

INDUSTRIAL LUBRICANTS

Handbook



MISR PETROLEUM

INDUSTRIAL LUBRICANTS

Handbook

HYDRAULIC OILS
INDUSTRIAL GEAR OILS
TURBINE OILS
CIRCULATING OILS
WATER MISCIBLE CUTTING OILS
NEAT CUTTING OILS
SPECIAL OILS
GREASE



MISR PETROLEUM

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HYDRAULIC OILS

- MISR SUPER HYDRAULIC SERIES
- MISR SUPER HYDRAULIC T SERIES
- MISR SUPER HYDRAULIC C SERIES
- MISR EXTRA SUPER HYDRAULIC SERIES



MISR SUPER HYDRAULIC T SERIES

PERFORMANCE FEATURES

- Exceptional thermal stability
- Work in wide range of temperature
- Outstanding anti-wear properties
- Superb oxidation resistance
- Excellent hydrolytic stability
- Outstanding filterability
- Excellent air-release
- Good water separation
- Protects systems components from corrosion
- Minimizes chances of pump cavitation



MISR SUPER HYDRAULIC SERIES

PERFORMANCE FEATURES

- Excellent thermal stability
- Outstanding anti-wear properties
- Excellent oxidation resistance
- Excellent hydrolytic stability
- Outstanding filterability
- Excellent air-release
- Good water separation
- Protects systems components from corrosion
- Minimizes chances of pump cavitation

ISO VISCOSITY GRADE
VG (15-22-32-37-46-68-100-150)



ISO VISCOSITY GRADE
VG (22-32-37-46-68-78-100-150-220-320-460)

PERFORMANCE LEVEL

- DIN 51524 Part II
- Cincinnati Milacron P68,P69,P70
- Denison HF- 0 HF- 2
- US Steel 127 , 136
- Eaton/Vickers I-286-S,M-2950-S



PERFORMANCE LEVEL

- DIN 51524 Part III
- Cincinnati Milacron P68,P69,P70
- Denison HF-0 HF- 2 HF- 1
- US Steel 127 , 136
- Eaton/Vickers I-286-S,M-2950-S



APPLICATION

- Industrial hydraulic systems
- Mobile hydraulic systems
- Circulating oil systems
- General machine lubrication
- Don't use in systems contain soft metals like silver

APPLICATION

- Industrial hydraulic systems
- Mobile hydraulic systems
- Circulating oil systems
- General machine lubrication
- Don't use in systems contain soft metals like silver

MISR EXTRA SUPER HYDRAULIC SERIES

PERFORMANCE FEATURES

- Excellent thermal stability
- Accommodating with systems required elevated cleanliness level targets
- Outstanding anti-wear properties
- Excellent oxidation resistance
- Superior hydrolytic stability
- Exceptional filterability
- Superior air-release
- Superior water separation
- Protects systems components from corrosion
- Minimizes chances of pump cavitation



MISR SUPER HYDRAULIC C SERIES

PERFORMANCE FEATURES

- Excellent thermal stability
- Non-zinc type anti-wear additives
- Safe to use in systems contain soft metals like silver
- Outstanding anti-wear properties
- Excellent oxidation resistance
- Excellent hydrolytic stability
- Outstanding filterability
- Excellent air-release
- Good water separation
- Protects systems components from corrosion
- Minimizes chances of pump cavitation

ISO VISCOSITY GRADE

VG (22-32-37-46-68-100-150-220-320-460)



PERFORMANCE LEVEL

- DIN 51524 Part II
- Cincinnati Milacron P68,P69,P70
- Denison HF-0 HF-2 HF-1
- US Steel 127 , 136
- Eaton/Vickers I-286-S,M-2950-S
- Ford M-6C32
- General Motors LH -o4-1, LH-06-1,LH-15- 1



PERFORMANCE LEVEL

- DIN 51524 Part II
- Cincinnati Milacron P68,P69,P70
- Denison HF- 0 HF- 2
- US Steel 127 ,136
- Eaton /Vickers I-286-S,M-2950-S

ISO VISCOSITY GRADE

VG (5-10-22-32-37-46-68-100-150-220-320-460)

