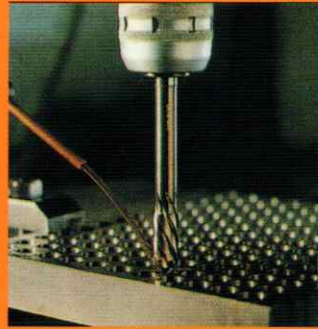


# LUBMAX



- METAL WORKING FLUIDS
- INDUSTRIAL OIL
- PROCESS OIL
- GREASE
- WAX



**NAM YOUNG CHEMICAL IND. CO., LTD.**

## 회사개요 및 연혁

### ● 會社概要

- 會社名 : 南永油化工業株式會社
- 本社 및 工場 : 京畿道 安山市 檀園區 城谷洞 683-2  
TEL. (031) 492-8077(代表)  
FAX. (031) 494-4798
- 釜山事務所 : TEL. (051) 518-3557(代表)  
FAX. (051) 517-2730
- 設立 年月 : 1986 年 11 月 28 日
- 事業 內容 : 固體潤滑劑 潤滑 Coating  
特殊 Grease & Grease  
熱處理油, 防鏽油  
金屬加工油, 產業用潤滑油  
防水用 Wax(撥水劑)  
弗素化合物(撥水撥油劑)

### ● 沿革

- 1986. 11. : 南永油化工業株式會社 設立
- 1987. 1. : 熱處理油, Grease 販賣開始
- 1988. 3. : 半月工場 竣工
- 1990. 4. : 技術提携 竣工  
日本 STT(株)  
(固體潤滑劑 Coating 및 特殊 Grease)
- 1992. 1. : 始孃工團 工場增設統合竣工
- 1994. 12. : 特殊 Grease & Grease 製造設備
- 1995. 10. : 品質保證業體指定
- 1995. 12. : 韓國工業規格 表示許可 得
- 1996. 11. : 企業附設研究所登錄
- 1998. 02. : 輸出有望中小企業選定
- 1998. 02. : 無災害 5 培 達成 (勞動部)
- 1999. 09. : 海外規格 ISO 9002 認證
- 2000. 07. : 始孃工團 6 ba 502 工場 買入
- 2000. 12. : 弗素化合物 合成工場 增設
- 2001. 01. : 海外規格 QS9000 認證
- 2001. 02. : Venture 企業
- 2002. 07. : 有望中小企業 選定
- 2002. 12. : 製紙 防水劑 特許取得

### ■ FRFILE

- COMPANY NAME :  
NAM YOUNG OIL CHEMICAL IND. CO., LTD.
- HEAD OFFICE :  
#683-2, SUNGGOK-DONG, DANWON-GU, ANSAN  
-SHI, KYUNGGI-DO, KOREA. 〒425-836  
TEL. 82-031-492-8077  
FAX. 82-031-494-4798
- BUSAN OFFICE : TEL. 82-051-518-3557  
FAX. 82-051-517-2730
- ESTABLISHMENT : NOV. 28, 1986
- PRODUCTS : Solid Lubricant and Dry Coating  
Special Grease & Grease  
Heat Treating oil Antitrust Oil  
Metal Working Fluid & Industrial Lubricant  
Emulsion Wax etc., (Water Proof)  
Fluoro chemicals (Water oil Proof/Repell.)

### ■ HISTORY

- nov. 1986 :  
Foundation of NAM YOUNG OIL CHEMICAL IND. CO., LTD.
- JAN. 1987 : Heat Treating Oil, Grease
- MAR. 1988 : Completing of Banweol factory
- APR. 1990 : Contract for technical ties with  
STT Inc. Japan  
(Solid Lubricant and Special Grease)
- JAN. 1992 : Completion of Siwha factory  
(Consolidated)
- DEC. 1994 : Completion of Special Grease and  
Grease Unit
- OCT. 1995 : Obtain of Q Mark
- DEC. 1995 : Approval of K.S Standard
- NOV. 1996 : R & D
- FEB. 1998 : Nominated as a prospected small and  
medium company in export
- FEB. 1998 : Achievement of Zero accident  
(Ministry of Labor)
- SEP. 1999 : Obtain ISO 9002
- JUL. 2000 : Obtain Siwha 683-1 factory
- DEC. 2000 : Completion of Fluoro chemicals factory
- JAN. 2001 : Obtain QS 9000
- FEB. 2001 : Nominated as a Venture Company
- JUL. 2002 : Approved as a Promising Small and  
Medium Enterprise
- DEC. 2002 : Obtain the patent of paper water-proof  
coating agent



Crude Oil



Pumping

- QUENCHING OIL
- MACHINE OIL (SPINDLE OIL)
- HYDRAULIC OIL
- RUBBER PROCESS OIL
- GREASE
- CUTTING OIL
- DEEP DRAWING OIL
- ANTIRUSTING OIL
- INSULATING OIL
- OTHERS (SPECIAL OIL)



Storage Tanks



Atmospheric Distillation



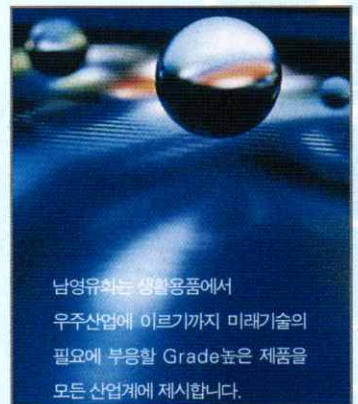
Vacuum Distillation



Hydro-Finishing (Hydro-Treating)



M • E • K Treating



남영유화는 생활용품에서 우주산업에 이르기까지 미래기술의 필요에 부응할 Grade높은 제품을 모든 산업계에 제시합니다.



Slack-wax, Storage Tank

- PARAFFIN WAX
- MICRO-CRYSTALLINE WAX
- PETROLEUM
- EMULSION WAX
- SYNTHETIC WAXES
- L • D-PLOYETHYLENE WAXES

# 管理와 取扱 (Control & Treatment)

## CUTTING OIL

溫度, 濕度, 그의 混合物에 따라 變質과 劣化가 일어나기 때문에 충분한 管理가 必要합니다.

It is necessary to control it sufficiently because deterioration and emulsion occur in accordance with and its mixture

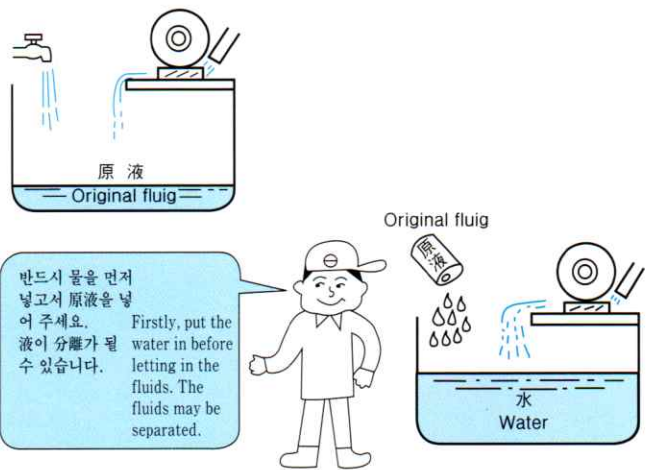
管 理  (Control)	保 管 (Keeping)	使用中 (In Use)	使用後 (After Use)
	<p>油劑의 保管은 管理의 第一步입니다.</p> <ul style="list-style-type: none"> <li>● 貯藏溫度는 4~40℃의 範圍에서 溫度變化가 적은 屋內에 貯藏하여  주십시오.</li> <li>● 水溶性油劑는 組成上, 外氣溫度의 影響을 받기  쉽기 때문에 貯藏에는 充分히 留意하고 長期(6個月 以上)貯藏은   피해  주십시오.</li> <li>● 口栓이  들어가지  않게  반드시  잠그어  주십시오.  물이  들어가면서 液이  分離하거나  不水溶性의  場合에는 發錆의 原因이  되어서  工具壽命을  단축합니다.</li> </ul> <p>To keep emulsion is the first step to control</p> <ul style="list-style-type: none"> <li>● Please keep it in doors at temperature from 4℃ to 40℃</li> <li>● Be careful in keeping soluble emulsion because it is easily affect by open air temperature in its composition and don't keep it for a long time(over 6 months)</li> <li>● Fasten it tightly lest foreign materials should be inserted.</li> </ul> <p>The life of tools will be shortened because fluids are separated or corroded in water insoluble case if waters soak into</p>	<p>劣化의 CHECK POINT</p> <p>(不水溶性)</p> <ul style="list-style-type: none"> <li>● 粘度 ● 引火点 ● 水分</li> <li>● 漏油의 混入量 ●  따라서는 添加劑의 減量을  할  수도  있다.</li> </ul> <p>(水溶性)</p> <ul style="list-style-type: none"> <li>● 濃度 ● PH ● 防錆力</li> <li>● 스톱지의 量 ● 腐敗(박테리아 發生)의 程度</li> </ul> <p>Check Point of emulsion. &lt; Water Insoluble &gt;</p> <ul style="list-style-type: none"> <li>● Viscosity</li> <li>● Inflammation point</li> <li>● Mixed quantity of leaky oil</li> <li>● Possible to reduce the quantity of additive</li> </ul> <p>&lt;Water soluble &gt;</p> <ul style="list-style-type: none"> <li>● Concentration</li> <li>● PH</li> <li>● Anti-corrosive Force</li> <li>● Quantity of sludge</li> <li>● Degree of decay (Bacteria origination)</li> </ul>	<p>廢棄處分</p> <p>公害問題의 解消를  위해  公害,  基本法을  根據로  한  各種의  法令,  法則(예를  들면  水質汚濁防止法,  不水道法,  公害對策基本法,  廢棄物處理 및  清掃法등)을  十分考慮해  注意하여  主십시오.</p> <p>To solve out pollution problems, treat it after considering law and regulation based on Basic pollution Laws.</p> <p>(For example, water pollution prevention Law, drainage regulations, Basic Laws for Pollution Prevention)</p>

## 使用方法(Application)

- 水溶性油劑는 탱크內의 切屑, 砥粒, 스톱치, 油分등의 異物을 제거하는 適切한 洗滌劑, 殺菌劑(또는 防腐劑), 工作機械, 環境系統, 탱크內를 殺菌洗滌하고 生息하는 微生物을 完全히 死滅시킨다.
- 탱크內에 所定量의 水(水道水又軟水)을 張込해 充分攪拌하면서 原液을 조금씩 投入하여 目的하는 濃度로 調整한다.

Water-soluble emulsions get rid of foreign materials, metal power, abrasive stone powder, sludge, fraction in tank as adequate detergent, bactericide(or antiseptic), sterilize in numerical control machine, circulation system and remove generating microorganism.

With flowing designated desired water into tank and agitating it, control it to desired concentration by putting undiluted solution into the tank.



## 性狀維持(Keeping its characteristics)

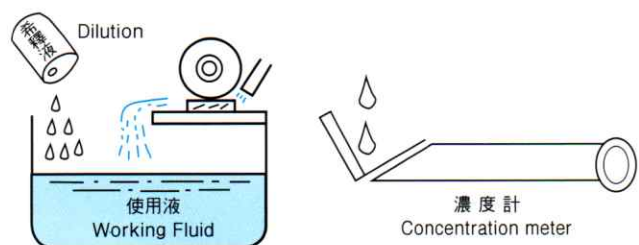
### 新液의 補充과 濃度管理

使用液의 濃度는 그 變化에 따라 切(研)削性은 勿論, 材料, 機械의 錆를 발생시킬 수 있기 때문에 그 管理가 重要하다. 濃度는 간이 濃度計가 便利하다. 又, 補充은 미리 一定濃度로 稀釋한 液을 사용하여 주십시오.

Refilling new fluids and Controlling Concentration.

It is important to control the concentration because the concentration may cause cutting performance, materials corrosion of machines in accordance with its change the concentration may be easily measured by simple concentration meter.

And also, use a ready-diluted fluids for refilling it.



## 發泡(Foaming)

切(研)削油劑는 使用에 있어서 發泡에 따른 作業 TROUBLE을 적게 하기 위해 成分配合를 하고 있으나 給油量 또는 給油壓力(탱크容量과의 균형)이 나쁠때, 탱크에서의 落差가 클때등의 주로 機械的 構造上的 理油로 發泡하고 使用液이 탱크에서 넘칠때가 있습니다. 이러한 때에는 上記項目을 改善하거나 水溶性消泡劑를 첨가해서 發泡을 억제시켜 주십시오.

We are mixing components to make working trouble by foaming more less when we are using cutting oils, but they may be foamde when oil supply qunatity or oil supply pressure balance with tank volume is bad, and they are being foamed by mechanical causes on structure. Sometimes used fluids may overflow its tank. Then repair the above articles or add water-soluble cutting materials to control foaming.



## 濾過(Filtering)

各 工場에서 油劑의 濾過에 따른 폐치트가 상당히 크다는 것을 인식하여 各種의 濾過機를 採用하는 例가 많게 되었습니다.

At, each factory, many people have known that ppachet by filtering of emulsion is very big, so they came to use a variety of filter.

### ● 濾의 效用

- 1) 工具壽命의 延長, 마무리 精度의 向上
  - 2) 稼動時間의 增加, 生産性의 向上
  - 3) 腐敗防止의 使用時間의 延長
  - 4) 使用量의 節減
  - 5) 環境衛生, 公害對策의 解決
- 精度를 要求하는 作業은 특히 精密濾過가 必要합니다.

