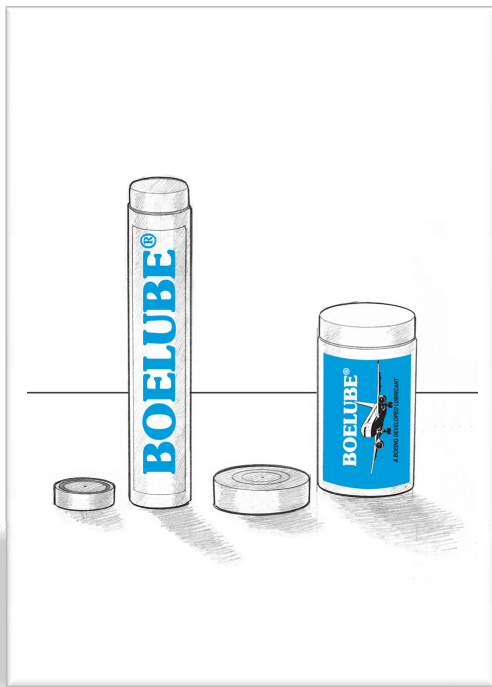


BOELUBE®



A BOEING DEVELOPED LUBRICANT



BOELUBE SOLID

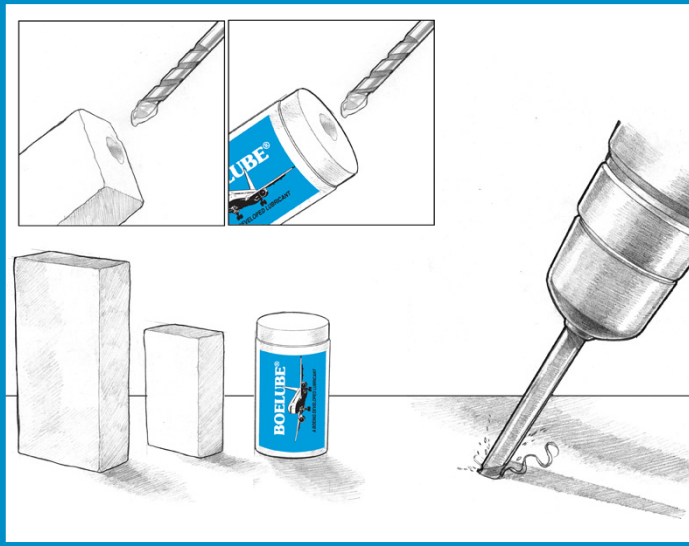
Produced under license from Boeing Intellectual Property Licensing Company. **BOELUBE®** is among the trademarks owned by Boeing. These of proprietary lubricants developed through Boeing manufacturing operations and lubricant experience.

BOELUBE 切削油膏

由波音管理公司的授权许可下生产，BOELUBE是波音公司所拥有的商标之一。凭借波音飞机的制造工艺要求和润滑经验发展而来的系列润滑剂

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

Orelube公司从波音管理公司获得全球独家许可，生产和销售BOELUBE系列润滑剂。

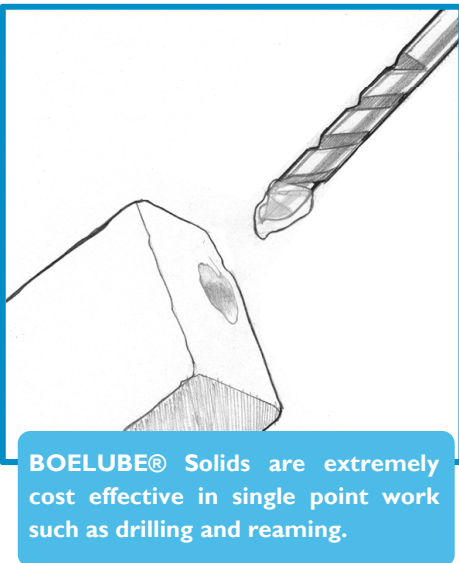


Historically, the metalworking industry has used metalworking fluids by flood application in machining operations. But because the costs associated with use, management, and disposal of flood coolants has risen over the years, in part due to increasing federal, state, and local regulations aimed at worker 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.

从历史上看，金属加工业一直使用金属加工液应用于加工。但由于金属加工液的使用，管理和处理多年来成本不断上升。出于保障工人的人身安全和安全废弃处理的目的，根据部分增加的联邦、州和地方法规，在保证生产效率和质量的前提下，使用尽可能少的金属加工液以降低成本，保护和改善工人健康的方法已成为趋势。

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).

金属加工润滑剂在刀具和工件间金属加工润滑剂应充分起到润滑作用，以显著降低摩擦发生。BOELUBE拥有先进的技术，可大幅度的减少摩擦(在材料加工中一个主要产生热量的原因)



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.

近似干的加工效率比较高，为了达到更高效能，所以要求最小限度的使用和消耗润滑剂，BOELUBE®固体切削剂在加工近似于干的工件时，很少或根本无需清洗，从而避免因此相关产生的清洗和后期处理费用。

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

BOELUBE®固体切削剂有各种不同的形状和大小应用于钻孔，攻丝，铰孔，砂带，去除毛刺，砂轮，传送带，圆锯，手锯。



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

BOELUBE 固体切削剂的特色是在刀具启动前运用，块状和管状可以方便的通过手持使用或在钻孔前将钻头的插入管内或用块状擦拭工件表面，在钻更薄的材料时，需要的量更少。

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

BOELUBE®固体润滑剂对于单向工作如钻孔和扩孔非常有效。

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.