APPLICATION

- Industrial hydraulic systems
- Mobile hydraulic systems
- Circulating oil systems
- General machine lubrication



APPLICATION

- Industrial hydraulic systems
- Mobile hydraulic systems
- Circulating oil systems
- General machine lubrication
- Rotary Air compressors
- Don't use in systems contain soft metals like silver



MISR SPECIAL INDUSTRIAL GEAR OIL P SERIES

- Outstanding oxidation and thermal stability which helps extend oil life
- Effective corrosion inhibition to help protect gearbox components
- Effective sulfur-phosphorus extreme pressure system to prevent wear under tough conditions
- Wide range of viscosities to meet a wide variety of operating conditions
- Excellent water shedding properties which allow the water to separate and be drained protecting components from rust and corrosion
- Excellent load carrying capacity helping to extend equipment life

ISO VISCOSITY GRADE

VG (68-100-150-220-320-460-680-800-1000)

APPLICATION

- Steel gear transmissions including spur, helical and bevel gears
- Industrial gear drives where full extreme pressure performance due to heavy or shock loading is needed
- Plain and roller contact bearings
- Circulating and splash lubricated systems
- Mist systems



PERFORMANCE LEVEL

AGMA 250.04
 DIN 51517 Part III
 DAVID BROWN S1.53 101E
 US Steel 220 , 224

MISR TURBINE OIL T SERIES

PERFORMANCE FEATURES

→ Strong control of oxidation-

The use of inherently oxidatively stable base oils together with an effective inhibitor package provides high resistance to oxidative degradation. The result is extended oil life, minimizing the formation of aggressive corrosive acids, deposits and sludge, reducing your operating costs.

→ High resistance to foaming and rapid air release-

The oils are formulated with a non-silicone anti-foam additive, which generally controls foam formation. This feature coupled with fast air-release from the lubricant reduces the possibility of problems such as pump cavitation, excessive wear and premature oil oxidation, giving you increased system reliability.



→ Positive water-shedding properties-

Ability demulsibility control such that excess water, common-place in steam turbines, can be drained easily from the lubrication system, minimizing corrosion and premature wear, lowering the risk of unplanned maintenance.

→ Excellent rust & corrosion protection-

Prevents the formation of rust and guards against onset of corrosion ensuring protection for equipment following exposure to humidity or water during operation and during shut-downs, minimizing maintenance.

APPLICATION

- Non-geared industrial steam turbines
- Non-geared light duty gas turbines
- Water turbine lubrication
- Compressor applications
- Numerous applications where strong control over rust and oxidation is required

ISO VISCOSITY GRADE

VG (32-46-68-100)

