

PASTE LUBRICANTS

LIQUID LUBRICANTS

SOLID LUBRICANTS

BOELUBE PASTES

High Performance MQL Lubricants



BOELUBE®



A BOEING DEVELOPED LUBRICANT

BOELUBE PASTES

High Performance MQL Lubricants

BOELUBE®

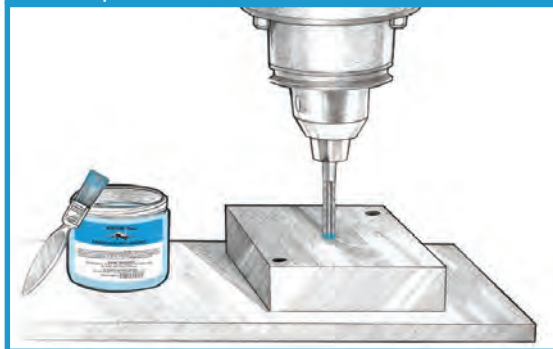

A BOEING DEVELOPED LUBRICANT

BOELUBE LUBRICANTS FOR NEAR DRY MACHINING ■■■

One of the earlier uses of near dry machining was in aircraft manufacturing Freon® gas was used in three distinct areas of the riveting process – drilling, rivet insertion, and rivet-head milling. Because of the undesirable effects of Freon® gas on the ozone layer, Boeing manufacturing research and development engineers introduced an alternate method using BOELUBE lubricant compositions to efficiently lubricate and cool tools by preventing heat buildup, while greatly reducing the reworking after drilling that had been necessary with Freon® because of exit burrs, oversized holes, and a rough finish on the inside surface of the holes.

BOELUBE lubricants were used in drilling, reaming, and cold working of fastener holes in aircraft wing skins; installation of wedge-head lock bolts; lubrication of hand drills; and on machinery that automatically drill rivet holes and install rivets on large sections of airplanes. It was shown that the application of minimal quantities of BOELUBE lubricant could reduce friction, speed production, increase tool life, and improve surface finish and hole quality in a number of machining operations.

BOELUBE Pastes are extremely cost effective in single point work such as drilling, reaming and tapping. A minimal amount of paste applied to the tool is all that is required to improve surface finish, yield closer tolerances and extended tool life. Brush it on or dip tool in paste.



TYPICAL PROPERTIES ■■■

70302

- Soft Paste
- Blue
- Insoluble in water
- Melt Range: 90-110F (32-43C)

70305

- Hard Paste
- Pink
- Insoluble in water
- Melt Range: 90-110F (32-43C)

70307

- Medium Paste
- Blue
- Insoluble in water
- Melt Range: 90-110F (32-43C)

PRODUCT BENEFITS ■■■

70302

- High lubricity
- BAC process specifications
- High oxidative stability enables long shelf life

70305

- High lubricity
- BAC process specifications
- High oxidative stability enables long shelf life

70307

- High lubricity
- BAC process specifications
- High oxidative stability enables long shelf life



MATERIALS ■■■

| | 70302 | 70305 | 70307 |
|-----------------|-------|-------|-------|
| Alloy | ✓ | ✓ | ✓ |
| Aluminum | ✓ | ✓ | ✓ |
| CFRP | ✓ | ✓ | ✓ |
| Composite | ✓ | ✓ | ✓ |
| Copper | ✓ | ✓ | ✓ |
| Glass fiber | ✓ | ✓ | ✓ |
| Kevlar | ✓ | ✓ | ✓ |
| Stainless steel | ✓ | ✓ | ✓ |
| Titanium | ✓ | ✓ | ✓ |
| Wood | ✓ | ✓ | ✓ |

Certifications

BOEING

BAC Boeing Process Specification
5008 • 5054 • 5063 • 5540 • 5578 •
5768

AIRBUS

A2MS 569-001 Rev B
Lubricants/Coolants

Applications

Drilling



Tapping
Reaming



Forming



Milling



And many more...

