reinforced Advanced Composite Structure with Toughened Epoxy Systems, +350 F Cure
		BAC5768	Mandrel Coldworking of Holes in Aluminum
		BAC5657	Manufacture of Carbon Fiber Reinforced Composite Structure by Automated Fiber Placement, +350 F Cure Epoxy Systems
70305	Appearance	Pink Hard Paste	
	Boeing Number	50B50A	
	Boeing Process Specification	BAC5008	Application of Lubricants
		BAC5054	Taper Shank Fastener Installation
		BAC5063	Fastener Installation in Composite Structures
		BAC5540	Hole Preparation, Machining, and Grinding of Steels
		BAC5768	Mandrel Coldworking of Holes in Aluminum
70307	Appearance	Blue Medium Paste	
	Boeing Process Specification	BAC5008	Application of Lubricants
		BAC5054	Taper Shank Fastener Installation
		BAC5063	Fastener Installation in Composite Structures
		BAC5540	Hole Preparation, Machining, and Grinding of Steels
		BAC5768	Mandrel Coldworking of Holes in Aluminum
70302	Appearance	Blue Soft Paste	
	Boeing Process Specification	BAC5008	Application of Lubricants
		BAC5054	Taper Shank Fastener Installation
		BAC5063	Fastener Installation in Composite Structures
		BAC5540	Hole Preparation, Machining, and Grinding of Steels
70200	Appearance	White Solid	
	Boeing Number	16B4F	
	Boeing Process Specification	BAC5008	Application of Lubricants
		BAC5063	Fastener Installation in Composite Structures
		BAC5540	Hole Preparation, Machining, and Grinding of Steels
		BAC5578	Manufacture of Advanced Carbon Fiber Reinforced Advanced Composite Structure with Toughened Epoxy Systems, +350 F Cure
		BAC5657	Manufacture of Carbon Fiber Reinforced Composite Structure by Automated Fiber Placement, +350 F Cure Epoxy Systems
70206	Appearance	White Solid	
	Boeing Number	16B4F	
	Boeing Process Specification	BAC5008	Application of Lubricants
		BAC5063	Fastener Installation in Composite Structures
		BAC5540	Hole Preparation, Machining, and Grinding of Steels
		BAC5578	Manufacture of Advanced Carbon Fiber Reinforced Advanced Composite Structure with Toughened Epoxy Systems, +350 F Cure
		BAC5768	Mandrel Coldworking of Holes in Aluminum
		BAC5657	Manufacture of Carbon Fiber Reinforced Composite Structure by Automated Fiber Placement, +350 F Cure Epoxy Systems
70201	Appearance	Pink Solid	
	Boeing Number	16B1A	
	Boeing Process Specification	BAC5578	Manufacture of Advanced Carbon Fiber Reinforced Advanced Composite Structure with
		BAC5657	Manufacture of Carbon Fiber Reinforced Composite Structure by Automated Fiber Placement, +350 F Cure Epoxy Systems

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The Orelube Corporation
Specialty Industrial Lubricants Since 1958

Boelube® Product List

To order, use product code.

BOELUBE Solids 70200 White		Quantity
70200-00	14.5 oz. Cartridge	12 / Box 24 / Case
70200-13	1.6 oz. Push Tube	50 / Box 300 / Case
70200-14	4 oz. Block	30 / Box 180 / Case
70200-18	2 oz. Stick	64 / Box 192 or 384 / Case
70200-40	3.5 oz. Push Tube	32 per Box 192 or 384 / Case
BOELUBE Pastes 70302 Blue (Soft) / 70305 Pink (Hard) / 70307 Blue (Medium)		**Quantity**
70307-02	2 oz. Jar	150 / Box
70307-L	4 oz. Jar	30 / Box 150 / Case
70307-05	35 lb. Pail	1 each
70307-11	5 lb. Tub	1 each 8 / Case
70307-12	12 oz. Jar	12 per Box 36 / Case
70307-07	120 lb. Drum	1 each
70307-09	400 lb. Drum	1 each
BOELUBE Liquids 70104 Red (100A) / 70106 Clear (100F) / 70090 Clear		**Quantity**
70104-04	1 gal. Container	1 each 6 / Case
70104-05	5 gal. Pail	1 each
70104-07	15 gal. Drum	1 each
70104-09	55 gal. Drum	1 each
70104-HHL	Hand Held	70 / Box 140 / Case
70104-L	4 oz. Bottle	36 or 72 / Box 150 / Case
70106-L	4 oz. Bottle	36 or 72 / Box 150 / Case
70090-L	4 oz. Bottle	36 or 72 / Box 150 / Case
BOELUBE Water-Soluble Fluid 70105		**Quantity**
70105-04	1 gal. Container	6 / Case
70105-05	5 gal. Pail	1 each
70105-07	15 gal. Drum	1 each
70105-09	55 gal. Drum	1 each