● 호닝 作業 ● 研削作業

### Effect filtering

- 1) Elongate life of tools and improve finishing degree.
- 2) make oprrating time increased and make its productivity better.
- 3) Prevent its decay and elongate time used
- 4) Reduce amount used.
- 5) Solve out environmetal sanitation and pollution.

When the works require precision, precise filtering is necessary.

● Honning work ● Grinding Work



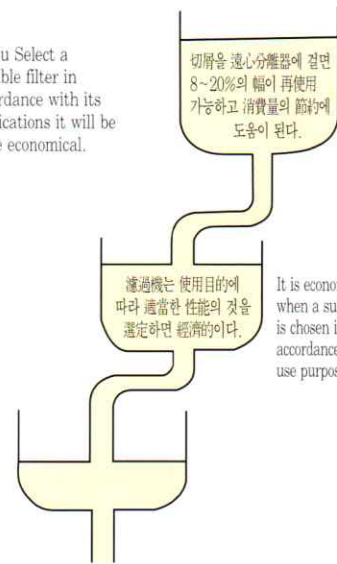
濾過에 관해서 質問을 하여 주십시오.  
You can ask Some questions about filtering.

If you Select a Sutable filter in accordance with its applications it will be more economical.

切屑을 遠心分離器에 걸면 8~20%의 幅이 再使用 가능하고 消費量의 節約에 도움이 된다.

濾過機는 使用目的에 따라 適當한 性能의 것을 選定하면 經濟的이다.

It is economical when a suitable filter is chosen in accordance with its use purpose.



## 腐敗와 그의 對策(Decay and its Countermeasure)

腐敗防止는 作業能率의 向上, COST의 引下, 公害問題의 解決에 큰역할을 합니다.

Preventing decay will play a role in improving work efficiency, lowering cost and solving out polluctton problems.

作業中에 惡臭가 나는 것은 液이 腐敗하고 있기 때문이다. 原因은?

You may smell stench in operation when fluids are decayed. The causes?

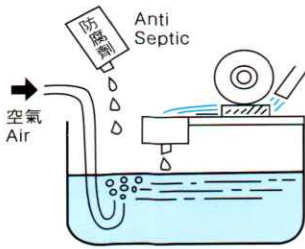
對 策

- 1) 休止中에 液만을 循環시킨다.
- 2) 定期的으로 空氣를 供給한다.
- 3) 濾過를 해서 混入物을 除去한다.
- 4) 적절한 防腐劑를 添加한다.

(Countermeasure)

- 1) Circulate only fluids in pause.
- 2) Supply Air periodically.
- 3) Remove mixed materials by filter.
- 4) Add televant antiseptic.



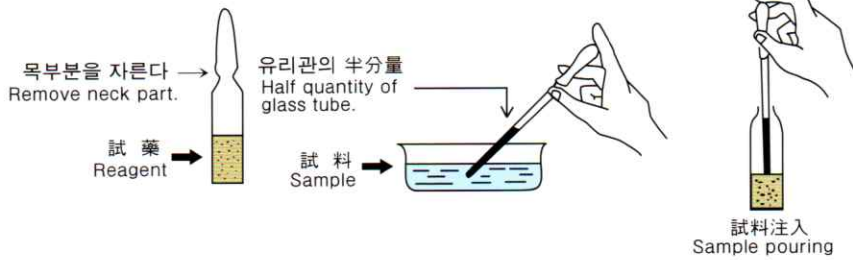


休日前에 水溶性防腐劑P을 그랜드탱크 內의 液의 容量에 0.01~0.07% 添加하여 주십시오.

Add 0.01 to 0.07% of water-soluble antiseptic P compared with fluids quantity in tank.

嫌氣性菌의 有無를 工場에서 簡單히 檢査하는 方法으로서는 "PANA테스트"가 便利합니다. 그 發色에 따라 防腐劑를 添加해 주십시오.

"PANA Test is a easy method practicable in factory for checking weather are erobic bacteria or rot. Add antiseptic in accordance with its color.



### 파나테스트 使用의 要領 Method for PANA Test

#### 박테리아검사앰플 PANA테스트 (100本入) (PANA Test(100)for Bacteria Inspection Ample)

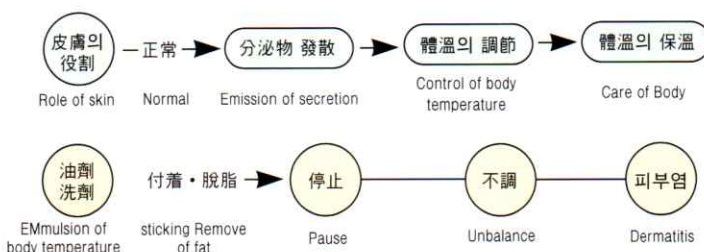
經濟的인 價格으로 簡單히 테스트할 수 있습니다.  
PANA 테스트는 管理者가 日常工場에서 簡單히 試驗을 行할 수가 있습니다.  
規定의 溫度, 時間에 따라 試藥赤色斑點의 量으로 박테리아 汚染의 有無를 確認할 수 있다.

Possible to check it easily at economical price PANA Test mat be easily executed by controller on the spot.  
Possible to check whether there are any symptom of bacteria contaminnation.

### 皮膚炎과 그의 豫防(Dermatitis & its prevention)



피부오염을 적게하는 것이 作業意慾을 높이는 가장 效果的인 方法입니다.  
It is the effective way to elevate worker's intention to make skin



#### 發生原因 (Causes of happening)

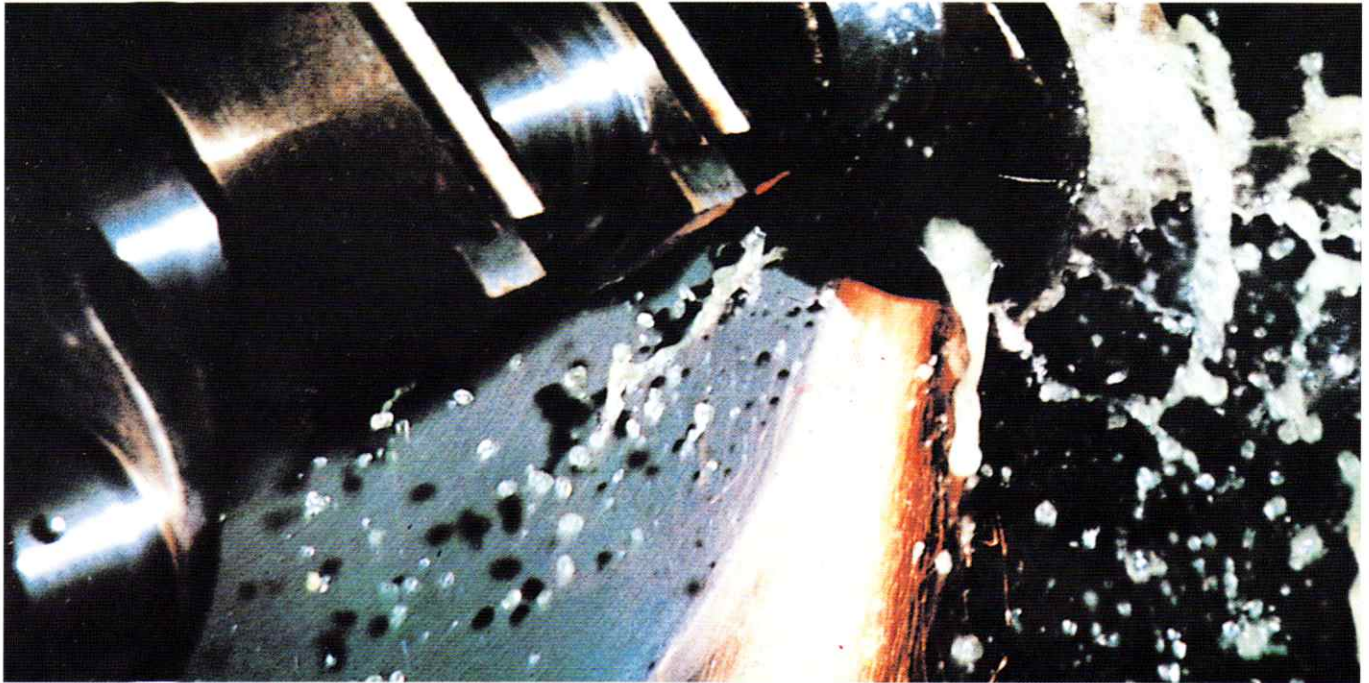
- 毛穴, 汁腺에 油劑나 먼지가 付着한다.
- 表皮의 脂肪分을 除去한다.
- 切削에 따른 擦傷
- Emulsion or dust is stuck to pores, etc.
- Remove fat of skin
- Abrasion by metal powder.

#### 對策 (Countermeasure)

- 身體를 清潔히 유지한다.
- 油劑가 直接접촉하지 않도록 한다.
- 保護用 크림을 使用한다.
- 刺激이 적은 油劑를 檢討한다.
- Keep the body clean
- Be careful not to be touched to emulsion directly.
- Use protection cream
- Investigate emulsion that has littie friction

# 水溶性切(研)削油劑 (Water-Soluble Cutting Oil)

## CUTTING OIL



TYPE	區分(Division) 製品名(Appearance)	外觀 (COLOR)	P H		防鏽性 (Anti-corrosion)	使用倍率 (Magnification used)	特性 및 用途 (Characteristics and Application)
			10位 (times)	50倍 (times)			
E M U L S I O N	LUBMAX-111W	황 갈 색 투 명 Yellowish Brown, Transparent	9.3	—	양 호 Good	10~20倍 10 to 20	一般鋼의 切(研)削 加工에 가장 널리 使用 widely used in cutting and processing general irons
	LUBMAX-113W	"	9.3	—	"	"	切研削 加工 및 仕上加工에 適合 Adequate in cutting, grinding and filiform processing
	LUBMAX-112W	"	9.0	—	"	"	CU, AL의 一般 切(研)削 加工 General cutting processing of CU, AL
	LUBMAX-114W	"	9.0	—	"	"	非鐵金屬 加工에 適合 Suitable for processing non-ferrous metals
	LUBMAX-121W	"	9.3	—	"	"	一般鋼의 나사 切・中切研削 Screw cutting and grinding of general irons
	LUBMAX-123W	"	9.3	—	"	"	Honning 및 仕上加工에 適合 Suitable for Honring and sand bottom processing
	LUBMAX-122W	"	9.2	—	"	"	非鐵, 鐵의 汎用 切研削用 General cutting and grinding non-ferrous, and ferrous metals
	LUBMAX-124W	"	9.2	—	"	"	非鐵CU, 旋削 및 Praise 盤等に 使用 Used in non-ferrous CU and fraise, etc.
	LUBMAX-131W	"	9.3	—	"	"	
	LUBMAX-132W	"	9.4	—	"	"	
	LUBMAX-133W	"	9.3	—	"	"	
	LUBMAX-134W	"	9.2	—	"	"	수정, 다이아몬드 切研削 加工用 Crystal and Diamond cutting grinding
	S O L U B L E	LUBMAX-211W	갈 색 투 명 Brown Transparent	9.0	8.7	"	10~30倍 10 to 30
LUBMAX-212W		"	9.0	8.7	"	"	
LUBMAX-213W		"	9.6	9.2	"	"	
LUBMAX-214W		"	9.3	8.8	"	"	AL, CU 및 非鐵 加工에 加工用 Suitable for processing AL, CU and non-ferrous metals
LUBMAX-221W		청 색 투 명 Blue Transparent	9.4	9.0	"	"	切削 및 一般 切研削에 使用 Used in cutting and general grinding oils

TYPE	區分(Division)	外觀 (COLOR)	P H		防 鏽 性 (Anticorrosion)	使用倍率 (Magnification used)	特 性 及 用 途 (Characteristics and Application)
	製品名 (Appearance)		10倍 (times)	50倍 (times)			
S O L U B L E	LUBMAX-222W	청색투명 Blue, Transparent	9.4	9.0	양 호 Good	10~30배 10 to 30	汎用 切研削用으로 AL, Steel에 使用 Used in AL, and steel as general cutting and grinding oils
	LUBMAX-223W	"	9.4	9.0	"	"	
	LUBMAX-224W	"	9.4	9.0	"	"	반도체(Si,Ge)의 Slice 加工 및 LENS 보석등 一般 FC材의 研削用 Slice processing of Si and Ge semi-conductors and grinding general FC materials, such as LENS jewelry
	LUBMAX-231W	녹색투명 Green, Transparent	9.4	9.0	"	10~50배 10 to 50	一般 研削加工 General grinding process
	LUBMAX-232W	"	9.4	9.0	"	"	
	LUBMAX-233W	"	9.4	9.0	"	"	
	LUBMAX-234W	"	9.4	9.0	"	"	非鐵金屬의 研削加工 Cutting and Grinding of non-ferrous-metals
	LUBMAX-235W	적색투명 Red, Transparent	9.4	9.0	"	"	
	LUBMAX-236W	"	9.0	8.7	"	"	반도체(Si,Ge)Lens, 수정, 다이아몬드 보석 및 Lapping 및 Slice加工用 Lapping and slice processing of Si, Ge semiconductor, crystal, diamond jewelry

# 不水溶性切(研)削油劑 (Cutting & Grinding Oils)

## CUTTING OIL

「LUBMAX-CUTTING OIL 製品은 高度로 精製된 Base Oil에 특수첨가제를 當社 연구팀의 기술지도 아래 특수 合成法으로 절삭조건에 알맞도록 선택하여 加工不良防止, 精密度의 向上, 工具壽命을 연장시킬 수 있도록 製造되었으므로 어떠한 切削條件에도 만족을 줄 수 있을뿐만 아니라 다양한 新產品을 가공방법·재질에 따라 Series별로 다양하게 보유하고 있어 最적유 畧유선정이 용이합니다」

LUBMAX-CUTTING OIL Products are designed for preventing working inferiority, raising the precision and elongating tool life by choosing special additives to highly-refined base oil in accordance with research team's technic guides. And, we can advise you to choose the best oil that is suitable for your climate among our various oils in accordance with your working method and materials.