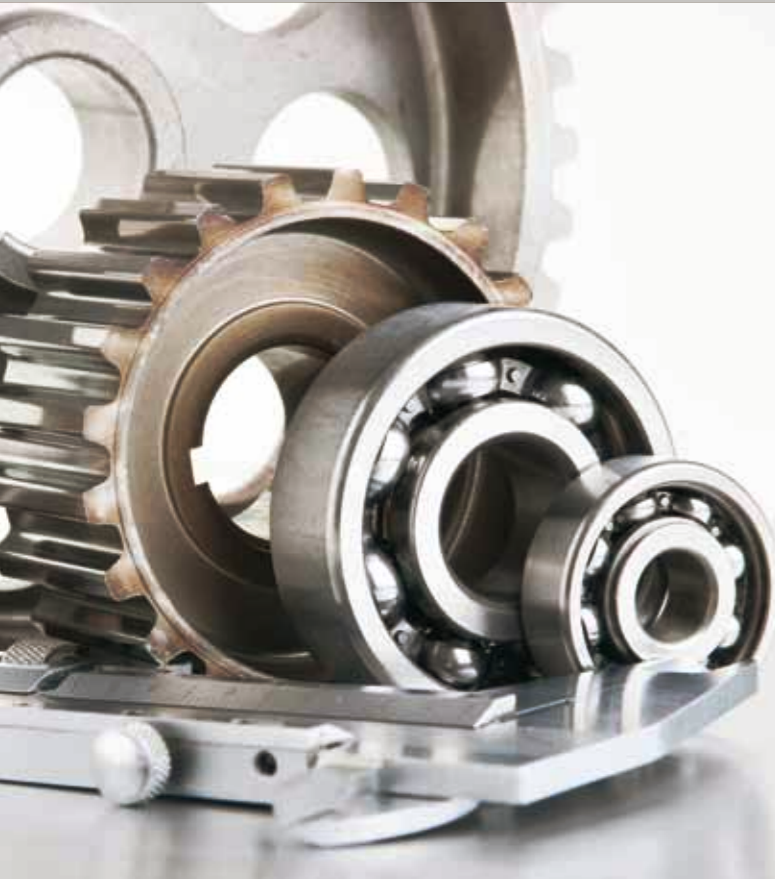


PERFORMANCE LEVEL

- DIN 51515 Part 1
- US Steel 126
- GEK 32568F
- Solar turbine ES 9 - 224
- CINCINNATI MILACRON P- 45
- AFNOR NF E 48 - 600
- BS 489
- MIL- PRF – 17672 E
- Denison standard HF- 1

CIRCULATING OIL

MISR SLIDE WAYS OIL T
MISR CIRCULATING OIL SPECIAL



MISR SLIDE WAYS OIL T

PERFORMANCE FEATURES

- Low Frictional Characteristics Helps eliminate chatter and stick-slip of slides and ways improve finish and quality of parts and Helps reduce wear
- Lubricity Helps reduce wear and increases smoothness of sliding action
- Adhesiveness Prevents removal of lubricant from critical surfaces
- Protects surfaces from attack of high pH coolants
- Water and Aqueous Separability Extends lubricant life and performance
- Oxidation/Chemical Stability Extends oil service life
- Keeps sliding surfaces and other lubricated components clean and Helps reduce filter change frequencies
- Rust and Corrosion Protection Helps reduce the deterioration of sliding services and associated maintenance

ISO VISCOSITY GRADE

VG (32-68-220)

PERFORMANCE LEVEL

- Cincinnati Milacron
- P53 (VG 32)
 - P47 (VG 68)
 - P50 (VG 220)



APPLICATION

- VG 68 is recommended for horizontal slideways on small to medium size machine tools. It is also suitable for flood application in large machines.
- VG 220 is the normal recommendation for large machines where way pressures are high or good precision is required. It is also recommended for vertical and inclined slideways where drain down can be a problem.
- Lubrication of , linear guides, headstocks, translating screws, spur and bevel gears, and lightly loaded worm gears.
- Applications where conventional mineral oil contamination of the aqueous coolants shortens coolant batch life.



MISR CIRCULATING OIL SPECIAL

ISO VISCOSITY GRADE

VG (15-22-32-37-46-68-100-150)



PERFORMANCE FEATURES

- Good water separation
- Very good oxidation resistance
- Excellent corrosion protection
- Low tendency to create foam

APPLICATION

- Plain and anti-friction bearings
- Spur, helical and bevel gears operating under moderate loads
- Machine oil equipment

CUTTING OILS

WATER MISCIBLE

MISR CUTTING OIL 11



MISR CUTTING OIL 11

PERFORMANCE FEATURES

- Excellent cooling and lubricating
- Extended tool life Low foaming tendency
- Nitrite, silicone, and heavy metal free
- Easy emulsification - stable emulsions
- Good rust protection for machine and parts
- Easy removal from parts
- Rapid settling of fines

APPLICATION

- Light machining
- Grinding and machining operations
- Ferrous and non-ferrous metals

Recommended Concentration

- 1:20 for turning process ,drilling and milling operations
- 1:50 for grinding or honing operations
- 1:10 for sawing operations



CUTTING OILS NEAT

- MISR CUTTING OIL HONING 22
- MISR CUTTING OIL 33
- MISR CUTTING OIL 44
- MISR CUTTING OIL 55
- MISR CUTTING OIL 66
- MISR CUTTING OIL 77



MISR CUTTING OIL HONING 22

PERFORMANCE FEATURES

→ Misr cutting oil honing 22 is a mineral oil contain extreme special additives. Developed for honing in engine cylinder bore without causing any spots on metals surfaces.