在金属和非金属材料上钻孔是最广泛的应用加工过程，钻孔使用一种旋转式的刀具。最常见的类型是麻花钻。通常用来在固体材料表面转孔，扩孔或更精确的绞孔，钻机可以是手持的也可以连接到一个固定的机器上。

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

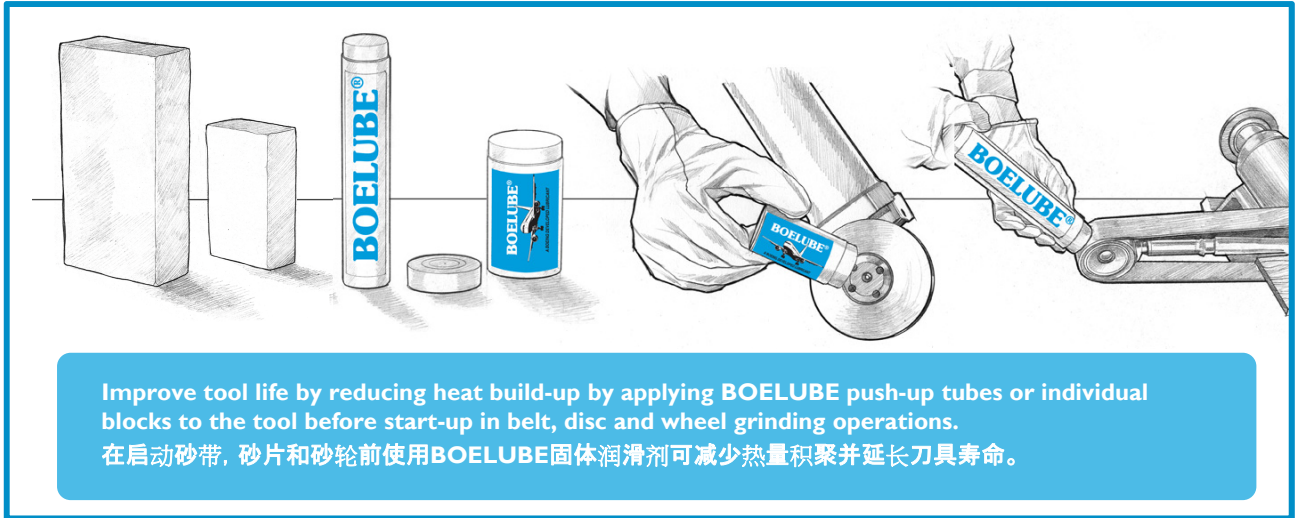
BOELUBE®固体润滑剂极低的使用成本，有效的被用于单向工作，如钻孔和扩孔。

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.

钻头的直线或螺旋形的刀刃，允许金属碎屑和切削液和冷却剂的移动，钻头的磨损不是和钻孔的孔数成正比，而是由于速率的关系。

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.

铰刀是一种旋转的刀具(类似钻头)，通常在预制孔上提高精确尺寸和光洁度，铰孔基本上是一道最后的工序。钻孔的特点可以称作是一个粗加工工序，而扩孔则是精加工工序。



MAJOR BENEFITS 第四页

- **BOELUBE®** is non-corrosive, non-flammable, chemically stable and free of halogens, heavy metals, sulfur, phosphorus, silicone, petroleum or paraffin wax.
- 主要优点: BOELUBE®无腐蚀性、不易燃、具有化学稳定性以及不含卤素、重金属、硫、磷、硅、石油或石蜡。
- **BOELUBE®** does not contain any ingredients considered a hazardous substance by OSHA, WHMIS, IARC, NTP and State Regulatory Lists. Refer to Material Safety Data Sheets for additional information.
- BOELUBE®OES不含有任何有害物质, 和OSHA,WHMIS,IARC,NTP和国家的管理列表里规定的有害物质。更多的信息, 请参阅材料安全数据表。
- **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®不会引发皮炎,对使用者无危害, 并且可以安全有效的加工各种类型的材料, 不需要特别处理, 回收或特别的清理。
- **BOELUBE®** can be removed from surfaces using isopropyl alcohol, denatured alcohol, MEK, or aqueous cleaner.
- BOELUBE®可使用异丙醇, 工业酒精, MEK或者清洁剂从工件表面洗去。
- **BOELUBE®** has indefinite shelf life.
- BOELUBE®无限期的保质期
- **BOELUBE®** does not need to be removed prior to heat treat.
- BOELUBE®热处理时不需要去除
- **BOELUBE®** is in most cases compatible with paints and sealants (though it is highly recommended that compatibility be determined before use).
- BOELUBE®在大多数情况下, 兼容涂料和密封剂(尽管如此, 但强烈建议在确认兼容性后再使用)
- **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.
- 在航空航天和其他制造领域中日益复杂的材料加工和成型中, BOELUBE®提供杰出的润滑。

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
- 通过延长刀具寿命, 提高表面光洁度, 提高生产率, 减少在润滑油使用后随之产生的清洁和处理费用, 减少对环境的影响和改善工作场所

ENVIRONMENTALLY NON-HAZARDOUS / WORKER FRIENDLY

- Manufactured from personal care ingredients, **BOELUBE®** is non-irritating and biodegradable
- 环保, 无害/有利于工人健康 使用个人护理材料制造, BOELUBE®无刺激性, 并可通过生物降解

BOELUBE® PRODUCT LIST

Order items by Product Code numbers

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



5 Gallon Pail
(18.9 liter)

12 oz. Jar
(340 grams)

1.6 oz.
Push Tube
(45 grams)

14.5 oz.
Push Tube
(411 grams)

4 oz. Bottle
(113 ml)

1 Gallon
(3.8 liter)

4 oz. Block
(113 grams)

2 oz. Stick
(57 grams)