## ☐ CUTTING OIL

品 名 (Product Name)	KS	粘 度 (40C cSt) (Viscosity)	引 火 点 (°C) (Flash point)	銅 板 腐 食 (Copper plate corrosion) 100c× 1HR	色(ASTM) Color	用 途 及 特 徵 (Application and characteristic)
LUBMAX-2A	1-1	2	90	1a	L 0.5	低粘度, 高引火点으로 洗淨性이 우수한 비철금속의 切研削, Belt연삭유 Non-ferrous cutting Oil and belt grinding oil which has excellent washing effect by low viscosity and high Flash point
LUBMAX-4A	1-1	4	108	1a	L 1.0	비철금속(AL)용으로 가장 널리 사용되는 汎用切削油 General cutting oil widely used in non-ferrous metals
LUBMAX-7A	1-1	7	140	1a	L 1.0	低粘度, 高引火点으로 洗淨性이 우수한 비철금속의 切研削, Belt연삭유 Non-ferrous cutting Oil and belt grinding oil which has excellent washing effect by low viscosity and high Flash point
LUBMAX-11A	1-5	11	150	1a	L 1.0	비철금속의 범용절삭, Milling, Tapping, Drilling 등 General cutting, Milling, Tapping, Drilling of non-ferrous metals
LUBMAX-30A	1-6	32	180	1a	L 1.5	비철금속의 가공성이 우수한 중질삭용 윤활성을 고려함. Heavy cutting lubrication that has excellent non-ferrous metals processing
LUBMAX-7E		9	150	1a	L 1.0	비철금속의 가공성이 우수한 중질삭용 윤활성을 고려함. Heavy cutting lubrication that has excellent non-ferrous metals processing
LUBMAX-20E	1-4	20	172	1a	L 2.5	Transfer-machine용 절삭유(특히 AL가공에 최적) Cutting oil or transfer-machine(Especially, Al)
LUBMAX-3G	1-6	15	198	1a	L 1.0	원자력 재료 가공에 사용(유황, 할로젠류의 극압제 불포함) Used in atomic power materials processing(Excluding exterm pressure agent such as sulfur, halogen, etc)
LUBMAX-7H	2-1	7	110	1a	L 1.0	일반강 및 알루미늄 합금의 초정밀 加工에 최적 Super-precision processing for general irons and aluminium alloys
LUBMAX-9H	2-4	10	150	1a	L 1.0	철, 비철의 일반가공용, Tapping, Drilling, 범용절삭용 General processing of irons and non-ferrous metals Tapping, Drilling, general cutting
LUBMAX-13H	2-4	14	160	1a	L 1.5	"



品名 (Product Name)	KS	粘度 (40C cSt) (Viscosity)	引火点 (°C) (Flash point)	銅板腐食 (Copper plate corrosion) -100c× 1HR	色(ASTM) Color	用途 및 特徴 (Application and characteristic)
LUBMAX-20H	2-5	20	206	1a	L 1.5	철, 비철, 고속절삭, 정밀가공용 Iron, non-ferrous metals, high-speed cutting, precision processing
LUBMAX-30H	2-6	30	206	1a	L 1.5	철, 비철, 합금강의 정밀, 중절삭용 precision processing and heavy cutting of iron-non-ferrous processing
LUBMAX-9K	2-2	9	140	1a	L 1.0	Belt 研削油로서 알루미늄 및 동합금 가공에 최적임 Aluminium and bronze processing as belt grinding oils
LUBMAX-11L	2-3	11	156	1a	L 1.0	汎用切削油로, 스테인레스, 합금강에 사용됨. Usd in general cutting, stainless and alloys
LUBMAX-11L2	2-3	11	154	1a	L 1.0	범용경절삭 가공유로 일반강, 알루미늄(합금) 및 주철 가공에 최적유 General irons, aluminium(alloys) and cast iron processing as general light-cutting processing oils
LUBMAX-12L2	2-3	12	164	1a	L 1.5	일반강, 알루미늄(합금) 및 주철 精密加工油 Precision processing of general irons, aluminium(alloys) and cast iron
LUBMAX-12L3	2-3	12	166	1a	L 1.0	多油自動旋盤 가공유(일반탄소강의 가공 최적유) Multi-shaft automatic lathe processing oil (Best oil for common carbon steel)
LUBMAX-13L	2-3	13	160	1a	L 1.5	多油自動旋盤 가공유(알루미늄 합금의 정밀 가공유) Multi-shaft automatic lathe processing oil(Precision-processing oils for aluminium alloys)
LUBMAX-13L2	2-3	13	166	1a	L 5.5	低粘度로 세정력이 우수한 齒切加工油 Excellent Cutting processing oils of low viscosity
LUBMAX-13L3		14	166	1a	L 2.0	정밀가공 중절삭용 Heavy Cutting oils for precision processing
LUBMAX-30L		32	200	1a	L 2.5	호브, 세이빙, 중절삭가공용 Hopping, Saving, Heavy cutting
LUBMAX-16L2	2-3	16	160	1a	L 5.5	극압제로 불활성유황을 함유한 치절 가공유 Cutting processing oils containing inert sulfur as extreme pressure agent
LUBMAX-23L	2-3	23	194	1a	L 1.0	Transfer-machine 및 超精密加工으로 최적입니다. Suitable for transfer machine and super-precision processing
LUBMAX-24N	2-4	24	162	1a	L 5.5	DONA-16L2 의 절삭성능을 향상시킨 치절 가공유임. Cutting processing oils made by elevating DONA16L2 Cutting performance
LUBMAX-30N		30	180	1a	L 2.5	정밀가공, 중절삭용, 일반강, 특수강 Precision working, heavy cutting, general steels, special steels
LUBMAX-17P	2-5	17	162	1a	L 8.0	다축자동용 절삭유로 특히 Drill의 공구수명을 고려한 製品 Elongating drill life as cutting oils for multi-shaft automatic machines
LUBMAX-15R		15	160	1a	L 8	철, 비철속 일반절삭용(Tapping, Drilling, Milling, Broaching) General cutting of ferrous, non-ferrous metals(Tapping, Drilling, Milling, Broaching)
LUBMAX-11R2		11	160	1a	L 2.5	" "
LUBMAX-17R2	2-6	17	162	1a	L 2.5	순동의 절삭전용유로 절삭성능 및 부식 변색을 고려한 製品 Exclusive fine bronze cutting oil made after regarding cutting performance and corrosion
LUBMAX-19R	2-6	19	162	1a	L 8.0	다축 자동가공으로 활성유황을 사용할 수 없는 難削材의 가공에 적합 Suitable for punching of materials that activated sulfur can,t be used as automatic multi-shaft machines
LUBMAX-32R		30	200	1a	L 8	철, 비철금속, 일반절삭용(Tapping, Drilling, Milling, Broaching) General cutting of ferrous, non-ferrous metals (Tapping, Drilling, Milling, Broaching)
LUBMAX-46R		45	206	1a	L 8	" "
LUBMAX-32NA		32	200	1a	L 8	일반강, 특수강, 중절삭용(Tapping, Broaching) General steels, special steels, heavy cutting (Tapping, Broaching)
LUBMAX-45NA		45	210	1a	L 8	" "
LUBMAX-8S	2-11	8	140	1a	L 1.0	Belt 研削用으로 難削加工에 적합합니다. Suitable for materials that are difficult to work as belt grinding oils
LUBMAX-13U3	2-13	13	160	1a	L 2.0	스테인레스 및 難削材의 汎用切削油 General cutting oils for stainless and other materials
LUBMAX-14U	2-13	14	160	1a	L 2.0	Pipe네지(숏켓) Tapping가공유 Pipe socket, Tapping
LUBMAX-22U		24	210	1a	L 2.0	강, 특수강의 중절삭용(Tapping등) Heavy cutting of steels special steel(Tapping)
LUBMAX-30U		28	180	1a	L 4	" "
LUBMAX-13X	2-15	13	160	1a	L 2.0	스테인레스 및 難削材가공유로 工具壽命을 기대할 수 있습니다. Elongating tools life as working oils for stainless and other materials
LUBMAX-22Y2		22	180	1a	L 1.5	스테인레스 및 難削材加工 최적 油로 부로치 가공 용이 Easy Broach working as stainless and other materials working oils
LUBMAX-45Y3	2-16	46	215	1a	L 2.5	강, 특수강의 저속 중절삭용(Broaching, Tapping, Hobbing) Low-speed heavy cutting oils of steel and special steels(Broaching, Tapping, Hobbing)

## ☐ Slice・Lapping 加工油劑(Silce Lapping・Working emulsion)

品名 (Product Name)	粘度 (40℃ cSt) (Viscosity)	引火点 (℃) (Flash point)	銅板腐食 (Copper plate corrosion) 100℃×1HR	色(ASTM) Color	用途 및 特徵 (Application and characteristic)
LUBMAX-L-1	3	96	1a	L-1.5	다이아몬드의 內周丸用으로 Si, Ga-P, Ga-As 등의 전용유 Exclusive oils of Si, Ga-P, Ga-As as internal working oils of metals
LUBMAX-L-3	3	94	1a	赤色 Red Color	다이아몬드의 內周丸用으로 Si, Ga-P, Ga-As 등의 전용유 Exclusive oils of Si, Ga-P, Ga-As as internal working oils of metals
LUBMAX-L-5	7	206	1a	綠色 Green Color	다이아몬드의 內周丸用으로 Si, Ga-P, Ga-As 등의 전용유 특히 고인화점으로 안전성이 뛰어납니다. Especially, safe owing to high flash point
LUBMAX-LP-300	3.8	94	1a	L 1.5	유리등에 사용되는 洗淨성이 우수한 製品 Excellent washing effect for glass
LUBMAX-LP-500	3.8	82	1a	L 6.5	베구라이트 일반금속 전용유 Exclusive oils of back light general metals

## ☐ 放電加工油劑(Discharge Working Emulsion)

品名 (Product Name)	粘度 (40℃ cSt) (Viscosity)	引火点 (℃) (Flash point)	銅板腐食 (Copper plate corrosion) 100℃×1HR	色(ASTM) Color	用途 및 特徵 (Application and characteristic)
LUBMAX-FM	2.1	96	1a	L-0.5	放電加工 專用油 Exclusive discharge working oils
LUBMAX-FMS	3.5	120	1	L-0.5	放電加工 仕上 加工油 Discharge working & sand bottom working oils

## ☐ Drill-Tapping 加工油(Drill-Tapping Working emulsion)

品名 (Product Name)	該當 KS KS	粘度 (40℃ cSt) (VISCOSITY)	引火点 (℃) (Flash point)	銅板腐食 (Copper plate corrosion) 100℃×1HR	色(ASTM) Color	用途 및 特徵 (Application and characteristic)
LUBMAX-TF-1	2-15	15	160	4c	L-1.5	일반탄소강 스텐레스의 Tapping 전용유 Exclusive tapping oil of general carbon steel and stainless
LUBMAX-TF-1A	2-15	15	150	1b	L-1.5	일반탄소강의 Tapping 전용유 Exclusive tapping oil of general carbon
LUBMAX-TF-4	2-15	21	178	4c	L-1.5	일반탄소강 스텐레스의 Tapping 전용유 Exclusive tapping oil of general carbon steel and stainless
LUBMAX-TF-4A	2-15	23	170	1b	L-20	일반탄소강의 Tapping 및 냉간전조용 Tapping and cold rolling of general carbon steel
LUBMAX-TF-6	2-15	40	200	4c	L-2.0	轉造Tap 및 난삭재 가공용으로 특히 工具壽命을 고려한 製品 Elongation tool life as working rolling tap and other material
LUBMAX-TF-10	2-15	24	178	4c	L-1.5	轉造Tap 및 난삭재 가공용으로 특히 工具壽命을 고려한 製品 Elongation tool life as working rolling tap and other material
LUBMAX-TF-20	2-15	23	170	4c	L-2.0	難削材의 절삭 및 Tapping 專用油 Exclusive oils for cutting and tapping of other materials

## ☐ Honing 加工油(Honing Working oil)

品名 (Product Name)	粘度 (40℃ cSt) (Viscosity)	引火点 (℃) (Flash point)	銅板腐食 (Copper plate corrosion) 100℃×1HR	色(ASTM) Color	用途 및 特徵 (Application and characteristic)
LUBMAX-H-1	6	106	1a	L7.5	炭素鋼 및 合金鋼의 호닝가공용으로 마무리면을 중시하는 호닝에 최적 경합금, 동합금의 호닝 전용유 Suitable for honning the as honning working oils of carbon steels and alloy steels
LUBMAX-H-2	11	124	1a	D8.0	
LUBMAX-H-3	17	136	1a	D8.0	
LUBMAX-H-7	3.5	92	1a	D8.0	加工時間短縮 및 具壽命을 고려한 製品 Shortening working time and Elongating tool life