MISR CUTTING OIL 44

PERFORMANCE FEATURES

→ Misr cutting oil 44 is a highly refined mineral oil contain high percentage of additives . Suitable for use on carbon steel alloy (up to 65 to 70 tons U.T.S) also give an excellent performance on stainless and heat resisting alloys



MISR CUTTING OIL 55

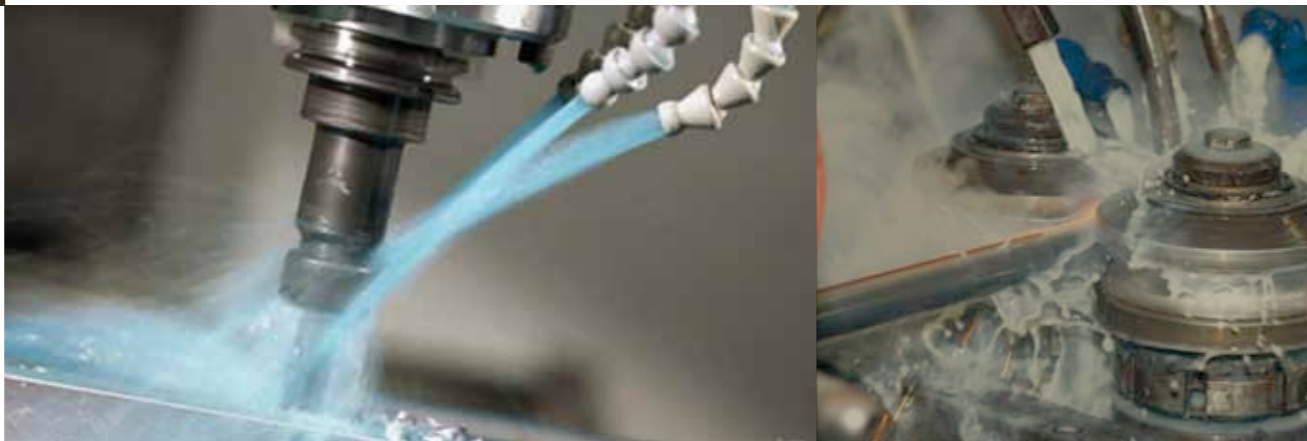
PERFORMANCE FEATURES

→ Misr cutting oil 55 is a mineral oil with low viscosity contain extreme pressure additives . Developed for honing and lapping operations . It is also suitable for the high speed machining of light alloys

MISR CUTTING OIL 66

PERFORMANCE FEATURES

- Misr cutting oil 66 is a mineral oil contain extreme pressure additives.
- It is used for the machining of light alloy, yellow metals and free machining steels. It is the natural choice for automatic screw machines on light repetition work without causing any spots on metals surfaces.



MISR CUTTING OIL 33

PERFORMANCE FEATURES

- Misr cutting oil 33 is a mineral oil contain extreme pressure additives. It is designed for repetition work and gear cutting on plain carbon and alloy steels (up to 65 to 70 tons U.T.S) . It is widely used in the automotive industry
- Misr cutting oil 33 is Copper corrosive so it cannot be used for machining copper based alloys.

MISR CUTTING OIL 77

PERFORMANCE FEATURES

→ Misr cutting oil 77 is a mineral oil contain extreme pressure additives. For the deep hole of most steels. It is ideal for use in gun drill and ejector drill systems. Also other difficult operations such as high speed honing, gear shaping etc.

SPECIAL OILS

- MISR STEAM CYLINDER SPECIAL OIL
- MISR HEATING OIL M
- MISR SPECIAL QUENCHING OIL
- MISR ANTI-RUST OIL 152 M
- MISR MEDICINAL WHITE OIL
- MISR MORGAN OIL 2000



MISR HEATING OIL M

PERFORMANCE FEATURES

- High heat transfer coefficients
- High oxidation and thermal stability
- Good viscosity/temperature characteristics
- Low vapour pressure
- Non-corrosive
- Low toxicity

MISR STEAM CYLINDER SPECIAL OIL

PERFORMANCE FEATURES

- **Good thermal resistance and oxidation stability**- Possess low volatility and a natural resistance to the formation of gummy or carbonaceous deposits in high temperature conditions
- **Persistent lubricating oil film** Provides effective lubrication and corrosion protection even when subjected to heavy steam-washing conditions