BOELUBE PASTES

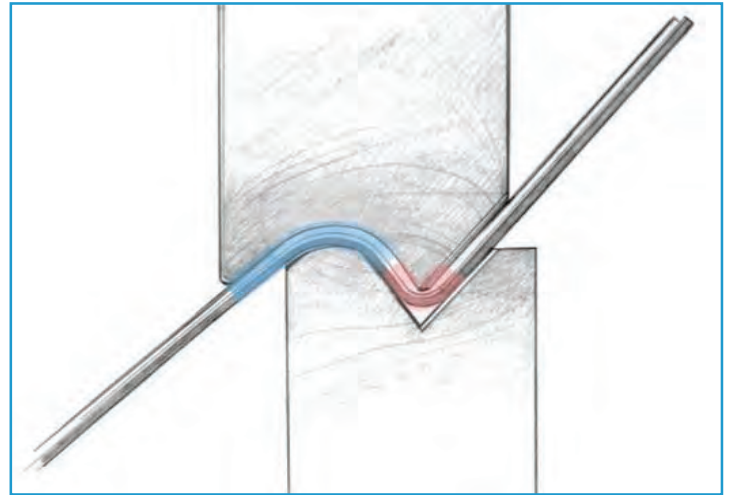
Technical information

FOR FORMING AND BENDING ■■■

BOELUBE Pastes provide an excellent means of obtaining maximum stretch area and close tolerance bends by providing superior lubrication that allows the workpiece to attain the desired shape without creating areas that are stressed.

Product Recommendation:

- Less Severe: Boelube 70302 or 70307
- More Severe: Boelube 70305



BOELUBE PASTES ■■■



- Non-petroleum
- Non-sulfur
- Non-phosphorus
- Non-silicone
- Non-paraffin wax
- Non-halogen
- Non-corrosive
- Contain no water
- Used in aerospace and other manufacturing industries

BOELUBE PASTES PRODUCT LIST ■■■

| | | | | |
|----------|-------------------|--------------------|-------------|--------------|
| 70302-02 | Soft Blue Paste | Jar 2 oz - 57 g | 150 per Box | |
| 70302-L | Soft Blue Paste | Jar 4 oz - 113 g | 30 per Box | 150 per Case |
| 70302-12 | Soft Blue Paste | Jar 12 oz - 340 g | 12 per Box | 36 per Case |
| 70302-05 | Soft Blue Paste | Pail 35 lb - 16 kg | 1 each | |
| 70305-02 | Hard Pink Paste | Jar 2 oz - 57 g | 150 per Box | |
| 70305-L | Hard Pink Paste | Jar 4 oz - 113 g | 30 per Box | 150 per Case |
| 70305-12 | Hard Pink Paste | Jar 12 oz - 340 g | 12 per Box | 36 per Case |
| 70305-05 | Hard Pink Paste | Pail 35 lb - 16 kg | 1 each | |
| 70307-02 | Medium Blue Paste | Jar 2 oz - 57 g | 150 per Box | |
| 70307-L | Medium Blue Paste | Jar 4 oz - 113 g | 30 per Box | 150 per Case |
| 70307-12 | Medium Blue Paste | Jar 12 oz - 340 g | 12 per Box | 36 per Case |
| 70307-05 | Medium Blue Paste | Pail 35 lb - 16 kg | 1 each | |

BOELUBE PASTES ■■■

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 quantity.

A metalworking lubricant should impart sufficient lubricity between and 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).



MQL lubricants can also be formulated into paste form - BOELUBE Pastes. In MQL 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 Pastes produce near dry workpieces and chips with little or no clean-up or related costs and no disposal costs.

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. Drilling can be characterized as a rough form, whereas reaming is the exact form.

A tap is a cylindrical tool that cuts internal threads and has flutes to remove chips and carry lubricant to the point of cut. Tapping is a machining operation in which a tap, with teeth on its periphery, cuts internal threads in a predrilled hole having a smaller diameter than the tap diameter.

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, improved housekeeping and easier chip handling and recycling.

WORKER FRIENDLY ■■■

Manufactured from personal care ingredients, BOELUBE is dermal non-irritant and biodegradable.



The Orelube Corporation

Specialty Industrial Lubricants Since 1958

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