## ☐ Broach(齒切)加工油(Honing Working oils)

品名 (Product Name)	該當 KS KS	粘度 (40℃ cSt) (VISCOSITY)	引火点 (℃) (Flash point)	銅板腐食 (Copper plate corrosion) 100℃×1HR	色(ASTM) Color	用途 및 特徵 (Application and characteristic)
LUBMAX-19Y	2-16	19	162	4c	L-1.5	炭素鋼의 브로치 專用油 Exclusive Broach oils of carbon steel
LUBMAX-15Y	2-16	15	160	4c	L-1.5	탄소강의 Broach 가공용 Broach working oils of carbon steel
LUBMAX-32Y2	2-16	32	180	4c	L-1.5	Broaching 專用유로서 저속중질삭용 Low-speed heavy cutting oil as exclusive broach oils

品名 (Product Name)	該當 KS KS	粘度 (40℃ cSt) (VISCOSITY)	引火点 (℃) (Flash point)	銅板腐食 (Copper plate corrosion) 100℃ × 1HR	色 (ASTM) Color	用途 및 特徵 (Application and characteristic)
LUBMAX-32Y3	2-16	32	180	4b	L7.0	炭素鋼부터 合金鋼까지 사용이 가능한 브로치 專用油, 工具壽命을 고려한 製品 Exclusive broach oils available from carbon steel to alloy steels Elongating tool life
LUBMAX-73Z	2-17	73	200	4c	D8.0	合金鋼의 브로치 專用油. 構成齒先의 발생을 방지할 수 있는 製品 Exclusive broach oil of alloy steels preventing structural lines.
LUBMAX-16L2	2-3	16	160	1a	L5.5	齒切加工 Gear Shaving 용 Precision working
		32	208	1a	L0.5	油壓兼용의 齒切加工油劑 Precision working emulsion

## CUTTING OIL

1. B.T.A(Boring & Trepanning Association)가공방식의 특징은 Boring-bar를 이용한 自動調心作用으로 다량의 절삭유를 고압으로 공급함으로 Boring bar의 진동을 억제할 뿐 아니라 中空 部로 Chips의 배출을 용이하게 하여 피삭재 내면에 Chips으로 인한 흠이 없어 加工精度가 양호하여야 합니다.

또한 單位시간당 Chips의 발생량이 많으므로 절삭유의 유속이 대단히 중요하며, 적은 口徑의 작업시에 절삭유압은 口徑의 내용적이 적어서 大口徑의 작업시보다 유압이 커야만 하고 逆으로 大口徑의 작업시에는 小口徑작업시보다 절삭유량이 다량 필요합니다. 경험적으로 가공구멍의 直徑에 따른 필요한 절삭유의 토출량은 표(1)과 같습니다.

이에 따라서 절삭유 탱크의 용량은 적어도 최대 Pump로 토출량의 10배 정도가 좋으며 이것은 Filter로 제거하지 못한 微分을 침적시키고 油壓에 의해 발생된 기포를 충분히 제거한 후 Pump 흡송시 기포 및 Chips이 흡입되지 못하게 하고 또 切削油를 식히는 시간을 충분히 주기 위함입니다.

南永이 보유한 절삭유 Ny-B.T.A는 현재 일본 전역에 걸쳐 호평을 받으면서 널리 사용되고 있는 대표적인 제품으로 절삭저항이 Drill 이나 Gun drill에 비해 적을뿐 아니라 가공속도로 7~10배가 빠르므로 高能率의이며 口徑의 200배 길이 까지 加工이 용이하며 매우 경제적인 윤활 가공유입니다.

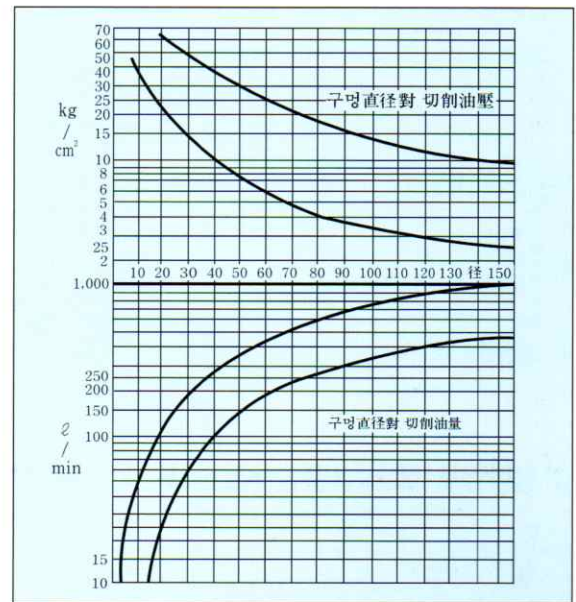
1. The feature of B. T. A(Boring Trepanning Association) working method is not only the vibration by supplying much cutting oil with high pressure with automatic-centering function utilizing boring-bar, but making the surface of grinded materials clean. the flow speed of cutting oil very important because the amount of chips produced per unit hour is much.

In case of small ocaliber work., hydraulic pressure must be greater than that of big caliber work, and reversely in case of big caliber, much cutting oils will be needed. From our

experiences, mixed quantity of cutting oil in accordance with diameter of working role is seen in figure(1)

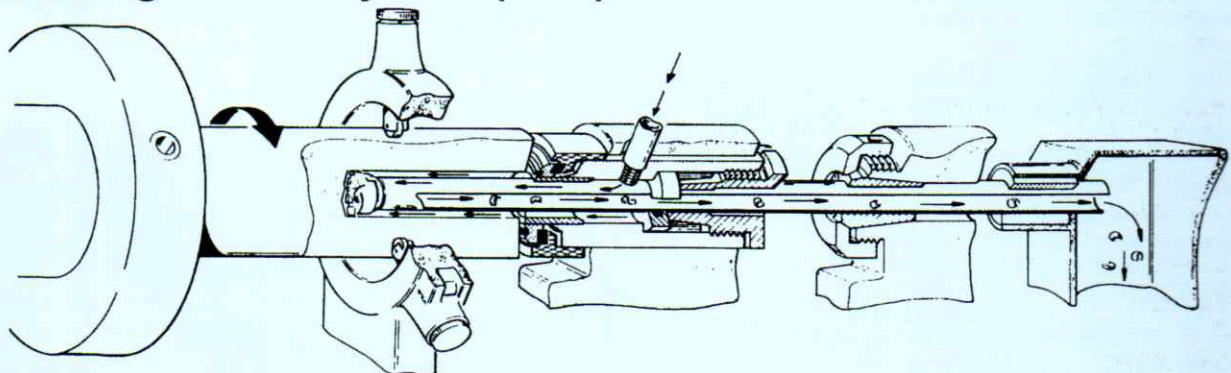
Accordingly, the capacity of cutting oil tank must be 10 times of maximum pump mixed quantity at least. because the reason is that we must settle Impalable powder that are not remove by filter. make an air bubble and chips not be absorbed in suction pump and give time for cooling cutting oils.

Our NY-BTA is well applaused and used in Japan, the cutting resistance is more littie than Drill or Gun drill and the working speed is 7 to 10 times of other products. SO, our products are very efficient and can make working possible until 200 times length of caliber.



〈그림 1〉 구멍의 直徑에 대한 切削 油壓 및 切削 油量 선정의 경험치

## STS-Single Tube System(BTA)

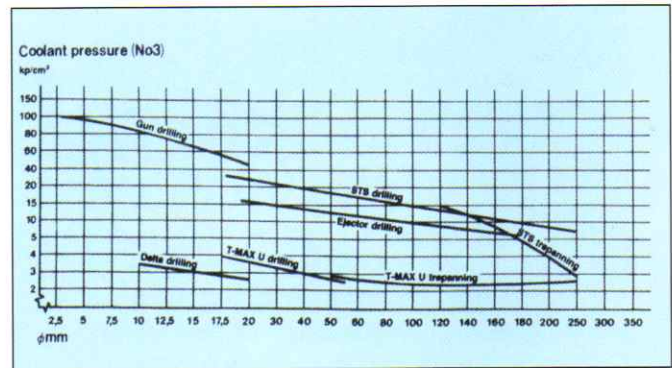
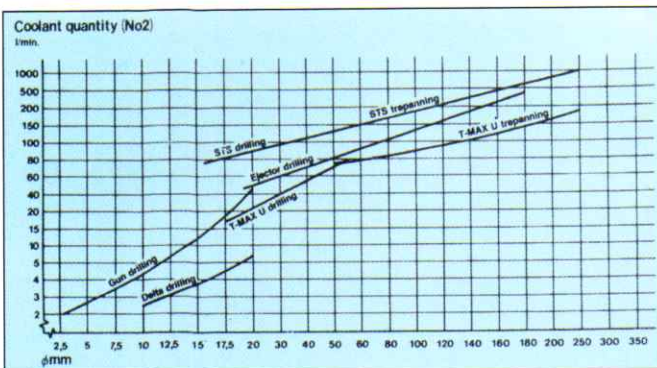


## 2. Ny-BTA 特徴

- Ny-BTA유는 파라인계의 高度 精製油는 화학적 안정성이 높은 鹽硫化係 극압제를 함유한 활성계 절삭유로 윤활성이 우수하고 高溫下에서도 공구마찰을 최대한으로 막을 수 있습니다.
- Ny-BTA유는 점도지수가 높아 가공시 油溫의 변화가 적을 뿐 아니라 열안정성이 우수하여 고압(50kg/cm<sup>2</sup> 이상)의 토출 압력에도 견딜 수 있는 고유압성능 (hydraulic oil)을 겸비하고 있습니다.
- Ny-BTA유는 적정 점성유(40℃ : 13.7cst)로 유속의 흐름이 좋아 Chips(切分)의 洗淨性이 용이하고 冷却性이 우수함.
- Ny-BTA유는 산화안정 및 기포 안정성이 있어 Oil의 수명이 길어 오랜동안 순환 사용할 수 있으며, 고압 토출로 인한 기포 발생을도 적을뿐 아니라 피삭제의 단기 방청효과도 우수합니다.
- Ny-BTA유는 취기, 衛生上支障이 없으며 BTA 가공방식 (Solid, Trepan, Counter)뿐만 아니라 汎用難削循環環境加工으로도 最適이다.
- Ny-BTA-wf-2는 수용성 BTA 가공유제로 인화점이 없는 것이 특징입니다.

## 2. Ny-BTA Features.

- Ny-BTA oils have excellent lubrication effect as activated cutting oils containing chlorine sulfur group exterm-pressure agent that is stable chemically to highly-refined oils of paraffin group and prevent the friction under gigh temperature as much as possible.
- Ny-BTA oils have little change in oil temperature in working because of its high viscosity, and excellent thermal-stability. So, they has hydraulic oil performance that makes enduring under mixing pressure high pressure. (over toke g/cm<sup>2</sup>)
- Ny-BTA oils have good flow as a good viscosity oil(40℃:13.7cst), wash chips very essily and cool the materials.
- Ny-BTA oils may be used rotaionally long time because of its long life by oxidation stability and an air bubble stability show little an air bubble yielding rate and has excellent short-term anti-corrosion effect.
- Ny-BTA oils may be easily used without an offensive small problems on hygiene and general circulation working suitable for BTA working method (solid, Trepan, counter).



## 3. 代表性狀(Main characteristics)

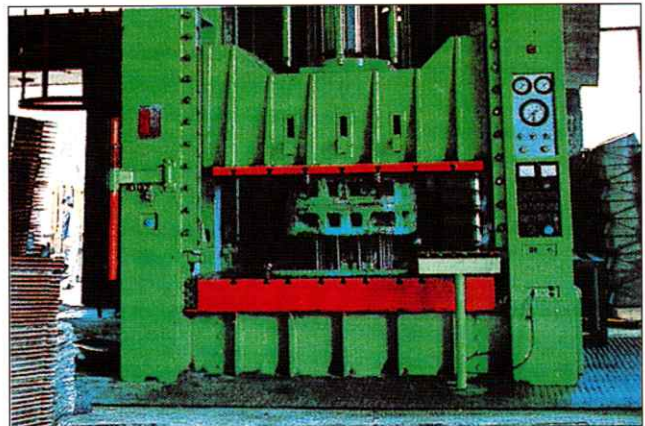
區 分	Ny-BTA	Ny-BTAS	Ny-3KL	Ny-BAT-WF-2
Specific Gravity(15/4℃)	0.9124	0.9018	0.896	0.962
Flash Point (℃)	164	158	160	-
Viscosity(40℃) CST	13.70	13.26	13.52	26.23
Corrosion(100℃ × 1h)	4 A	4 C	4 C	4 C
Reaction	Some alkalinity	Neutral	Neutral	Some alkalinity
色(union)	2½ (-)	2½ (-)	2½ (-)	6 (-)
鹽素分 Wt %	3.1	4.1	1.5	10.0
硫黃分 Wt %	1.3	1.4	1.3	1.3
脂肪油分 Wt %	7.0	12.5	2.0	24.5

# 塑性加工油 (Plasticity working oils)

## DEEP DRAWING OILS

FADO 塑性加工油 가혹한 작업조건에 따라 소재의 용도별로 多様性있게 특수한 EXTREME PRESSURE ADDITIVE로 제조되어 어떠한 소성 변형시에도 加工摩擦 抵抗을 최대한 감소시켜 다이스의 摩耗방지는 물론 加工표면에 주름이나 파단된 면이 없이 바라는 가공치를 얻을 수 있습니다.

FADO plastic working oil are manufactured by special extreme pressure additives diverse by use of materials in accordance with severe operating conditions. So, make working rubbing resistance less maximumly under any plastic charge, prevent abrasion and make it possible to acquire the desired value without any furrows or fraction or working surface.



### PUNCHING-OIL(打拔油)

製品名 (Product Name)	成分 (Composition)	金屬에 對한 影響 (Influence or Metals)				特性 및 主用途 (Main Application and characteristics)
		SUS	STEEL	CU	AL	
FADO-PH-#0A	低粘度鹽素系 Low-viscosity choline group	○	○	○	○	乾燥性 Punching 油, 脫脂不必要 薄板 Core 加工, AL, CU 珪素鋼板 STSC(0.5~1.0mm) SUS 鋼板加工 (High-drying punching oils. A thin plate core working, AL, CU, silicon steel STSC(0.5 to 1.0mm) SUS steel plate working)
FADO-PH-#1(A)	低粘度鹽素系 Low-viscosity choline group	○	○	○	○	
FADO-PH-#2	低粘度鹽素系 Low-viscosity choline group	○	○	○	○	
FADO-PH-#3	低粘度鹽素系 Low-viscosity choline group	○	○	○	○	
FADO-PH-#5	硫鹽化活性系 Activated sulfur group	○	○	○	○	
FADO-PH-#7	硫鹽化不活性系 Inert sulfur group	○	○	○	○	
FADO-PH-#10	硫鹽化不活性系 Inert sulfur group	○	○	○	○	
FADO-PH-#30	低粘度高分子系 Low-viscosity high polymer group	○	○	○	○	金型보호 精度向上을 기할 수 있음. (10~20mm) 精密打拔 (Protecting metal Mold. Elevating the precision Degree precision (10 to 20mm))
FADO-PH-#100	低粘度高分子系 Low-viscosity high polymer group	○	○	○	○	

### HEADING(FORMING, 鍛造油)(Heading, Forming Rolling Oils)

製品名 (Product Name)	成分 (Composition)	金屬에 對한 影響 (Influence or Metals)				特性 및 主用途 (Main Application and characteristics)
		SUS	STEEL	CU	AL	
FADO-HD-32	鹽硫化不活性系 Inert Choline Group	○	○	○	○	油壓作物油兼用 Bolt Nuts Former油 Bolt nuts former oils for hydraulic products oils.
FADO-HD-46	鹽硫化不活性系 Inert Choline Group	○	○	○	○	
FADO-HD-56(68)	鹽硫化不活性系 Inert Choline Group	○	○	○	○	
FADO-HD-1M	鹽硫化不活性系 Inert Choline Group	○	○	○	○	鋼材의 溫間鍛造 Bolt Nuts Former油 Cooling Rolling bolt nuts former oil of bronze.
FADO-HD-1MA	鹽硫化不活性系 Inert Choline Group	○	○	○	○	
FADO-HD-1MS	鹽硫化不活性系 Inert Choline Group	○	○	○	○	鋼材의 溫間鍛造 Bolt Nuts Former油 WARM Rolling bolt nuts former of bronze.
FADO-HD-2MA	鹽硫化不活性系 Inert Choline Group	○	○	○	○	
FADO-HD-2M	鹽硫化不活性系 Inert Choline Group	○	○	○	○	鋼材의 冷間鍛造 Bolt Nuts Former油 Cooling Rolling bolt nuts former oil of bronze.
FADO-HD-2MS	鹽硫化不活性系 Inert Choline Group	○	○	○	○	
FADO-HD-TF-1	鹽硫化不活性系 Inert Choline Group	○	○	○	○	Steel, SUS 냉간전조로 모든 랩브가공에 사용 SUS 冷間鍛造油 (Used in all lab workig with steel, SUS cooling rolling, SUS cooling forming oil.
FADO-HD-TF4	低粘度高分子系 Low-viscosity high polymer group	○	○	○	○	

## HEADING(FORMING, 鍛造油(Rolling Oils))

製 品 名 (Product Name)	成 分 (Composition)	金屬에 對한 影響 (Influence or Metals)				特 性 및 主 用 途 (Main Application and characteristics)
		SUS	STEEL	CU	AL	
FADO-HD-TF6	底粘度高分子系 Low-viscosity high polymer group	○	○			SUS.(Deep, Hole) Former 油 SUS.(Deep, Hole) Former Oil.
FADO-HD-TF10	底粘度高分子系 Low-viscosity high polymer group	○	○	○	○	
FADO-HD-3G	底粘度高分子系 Low-viscosity high polymer group	○	○			
FADO-HD-5G	底粘度高分子系 Low-viscosity high polymer group	○	○			

## 일반(신선유) General(Wire-yielding oils)

製 品 名 (Product Name)	成 分 (Composition)	金屬에 對한 影響 (Influence or Metals)				特 性 및 主 用 途 (Main Application and characteristics)
		SUS	STEEL	CU	AL	
FADO-AD-50	高 分 子 油 劑 Polymer Emulsion	○	○	○	○	(低粘度油로서 素管의 仕上工程用高速度伸線用, 細管用, 引拔速度가 빠른 경질성) 凡用性, 銅, AL, 合金用, 高粘度油로 異型다이스用 For enlarging wires temporarily as low viscosity oils For general use, copper, Al alloys For different-shaped oils as high viscosity oils ※ 수용성 외발(신선)유 Soluble wire-yielding oils
FADO-AD-100	高 分 子 油 劑 Polymer Emulsion	○	○	○	○	
FADO-AD-150	高 分 子 油 劑 Polymer Emulsion	○	○	○	○	
FADO-AD-200	高 分 子 油 劑 Polymer Emulsion	○	○	○	○	
FADO-AD-200W	高 分 子 油 劑 Polymer Emulsion	○	○	○	○	

### 1) FINE Blanking Process Oils

(-DX-) Series을 소개합니다.

打拔가공중에서도 특히 厚板材料(10~20mm)의 경우, 前斷面의 精度向上, 金型壽命의 延長을 기하기 위하여 개발하였습니다.

특히, Fine Blanking(精密打拔)의 使用範圍가 增加함에 따라 加工油의 役割이 크며 製品Cost에 影響을 미치게 되었습니다. 이전에는 輸入品에 依存하였습니다만 User로 부터 國産化로의 希望(安定供給, 品質向上)에 따라 User와 共同開發에 의하여 단시일 내 國産化하는데 成功하였습니다.

### 2) 深絞리 加工油(Deep Drawing Oils)

深絞리加工(Transfer Press)에 있어 工程의 合理化, 難加工性材料(低拔材料를 포함)에 미치는 加工油의 重要性은 말할나위도 없거니와 均一한 油膜에 의해, 부드러운 潤滑性을 항상 유지하지 않으면, 燒付흄이 나거나 주름이 發生, 最惡에는 균열이 발생됩니다.

당사 가공유를 사용함으로써 不良率의 低減, 金型壽命의 延長等 큰 경제성이 기대됩니다.

### 1) FINE Blanking Process Oils

This was developed to extend the life of metal molds and to improve the accuracy of the sheared surface, especially in the case of thick plates (10 to 20mm) among punching materials. As the application range of fine blanking(precision punching) increases, the role played by the process oil becomes great, this will influence the product cost considerably.

In the past, supply of Such products relied on imports, but there was strong request from the users for domestic production (stable supply, improvement of

### 2) As Deep Drawing Process Oil

In the case of deep drawing process(transfer press), needless to say the importance of process oil on the rationalization of processes and difficult to-process materials(including low grade material)is very significant. Unless a smooth lubrication is maintained at all times with a uniform film, flaws caused by seizures, generation of wrinkles, or even worse, cracks may occur.

By using this process oil, the number of rejects will lower, the life of the metal mold will be extended, and large economic merits can be anticipated.

## DEEP DRAWING OIL.

製 品 名 (Product Name)	成 分 (Composition)	金屬에 對한 影響 (Influence or Metals)				特 性 및 主 用 途 (Main Application and characteristics)
		SUS	STEEL	CU	AL	
FADO-DR-21	不 活 性 鹽 硫 化 系 Inert Choline Group	○	○	○	○	低粘度油로 一般炭素鋼의 press油, Transfer press加工에 適合. 炭素鋼, 特殊鋼의 Deep Drawing用. 一般炭素鋼, 크롬, 모리브덴, 燒結合金의 特殊鋼의 加工用(自動車部品) 高粘度 Drawing油 Suitable for press oils for general carbon steels as low viscosity oils and Transfer press working. For working of special steels of general carbon steels, chrome, molybdenum, special steels of sintering metal. (Automobile parts) high-viscosity drawing oil.
FADO-DR-21MS	不 活 性 鹽 硫 化 系 Inert Choline Group	○	○	○	○	
FADO-DR-31A	不 活 性 鹽 硫 化 系 Inert Choline Group	○	○	○	○	
FADO-DR-31	不 活 性 鹽 硫 化 系 Inert Choline Group	○	○	○	○	
FADO-DR-31M	不 活 性 鹽 硫 化 系 Inert Choline Group	○	○	○	○	
FADO-DR-31MS	不 活 性 鹽 硫 化 系 Inert Choline Group	○	○	○	○	
FADO-DR-31MY	不 活 性 鹽 硫 化 系 Inert Choline Group	○	○	○	○	

製 品 名 (Product Name)	成 分 (Composition)	金屬에 對한 影響 (Influence or Metals)				特 性 및 主 用 途 (Main Application and characteristics)
		SUS	STEEL	CU	AL	
FADO-DR-205	低 粘 度 高 分 子 系 Low-viscosity polymer group	○	○	○	○	SUS, Drawing 및 STSC타발 검공油 高 粘 度 的 Drawing油로 低 粘 度 的 機 械 油 에 희석 사용하는 油 SUS, Drawing & STSC punching oils. Dilution oils to low viscosity machine oils as high viscosity drawing oils.
FADO-DR-206	低 粘 度 高 分 子 系 Low-viscosity polymer group	○	○	○	○	
FADO-DR-300	高 粘 度 高 分 子 系 High-viscosity polymer group	○	○	○	○	
FADO-DR-3M	活 性 鹽 硫 化 系 Activated Chroline Group	○	○			特 殊 한 鹽 素 硫 黃 化 合 物 을 配 合 한 press油로서 SUS鋼의 Deep Drawing 冷間鍛造用으로 Transfer press에 最 適 Suitable for transfer press for deep drawing cold forging as press oil mixed with special chroline sulfur compound.
FADO-DR-4M-1	活 性 鹽 硫 化 系 Activated Chroline Group	○	○			
FADO-DR-4M	活 性 鹽 硫 化 系 Activated Chroline Group	○	○			
FADO-DR-5M	活 性 鹽 硫 化 系 Activated Chroline Group	○	○			
FADO-DX-#1	高 分 子 油 劑 Poly Emulsion	○	○	○	○	● 厚 板 材 料 (10~20mm)의 SUS, SUM, SCM 等 精 密 打 拔 用 ● SUS, SPCC等의 Drawing 加 工 用 ● For precision punching SUS, SUM, SCM, etc. of thick plate materials(10 to 20mm) ● For Drawing Working of SUS,SPCC, etc.
FADO-DX-#1G	高 分 子 油 劑 Poly Emulsion	○	○			
FADO-DX-#5G	高 分 子 油 劑 Poly Emulsion	○	○	○	○	
FADO-DX-100	高 分 子 油 劑 Poly Emulsion	○	○	○	○	
FADO-DX-300	高 分 子 油 劑 Poly Emulsion	○	○	○	○	
FADO-DX-650	高 分 子 油 劑 Poly Emulsion	○	○	○	○	
FADO-800W	polymer compound	○	○	○	○	● 水 溶 性 Drawing油 ● Water Soluble Oil
FADO-1000WS	polymer compound	○	○	○	○	

# 유 압 작 동 유

## HYDRAULIC OIL

LUBMAX-HYDRAULIC-OIL 은 수소 처리로 精製된 高粘度指數의 기유에다 適切한 添加劑(酸化防止劑, 防鏽劑, 發泡防止劑...) 을 添加하여 모든 油壓裝置의 성능을 최대로 발휘할 수 있도록 製造된 우수한 品質의 hydraulic-oil로써 사출·프레스 및 금속 압연설비, 기타 각종 機械設備에 汎用으로 使用되며, 製品도 機械裝置設備의 構造·油溫油壓등을 考慮하여 가장 適正한 粘度를 選定할 수 있도록 多樣합니다. 특히 極壓劑 및 油性向上劑를 含有하여 循環 給유장치에도 效率的으로 사용할 수 있는 多用途用 高級 潤滑油입니다.

### 특 성

- LUBMAX-H油는 강한 유막 강도와 부드러운 油性으로 펌프·발브·실린더 계통내 密封效果가 우수하여 潤滑部에 최대의 油壓기능을 발휘할 수 있습니다.
- LUBMAX-H油는 高粘度指數油로 油溫壓力의 變化에 따른 粘性變化가 적고 低溫流動性이 좋아 異冷지역에서도 作動이 용이합니다.
- LUBMAX-H油는 酸化安定性이 우수하여 長期間 使用할 수 있으며, 有效한 防蝕性能으로 裝置의 녹과 腐蝕을 防止하며, 恒乳化性과 效果의인 消泡性으로, 作動油의 劣化를 促進하는 거품을 早速히 제거하여 油壓油내의 유해한 蓋積物(sludge)의 생성을 最大한 억제시켜 모든 油壓裝置의 圓滑한 運轉을 圖謀하여 드립니다.

LUBMAX-HYDRAULIC-OIL is a best quality hydraulic oil that is manufactured to show its best performance of hydraulic equipments by adding additives(oxidizing inhibitor, Anti-Corrosion agent, foaming preventing agent, etc) to high-viscosity refined with hydrogen-treatment, and used in injection, press, metal rolling equipment and each mechanical equipment.

And, there are a variety of kinds of hydraulic oils made for the best suitable viscosity in accordance with the structure, oil temperature, oil pressure of mechanical equipments.

It is a multi-purpose deluxe lubricant that may be efficiently used in circulating oil supply equipment by containing extreme pressure agent and oil property elevating agent.

### Features

- LUBMAX-H oils show excellent covering effect in pump, valve, cylinder, etc due to strong oil film strength and soft oil property and display its maximum oil pressure function to lubricated part.
- LUBMAX-H Oils has little viscosity change in accordance with the change for oil temperature pressure as a high-viscosity (viscosity index) and may be easily used in cold regions due to low temperature fluidity.
- LUBMAX-H Oils may be used for a long time because of its oxidizing stability, prevents any corrosion and rusts on equipment, removed foam that accelerates emulsification with permanent emulsification and effective bubble-removing and help a smooth operation of hydraulic equipments by restraining the sludge yielding in hydraulic oils.

항 목 (Item) 제품명(Product Name)	비 중 (Specific Gravity)	인화점(℃) (Flash Point ℃)	유동점(℃) (Pour Point ℃)	점도(40℃ cst) (Viscosity)	점도지수 (Viscosity)	용 도 (Application)
LUBMAX-Hydraulic #10	0.877	150	- 40	9-11	80	<ul style="list-style-type: none"> <li>• 저점도유로 고속회전 기기에 적합</li> <li>• 유동점이 낮아 추운 지방에서도 사용가능</li> <li>• Suitable for high-speed rotation machines as low-viscosity oils.</li> <li>• Possible to use in cold regions owing to low pour point.</li> </ul>
LUBMAX-Hydraulic #15	0.875	170	- 35	14-16	90	
LUBMAX-Hydraulic #22	0.870	190	- 35	20-24	90	
LUBMAX-Hydraulic #32	0.871	205	- 30	29-35	100	<ul style="list-style-type: none"> <li>• 일반산업기계 널리 사용되며 특히 고압용에 적합하고 그외 공작기계나 일반산업기계의 Bearing이나 Gear에 사용</li> <li>• 여름용 #46 #68 #100</li> <li>• 겨울용 #32 #46 #68</li> <li>• 중저속 고압 작동유</li> <li>• Widely used in general industry-machine and especially suitable for high-pressure and other machine tools of bearing or gear general industry-machines.</li> <li>• In summer #46 #68 #100</li> <li>• In winter #12 #46 #68</li> <li>• middle and low speed pressure functioning oils.</li> </ul>
LUBMAX-Hydraulic #38	0.872	210	- 30	36-41	100	
LUBMAX-Hydraulic #46	0.973	220	- 30	42-50	105	
LUBMAX-Hydraulic #68	0.875	235	- 30	62-74	105	
LUBMAX-Hydraulic #100	0.880	250	- 30	90-110	100	
LUBMAX-Hydraulic #150	0.886	255	- 30	140-165	100	
LUBMAX-Hydraulic #220	0.890	260	- 30	198-242	90	
LUBMAX-Hydraulic #320	0.894	270	- 30	288-352	90	
LUBMAX-Hydraulic #460	0.901	280	- 30	414-560	90	





# 기계유

## MACHINE OIL

LUBMAX-MACHINE OIL은 고도의 정제 공정으로 생산되는 윤활기유로써 각종 기계유 자체 윤활유뿐만 아니라 산업용 특수오일 제조 원료로써 광범위한 용도로 각광을 받고 있습니다.

LUBMAX-MACHINE OIL is a lubrication oil that is produced through high refining process and widely applauded not only as a lubrication to lubricating oil itself but as a source of industry special oil manufacture.

제품명(Product Name)	LUBMAX-SP (W)	LUBMAX-MACHINE OIL & (LUBRICATS OIL)
특 성 (Feature)	<ul style="list-style-type: none"> <li>고도 정제 윤활기유</li> <li>고 인화점 · 저점도유</li> <li>순백색 특명 Color</li> <li>황변 현상 매우 적음</li> <li>Highly refined lubricating oil</li> <li>High flash point and low viscosity oil</li> <li>Pure white color</li> <li>Little discoloration phenomena.</li> </ul>	<ul style="list-style-type: none"> <li>부드러운 유성과 강한 유막 형성 → 원활한 윤활성 및 기기 마모 손상 방지</li> <li>고점도 지수유 → 발열에 의한 점성 변화가 적어 윤활부위 보호</li> <li>산화 안정성 우수 → 열화 방지로 장기간 사용 가능</li> <li>수분리성 및 발생 최대 억제 → 유해 축적물 발생 최대 억제</li> <li>밀봉 및 방청 성능 양호 → 기기 보호 및 수명 최대 연장</li> <li>I.S.O 점도 분류로 선정 선택이 용이함.</li> <li>Forming soft oil property and strong oil film. → Smooth Inbrication and Prevention of equipment abrasion or damage.</li> <li>High-viscosity index → Protenting lubrication part because of little viscosity change by calorification.</li> <li>Excellent oxidizing stability. → Possible to use because of the prevention of blazing fire.</li> <li>Excellent water separation and Purity Dispersion. → Restraining the harmful sludge as much as possible</li> <li>Excellent covering and anti-corrosion</li> <li>Easy selection by I.S.O. viscosity classification.</li> </ul>
용 도 (Application)	<ul style="list-style-type: none"> <li>스핀들 오일</li> <li>섬유 유제 원료유</li> <li>잉크 제조 원료유(#5, #7)</li> <li>고무 배합유</li> <li>공업용 유동파라핀 대용</li> <li>강하중 고속 윤활유</li> <li>Spindle oil</li> <li>Source oil of textile emulsion</li> <li>Source of ink manufacturing.</li> <li>Rubber mixed oils.</li> <li>Instead of industrial moving Paraffin.</li> <li>Light-weight high-speed lubrication oil.</li> </ul>	<ul style="list-style-type: none"> <li>순환 기계용 윤활유</li> <li>Pain 축수 및 Gear 오일</li> <li>각종 기계 윤활유</li> <li>금속 가공 원료유</li> <li>기타 윤활기유</li> <li>Lubrication oil for circulating machine</li> <li>Fan &amp; Gear oil.</li> <li>Lubrication oil for eachm/c.</li> <li>Metal working source oil.</li> <li>Other lubrication oils.</li> </ul>

## ☐ 대표성상 (Representing Features)

항 목 (Item) 제품명(Product Name)	비 중 Specific Gravity (15℃/4℃)	동 점 도 Kinematic Viscosity (40℃ cst)	점도지수 Viscosity Index (VI)	색 상 Color (ASTM)	인 화 점 Flash Point (℃)	유 동 점 Pour Point (℃)	동판부식 Copper Plate Corrosion (100℃×3Hr)	방청성능 Anti-corrosion Performance (24Hr)
LUBMAX-Machine #7	0.86	7.22	60	0.5	138	-15	합격 Pass(1a)	합격(Pass)
LUBMAX-Machine #10	0.86	9.16	65	0.5	148	-10	"	"
LUBMAX-Machine #15	0.86	14.02	90	1.0	156	-10	"	"
LUBMAX-Machine #22	0.86	21.04	90	1.0	158	-10	"	"
LUBMAX-Machine #32	0.86	29.62	90	1.5	172	-10	"	"
LUBMAX-Machine #46	0.86	44.24	100	1.0	182	-10	"	"
LUBMAX-Machine #68	0.87	64.12	100	2.0	196	-10	"	"
LUBMAX-Machine #100	0.87	94.42	100	2.0	218	-10	"	"
LUBMAX-Machine #150	0.87	140.56	100	-	230	-10	"	"
LUBMAX-Machine #220	0.87	202.98	100	-	-	-10	"	"
LUBMAX-Machine #320	0.88	288.02	100	-	-	-10	"	"
LUBMAX-Machine #460	0.88	432.78	100	-	-	-10	"	"
LUBMAX-SP(w) #5	0.85	4.52	60	-	126	-15	"	"
LUBMAX-SP(w) #1(#8)	0.85	8.45	60	-	150	-30	"	"
LUBMAX-SP(w) #7	0.85	7.32	70	-	140	-15	"	"
LUBMAX-SP(w) #10	0.86	9.26	75	-	148	-15	"	"
LUBMAX-SP(w) #32	0.86	30.64	100	-	172	-15	"	"
LUBMAX-SP(w) #100	0.86	92.12	100	-	230	-12.5	"	"

## RUBBER PROCESS OIL

### ☐ Process Oil 特性

천연고무나 합성고무와의 相溶性・加工성이 양호하고 配合劑로서 分散性和 充填劑로서 親和性이 좋으므로 빠른 軟化效果를 주어 押出이나 Calender 操作時의 고무 成型과 均一한 品質이 되도록 합니다. 또한 고무의 耐濕性和 耐老化性を 增加시키고 接着性を 부여하여 抗張力, 彈性, 伸張性, 耐摩耗性 등의 物理的 性狀을 改善합니다.

### ☐ Characteristics of Process Oil

It is easily processed and compatible with natural rubbers or synthetic rubber and gives quck softening effetc. It supplies and equality similiar to rubber forming in extension or calender operation. And also, it makes anti-moistere and Anti-aging property strong and improves physical chatacteristics such as anti-tension, elasticity, extensibility, Anti-abrasion by giving adhesive property.



### ☐ process Oil 性質

유 종 별(Kind of oil) 고무종류(Kind of Rubber)	Paraffin 係 (Group)	Naphthene 係 (Group)	Aromatic 係 (Group)
천연 고무 (Natural Rubber)	양 호 (Good)	양 호 (Good)	극히 양 호 (Extremely Good)
합성 고무 (Synthetic Rubber)	양 호 (Good)	특히 양 호 (Specialy Good)	극히 양 호 (Extremely Good)
Neoprene	불 량 (Inferior)	극히 양 호 (Extremely Good)	극히 양 호 (Extremely Good)
Buthyl Rubber	양 호 (Good)	양 호 (Good)	양 호 (Good)
Nitric Rubber	불 량 (Inferior)	양 호 (Good)	양 호 (Good)
특 징 (Features)	<ul style="list-style-type: none"> <li>● 押出性, 低溫特性, 耐汚染性, 耐老化性이 양호하나 相溶性和 加工성이 약간 떨어진다.</li> <li>● The property of extension, low temperature, anti-pollution, anti-aging is good but the compatibility and working</li> </ul>	<ul style="list-style-type: none"> <li>● 耐汚染性, 低溫特性, 耐老化性, 抗張力, 彈性, 伸張力, 耐摩耗性이 良好.</li> <li>● The property of anti-pollution, low-temperature, Anti-tension, elasticity, extensibility and anti-abrasion is good.</li> </ul>	<ul style="list-style-type: none"> <li>● 相溶性, 耐滲出性, 加工성이 우수하나 低溫特性, 耐汚染性이 약간 떨어진다.</li> <li>● The property of compatibility, anti-exudation, working is good, but the property of low-temperature, anti-pollution is bad comparatively.</li> </ul>

## ☐ 1종(파라핀계)(Paraffin Group)

종류(Kind) 항목(Item)	1 호 (No. 1)	2 호 (No. 2)	3 호 (No. 3)	4 호 (No. 4)	5 호 (No. 5)	6 호 (No. 6)
동점도(40℃)cst(mm <sup>2</sup> /s) Kinematic viscosity	6.12이상 16.5 미만 6.12 and over under 16.5	16.5이상 35.2 미만 16.5 and over under 35.2	35.2이상 74.8 미만 35.2 and over under 74.8	74.8 이상 165 미만 74.8 and over under 165	165 이상 352 미만 165 and over under 352	352 이상 748 미만 352 and over under 748
인 화 점 (℃) Flash Point	130 이상(over)	150 이상(over)	160 이상(over)	180 이상(over)	190 이상(over)	200 이상(over)
유 동 점 (℃) Pour Point	- 10.0 이하(less)	- 7.5 이하(less)	- 7.5 이하(less)	- 5.0 이하(less)	- 5.0 이하(less)	- 2.5 이하(less)
아 닐 린 점 (℃) Aniline Point (℃)	65 이상(over)	70 이상(over)	75 이상(over)	80 이상(over)	85 이상(over)	90 이상(over)
증발감량 (107℃)/22hr/wt% Evaporation reduction	3.0 이하(less)	2.5 이하(less)	2.0 이하(less)	1.5 이하(less)	1.0 이하(less)	0.5 이하(less)
전산가 (mg KOH/g) Total acid value	0.1 이하(less)	0.1 이하(less)	0.1 이하(less)	0.1 이하(less)	0.1 이하(less)	0.1 이하(less)
비 중 (15/4℃) Specific Gravity	0.83~0.89	0.84~0.90	0.85~0.91	0.86~0.92	0.87~0.93	0.88~0.94
색 (ASTM) Color	1.5 이하(less)	2.0 이하(less)	3.0 이하(less)	4.0 이하(less)	5.0 이하(less)	6.0 이하(less)
점도비중항수 Viscosity Specific Gravity resistance	0.78 ~ 0.85					
동판부식(100℃/3hr) Bronze Plate Corrosion	1 이하(less)	1 이하(less)	1 이하(less)	1 이하(less)	1 이하(less)	1 이하(less)

## ☐ 2종(나프텐계)(Naphthene Group)

종류(Kind) 항목(Item)	1 호 (No. 1)	2 호 (No. 2)	3 호 (No. 3)	4 호 (No. 4)	5 호 (No. 5)	6 호 (No. 6)
동점도(40℃)cst(mm <sup>2</sup> /s) Kinematic viscosity	6.12이상 16.5 미만 6.12 and over under 16.5	16.5이상 35.2 미만 16.5 and over under 35.2	35.2이상 74.8 미만 35.2 and over under 74.8	74.8이상 165 미만 74.8 and over under 165	165이상 352 미만 165 and over under 352	352이상 748 미만 352 and over under 748
인 화 점 (℃) Flash Point	130 이상(over)	150 이상(over)	160 이상(over)	170 이상(over)	190 이상(over)	200 이상(over)
유 동 점 (℃) Pour Point	- 30.0 이하(less)	- 25.0 이하(less)	- 20.0 이하(less)	- 15.0 이하(less)	- 12.5 이하(less)	- 10.0 이하(less)
아 닐 린 점 (℃) Aniline Point (℃)	50 이상(over)	55 이상(over)	60 이상(over)	85 이상(over)	70 이상(over)	75 이상(over)
증발감량 (107℃)/22hr/wt% Evaporation reduction	15.0 이하(less)	10.0 이하(less)	7.5 이하(less)	5.0 이하(less)	2.5 이하(less)	1.0 이하(less)
전산가 (mg KOH/g) Total acid value	0.1 이하(less)	0.1 이하(less)	0.1 이하(less)	0.1 이하(less)	0.1 이하(less)	0.1 이하(less)
비 중 (15/4℃) Specific Gravity	0.87~0.92	0.88~0.93	0.89~0.94	0.90~0.95	0.91~0.96	0.92~0.97
색 (ASTM) Color	1.5 이하(less)	2.0 이하(less)	3.0 이하(less)	3.5 이하(less)	4.0 이하(less)	4.5 이하(less)
점도비중항수 Viscosity Specific Gravity resistance	0.84 ~ 0.91					
동판부식(100℃/3hr) Bronze Plate Corrosion	1 이하(less)	1 이하(less)	1 이하(less)	1 이하(less)	1 이하(less)	1 이하(less)

## ☐ 3종(아로마틱계)(Aromatic Group)

종류(Kind) 항목(Item)	1 호 (No. 1)	2 호 (No. 2)	3 호 (No. 3)	4 호 (No. 4)	5 호 (No. 5)
동점도(40℃)cst(mm <sup>2</sup> /s) Kinematic viscosity	6.12이상 16.5 미만 6.12 and over under 16.5	16.5이상 24.2 미만 16.5 and over under 24.2	24.2이상 35.2 미만 24.2 and over under 35.2	35.2이상 50.6 미만 35.2 and over under 50.6	50.6이상 74.8 미만 50.6 and over under 74.8
인 화 점 (℃) Flash Point	170 이상(over)	180 이상(over)	190 이상(over)	200 이상(over)	220 이상(over)
유 동 점 (℃) Pour Point	+ 10.0 이하(less)	+ 20.0 이하(less)	+ 30.0 이하(less)	+ 35.0 이하(less)	+ 40 이하(less)
아 닐 린 점 (℃) Aniline Point (℃)	55 이하(less)	60 이하(less)	65 이하(less)	70 이하(less)	75 이하(less)
증발감량 (107℃)/22hr/wt% Evaporation reduction	4.0 이하(less)	3.0 이하(less)	2.0 이하(less)	1.0 이하(less)	0.5 이하(less)
전산가 (mg KOH/g) Total acid value	1.0 이하(less)	1.0 이하(less)	1.0 이하(less)	1.0 이하(less)	1.0 이하(less)
비 중 (15/4℃) Specific Gravity	0.92~1.03	0.93~1.05	0.94~1.09	0.95~1.10	0.96~1.12
색 (ASTM) Color	8+ 이하(less)	8+ 이하(less)	8+ 이하(less)	8+ 이하(less)	8+ 이하(less)
점도비중항수 Viscosity Specific Gravity resistance	0.90 ~ 1.10				
동판부식(100℃/3hr) Bronze Plate Corrosion	1 이하(less)	1 이하(less)	1 이하(less)	1 이하(less)	1 이하(less)

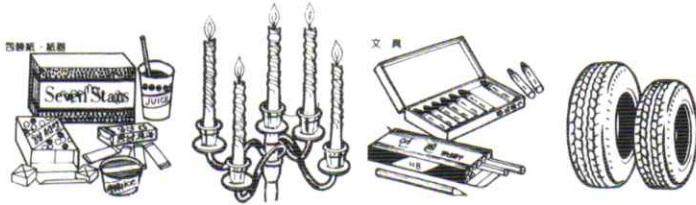
# WAX 類

## ▣ 파라핀 왁스

※ 파라핀 왁스는 직쇄형탄화수소로 구성되어 있으며 평균탄소수 20~35, 분자량 300~500 정도의 탄화수소 혼합물로 그특성은 다음과 같습니다.

## ▣ 특성 (特性)

- 1) 납영파라핀 왁스는 유분이 적고 경도가 높다.
- 2) 상온에서 백색 고체 상태이다.
- 3) 휘발성이 거의 없다.
- 4) 융점온도 범위는 40~70℃이나 필요에 따라 임의로 온도를 조절할 수 있다.
- 5) 해로운 가스 발생없이 쉽게 연소한다.
- 6) 방수·방습 및 향기 보존 효과가 크다.
- 7) 용융상태에서 점도가 극히 적다.



## ▣ 성 상 (Properties)

항 목 (Item) 제품명 (Product Name)	융점 (M.P) °C Melting Point	유분 (oil contents)	색 상 (color)	침 입 도 (penetration)		용 도 (Application)
		Wt %	say bolt	25 °C	35 °C	
DP-115	48.6-48.9	0.5	+30	20	80	•성냥용 •방청용 •합판용 •종이가공용 •Match •Anti-corrosion •Plywood •Paper working
DP-120	48.9-51.7	0.5	+30	20	80	•염화파라핀용 •성냥용 •합판용 •종이가공용 •방청용 •Paraffin chlororide •Match •Plywood •Paper working •Anti-corrosion
DP-125	51.7-54.4	0.3	+30	17	60	•종이컵용 방수종이용 •화장품 및 의약품용 •성냥용 •합판용 •섬유용 •Paper cup •Water-proof paper •Cosmetics and medicines •Match •Plywood •Textile
DP-130	54.4-57.2	0.3	+30	15	30	•종이컵용 •방수종이용 •양초용 •섬유용 •Paper cup •Water-proof paper •Candle •Textile
DP-135	57.2-60.0	0.3	+30	13	20	•종이컵용 •방수종이용 •고무노화방지제용 •광택용 •양초용 •섬유용 •Rubber Cup •Water-proof paper •Rubber Aging Preventer •Brigh •Candle •Textile
DP-140	60.0-62.7	0.2	+30	10	15	•접착제용 •종이컵용 •방수종이용 •광택용 •화장품 및 의약품용 •양초용 •식품모형용 •Adhesive •Paper cup •Water-proof paper •Bright •Cosmetics and medicines •Candle •Foods Model
DP-150	65.6-68.3	0.2	+30	15	20	•접착제용 •프라스틱윤활제용 •방수종이용 •고무노화방지제용 •화장품 및 의약품용 •식품모형용 •Adhesives •Plastic Lubricant •Water-proof paper •Rubber Aging Preventer •Cosmetics and medicines •Foods Model
DP-155	68.3 이상 (over)	0.2	+30	15	20	•접착제용 •프라스틱윤활제용 •방수종이용 •고무노화방지제용 •Adhesives •Plastic Lubricant •Water-proof paper •Rubber Aging Preventer

## ▣ Paraffin Wax

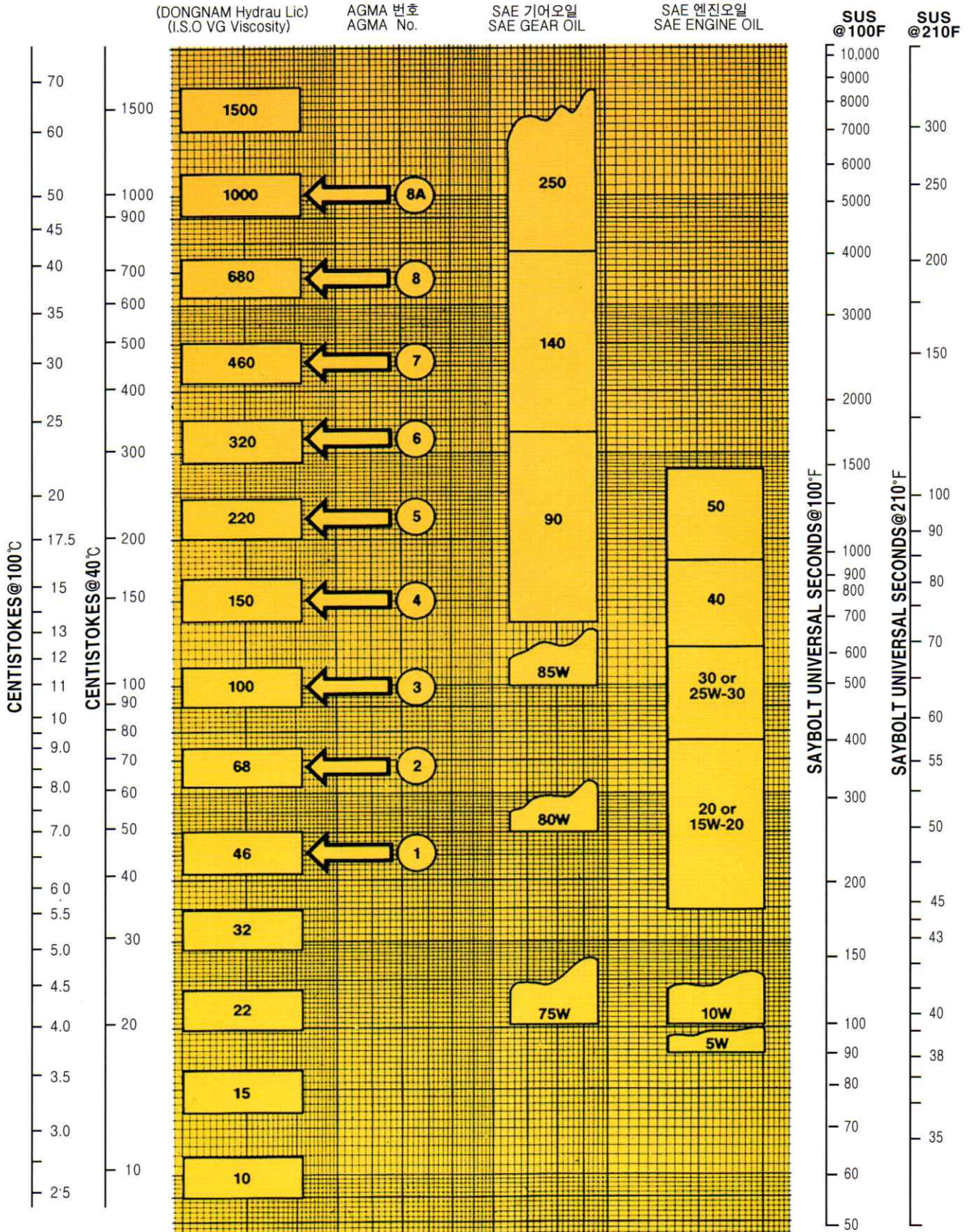
Paraffin wax is a mixture consisted of straight chain hydrocarbons, with 20 to 35 carbons of average carbon quantity and 300 to 500 of moleule weight and its feature is like the following.

## ▣ Properties

- 1) Low oil levels and significant hardness.
- 2) Solid state at normal temperature.
- 3) Very low volatility.
- 4) Controllable melting point (normally 40 to 70 °C)
- 5) Burns without yielding harmful gases.
- 6) High water proofing, moisture proofing and high efficiency in conserving emissions.
- 7) Low viscosity at motten state.

#### 4. 각 점도분류 비교표

Comparison Chart of each viscosity classification



점도지수 95인 오일의 여러 온도에서의 점도비교

참고 : 각 온도에서의 점도는 수평으로 비교하여 본다.  
엔진오일과 기어오일의 SAE규격은 100°C에서만 본다.  
멀티그레이드 오일의 점도는 여기에 나타나지 않은 온도에서는 고려하지 않았다.

Viscosity comparison at several of oils Points of viscosity Index 95.

Reference : The viscosity at each point will be compared horizontally. SAE standard of engine oil and gear oil will be seen only at 100°C. We have not regarded multi-grade oil.  
Viscosity at the points not seen in the chart.

# 특수그리스 및 윤활제 주요제품 List (Special Grease & Lubricants Main Products List)

## Deluxe Grease 제품

제품명 (Name)	특성 (Specification)				사용온도범위(℃) Temperature Range	특장, 주용도 (Recommended Uses)
	구분 #	외관 Color	NLGI NO.	증주제 Thickener 기유 Base oil		
LUBMAXIA MP	120	담황색 Brown	0	Li-soap 광유 Mineral	-3 ~ +130	1. 광범위한 온도에 적용, 범용 Grease. For a Wide range of temperatures, Multipurpose Grease 2. 고온/고속, 저온/저속의 각종운전, 조건에 적합. For various high speed/temperature, low speed/temperature operation. 3. 산업기계의 각종 Bearing 용, 건설기계의 축수, 습동부 For heavy equipment engine bearings, Lubrication Parts, Sliding Switches of construction equipment.
	121	담황색 Brown	1	Li-soap 광유 Mineral	-30 ~ +130	
	122	담황색 Brown	2	Li-soap 광유 Mineral	-20 ~ +150	
	123	담황색 Brown	3	Li-soap 광유 Mineral	-20 ~ +160	
LUBMAXIA EP	120	황색 DarkYellow	0	Li-soap 광유 Mineral	-30 ~ +100	1. 극압하중, 충격하중의 축수, 습동부 For Lubrication Parts, Sliding Switches in high pressure, heavy shock. 2. 고하중, 중압하의 마모, 소부방지에 효과를 발휘. Effective protection against wear in heavy load/high Pressure conditions.
	120	황색 Dark Yellow	0	Li-soap 광유 Mineral	-30 ~ +100	
	121	황색 Dark Yellow	1	Li-soap 광유 Mineral	-30 ~ +130	
	122	황색 Dark Yellow	2	Li-soap 광유 Mineral	-30 ~ +150	
LUBMAXIA HP	161	황색 Dark Yellow	1	Li-Complex Soap 광유 Mineral	-30 ~ +150	1. 고적점에서 내마모성이 풍부한 Grease. Protection against wear at High Dropping Point. 2. 각종산업기계, 농업기계의 고온하, 축수, 습동부 For Lubrication Parts, Sliding Switches of industrial and agricultural machinery operating at high temperatures.
	162	황색 Dark Yellow	2	Li-Complex Soap 광유 Mineral	-30 ~ +180	
	163	황색 Dark Yellow	3	Li-Complex Soap 광유 Mineral	-30 ~ +180	
LUBMAXIA	22	백색 White	0	Li-soap 합성유 Synthetic	-50 ~ +100	1. 저온용 Grease. For low temperature operation. 2. 정밀기계의 수지와 수지, 수지와 금속부품의 사용에 적합 Suitable as an anti-friction medium for delicate plastic engine parts.
	221	백색 White	1	Li-soap 합성유 Synthetic	-50 ~ +130	
	220	백색 White	2	Li-soap 합성유 Synthetic	-50 ~ +150	
LUBMAXIA	621	백색 White	1	Li-soap 합성유 Synthetic	-40 ~ +200	1. 고적점에서 수지와 고무에 침투하지 않고 점착성과 부착성이 우수. For joining plastic and rubber parts without deterioration. 2. 정밀기계의 수지와 수지, 수지와 금속부품의 사용에 적합 For joining delicate plastic/plastic and plastic/metal parts.
	622	백색 White	2	Li-soap 합성유 Synthetic	-40 ~ +200	
	623	백색 White	3	Li-soap 합성유 Synthetic	-40 ~ +200	

## Paste Products

제품명 (Name)	특징 (Specification)	사용온도범위(℃) (Temperature Range)	주용도 (Recommended Uses)
LUBMAXIA 101A	고농도 MoS <sub>2</sub> High density MoS <sub>2</sub>	-20 ~ 130(solid 400℃)	1. 기계조립, 압입, 연마. For machine assembly, sealing, grinding. 2. 나사산등의 긁힘이나 소부방지. For protection from scratching or Welding of screw acid, etc. 3. Splin, Plating의 냉간, 용착방지. For protection of spline, cold rolled plating, Welding. 4. 금속가공, 각종 valve, 왕복운동의 윤활. For metal processing, various valves, piston moving lubricant.
LUBMAXIA 121A	범용 Paste Multipurpose Paste	-20 ~ 130(solid 400℃)	
LUBMAXIA 101AS	Spray Type (Aerosol)		
LUBMAXIA 201A	합성용, MoS <sub>2</sub> Synthetic oil, MoS <sub>2</sub>	-20 ~ 130	1. 각종나사, Bolt, Washer 등 소부방지. For protection of Welding for various hardwares. 2. Flange, Packing, 고온 Valve 등의 윤활. For flange, packing and high temperature valve, etc. lubrication. 3. 넓은 사용온도범위에서 안정한 조임, 작업성 향상. For safe mounting, improving efficiency in a wide range of temperatures. 4. 고온에서 나사, Bolt, Washer등의 소부방지. For protection against Welding of screw, bolt end washer, etc. in high temperatures. 5. 고온하의 Rotary Kiln의 윤활 (High temperature Rotary Kiln lubricant.)
LUBMAXIA 151A	고온 윤활제 High temperature Lubricant	-30 ~ 1100	
LUBMAXIA 152A	고온 윤활제 High temperature Lubricant	-40 ~ 1200	
LUBMAXIA 131A	고온 윤활제 High temperature Lubricant	-30 ~ 800	

제품명 (Name)	특성 (Specification)				사용온도범위(°C) Temperature Range	특장, 주용도 (Recommended Uses)
	구분 #	외관 Color	NLGI NO.	증주제 Thickene 기유 Base oil		
LUBMAXIA	562	미황색 Light Yellow	2	Li-Complex Soap 광유+합성유 Mineral+Synthetic	-30 ~ +200	1. 고적점에서 극압, 내마모성이 우수 Superior anti-friction lubricant for high pressure high Drooping Point. 2. 광범위한 온도에 적용. For a wide range of temperatures
	563	미황색 Light Yellow	3	Li-Complex Soap 광유+합성유 Mineral+Synthetic	-30 ~ +200	
LUBMAXIA M	152	회흑색 Dark Grey	2	BENTON 광유 Mineral oil	-30 ~ +200	1. Benton과 Mos 를 배합한 고온과 내하중용 내위, 내구 그리스. benton and Mos, mixed for long-lasting protection at high temperature continual pressure. 2. 고온, 중저 속의 대형 Bearing용, 가열로동. For Large Bearing opening operating at light temperature in low gears, heating lines etc.
	153	회흑색 Dark Grey	3	BENTON 광유 Mineral oil	-30 ~ +200	
LUBMAXIA M	221	흑색 Light Black	1	Li-soap 합성유 Synthetic oil	-40 ~ +150	1. Mos 를 첨가하여 극압, 고온하 습동부의 내중성을 발휘. 점착성과 부착성 우수. Superior sealing quality for Lubrication in high temperature/pressure. 2. 한냉지의 중건계, 각종산업용 장비의 윤활개소. For lubricating heavy industrial equipment used in cold conditions.
	222	흑색 Light Black	2	Li-soap 합성유 Synthetic oil	-40 ~ +150	
LUBMAXIA H	152	담황색 Brown	2	BENTON 광유+합성유 Mineral+Synthetic	-20 ~ +200	1. 고온하에서 윤활성이 우수, 고온용 그리스. For high temperature uses, grease or lubricant. 2. 산업기계, 건설기계, 중장비등의 윤활개소. For lubricating heavy industrial or construction machinery and equipment.
	153	담황색 Brown	3	BENTON 광유+합성유 Mineral+Synthetic	-20 ~ +200	
LUBMAXIA GM	252	황색 Dark Yellow	2	BENTON 합성유 Synthetic oil	-10 ~ +400	1. 고온하에서 유분은 휘발확산하여 고체윤활제만이 건조윤활, 특수용 그리스. Designed as a solid, dry lubricant for high temperatures. 2. 고온하 저온고하중부위. For low temperature/heavy load parts operating in high temperature conditions.
	253	황색 Dark Yellow	3	BENTON 합성유 Synthetic oil	-10 ~ +400	
LUBMAXIA M	121	흑갈색 Dark Brown	1	Li-soap 광유 Mineral oil	-20 ~ +150	1. Li-Soap 그리스에 유기 Molibden 화합물을 배합한 고성능 그리스. high effective compound of organic Mo mixed with Li-Soap. 2. 고하중하의 습동부. For Lubrication in high/low work load conditions.
	122	흑갈색 Dark Brown	2	Li-soap 광유 Mineral oil	-30 ~ +150	
	123	흑갈색 Dark Brown	3	Li-soap 광유 Mineral oil	-30 ~ +150	
LUBMAXIA H	2502	흑갈색 Dark Brown	2	BENTON 합성유 Synthetic oil	-10 ~ +1100	1. Benton과 고체윤활제를 배합한 특수 그리스. Special grease of Benton mixed with a solid lubricant. 2. 금형습동부와 고온하의 나사조임부. For high temperature hardware molded Lubrication.
	2503	흑갈색 Dark Brown	3	BENTON 합성유 Synthetic oil	-10 ~ +1100	

## Various Special Lubricants

구분 Dimition	제품명 Name	외관 Color	성분 Composition	특징 Specifications	주용도 Recommended Uses
High temperature lubricant	LUBMAXIA 300MO	회흑색 DarkGrey	광유, MoS <sub>2</sub> Mineral oil, MoS <sub>2</sub>	정제광유에 MoS <sub>2</sub> 를 분산시킨 윤활제 MoS <sub>2</sub> dispersed in refined mineral oil	엔진오일, 미션오일, 각종 기어오일 등이 5~10%배합 사용한다 Mix with 5~10% quantity of engine oil, mission oil, or other gear oil.
	LUBMAXIA 301MO	회흑색 DarkGrey	광유, MoS <sub>2</sub> Mineral oil, MoS <sub>2</sub>	정제광유에 MoS <sub>2</sub> 를 분산시킨 윤활제 MoS <sub>2</sub> dispersed in refined mineral oil	
	LUBMAXIA 302MO	담황색 Brown	광유, 유기MoS <sub>2</sub> Mineral oil, organic MoS <sub>2</sub>	정제광유에 MoS <sub>2</sub> 를 배합시킨 기어유 MoS <sub>2</sub> added to gear oil in refined mineral oil	1. 고하중, 내마모동 고성능 윤활제. High quality anti-friction lubricant for heavy load operation. 2. 연속열처리, 가열로동 고온, 고압의 축수 및 체인용. Chain lubricant for high temperature 3. 가열로동 고온의 운수 및 체인용. pressure heating or heavy waterpipelines.
	LUBMAXIA 55H	회흑색 DarkGrey	광유, MoS <sub>2</sub> Mineral oil, MoS <sub>2</sub>	250℃ 사용(건조후 400℃) Apply at 250℃ (after drying, 400℃)	
	LUBMAXIA 56H	흑색 LightBlack	광유, Graphite Mineral oil, Graphite	250℃ 사용(건조후 600℃) Apply at 250℃ (after drying, 600℃)	
	LUBMAXIA 65H	흑색 LightBlack	합성유, Graphite Mineral oil, Graphite	250℃ 사용(건조후 600℃) Apply at 250℃ (after drying, 600℃)	고온용 체인, 도자기, 기어, 타일의 대치 축수. Chain lubricant for high temperature ceramics, gear.
	LUBMAXIA 75H	투명 Transparent	광유, MoS <sub>2</sub> Mineral oil, MoS <sub>2</sub>	정제광유, 특수윤활제 첨가 Added refined mineral oil, special lubricant.	칼, 컷타날, 톱날등의 윤활제. For lubricating all types of cutting blades.
FORMING OIL	LUBMAXIA 630G	흑색 LightBlack	수계, Graphite Resinoid class, Graphite	경제성을 고려한 열간, 냉간, 전유조 For extreme heat/cold, economy Formingoil	1. For crank, Shaft, Connecting Red, Ring, Hub, Bevel gear, Lab joint, union, etc. 2. 열간, 온간, 이형, 정조윤활유. Formingoil lubricant for hot/mild manufactured, diferent molded parts.
	LUBMAXIA 631G	흑색 LightBlack	수계, Graphite Resinoid class, Graphite	금형의 이형성및 윤활성이 특히 우수한 윤활제 For moving or fiexible molded parts(metal)	Engine Oil, 유압작동유, 금형가공유, 그리스, Door Check Oil, 기계유등. For Engine oil, oil pressured operating oil, mold manufacturing oil, Grease, Door Check oil, machinery oil, etc.
	LUBMAXIA 600W	흑색 LightBlack	수계, 특수첨가제 Resinoid class, Special added	환경문제를 고려한 특수제품 Special products considering environmental condition	
	LUBMAXIA 600L	흑색 LightBlack	광유, Graphite Synthetic, Graphite	미려한 제품의 전조유 For protection of delicate products	

# 南永油化工業株式會社

本社・工場

京畿道 安山市 檀園區 城谷洞 683-2

電話：(031) 492-8077~9

(031) 492-4996~7

FAX：(031) 494-4798

釜山事務所

電話：(051) 518-3557

FAX：(051) 515-2394

## HEAD OFFICE

NAM YOUNG OIL CHEMICAL IND. CO., LTD.

#683-2, SUNGGOK-DONG, DANWON-GU,

ANSAN-CITY, KYUNGKI-DO, KOREA

TEL：(031) 492-8077~9

(031) 492-4996~7

FAX：(031) 494-4798