ISO VISCOSITY GRADE
VG (22-32-100)



ISO VISCOSITY GRADE
VG (460-460 J-680 J-1000-1000 J-1500-1500 J)



APPLICATION

- Closed heat transfer systems with operating temperature range (0°C up to 300°C)

APPLICATION

- Steam cylinder lubrication
- Low speed enclosed gears
- Certain worm gears



MISR SPECIAL QUENCHING OIL

PERFORMANCE FEATURES

- Exceptional heat dissipation
- Excellent oxidation stability
- Effective corrosion protection
- Excellent rust inhibition
- Enhance hardness control

ISO VISCOSITY GRADE
VG (22-32)

APPLICATION

Quench oil systems



MISR ANTI - RUST OIL 152 M

PERFORMANCE FEATURES

- Corrosion preventives oil used for short, medium and long-term protection.
- Thin films and high coverage capacity with strong adhesion property.
- Higher flash point and lower evaporation for enhanced operator safety.
- Easily removed by washing with strong stream of hot water or a diluted alkaline solution.

DISCRIPTION

Misr Medicinal White Oils are highly refined, aromatic-free paraffinic white mineral oils complying with the stringent pharmacopoeia purity requirements.



MISR MEDICINAL WHITE OIL

APPLICATION

- Pharmaceutical.
- Food packaging.
- Cosmetic.

and other applications, where this high purity is required by legislation or important for the quality of the finished product.

MISR MORGAN OIL 2000

ISO VISCOSITY GRADE
VG (150 - 220 - 460)

PERFORMANCE FEATURES

- Extra high performance heavy duty circulatory oils.
- Meet the critical requirements of No-Twist Rod Mills by Morgan and Danielli.
- Have excellent water demulsibility.
- Suitable for gears and bearings.
- Meet Morgan Construction No-Twist Rod Mill Lubrication.

GREASES

- MISR MULTIPURPOSE GREASE EP
- MISR MULTIPURPOSE GREASE R
- MISR GRAPHITE GREASE
- MISR MATTAT GREASE 5
- MISR BITUMEN COMPOUNDS



MISR MULTIPURPOSE GREASE R

CHARACTERISTICS

- NLGI GRADE
0-1-2-3
- BASE TYPE
Lithium
- Dropping point
Minimum 165 °C (grade 0 & 1)
Minimum 180 °C (grade 2 & 3)

PERFORMANCE FEATURES

- SKF R2F ring under condition A, and condition B@130 °C
- The RHP high speed test No2
- Timken high speed warm and dry applications (form 3559)



MISR MULTIPURPOSE GREASE EP

CHARACTERISTICS

- NLGI GRADE
0-1-2-3
- BASE TYPE
Lithium
- Dropping point
Minimum 165 °C (grade 0 & 1)
Minimum 180 °C (grade 2 & 3)
- Timken OK value (ASTM D2509) 55 lb Min.
- 4-Ball Weld Load (ASTM D-2596) 280kg (Min.)
- Copper Corrosion (ASTM D-130) 1A (Max.)
- Steel Corrosion (ASTM D-1743) 1 (Max.)



APPLICATION

- Misr Multi-purpose Grease EP is a high temperature Lithium grease incorporating extreme pressure additives which confer high load carrying ability.
- Misr Multi-purpose Grease EP is recommended for heavy duty rolling bearing particularly those subjected to shock loads at temperatures up to 120°C they are suitable for use in the presence of water.
- Misr Multi-purpose Grease EP is Also suitable for heavily loaded plain bearing.
- Misr Multi-purpose Grease EP possess excellent pumping characteristics and are suitable for use in hand operated and automatically operated centralized grease systems.

APPLICATION

- Misr Multi-purpose Grease R is recommended for use in bearing grease-packing for long service life.
- Misr Multi-purpose Grease R is recommended for use in rolling bearing up to the maximum rated speed for grease lubrication up to 100 °C.
- Misr Multi-purpose Grease R can be used up to 135 °C in bearing operating at up to 75% of the maximum rated speed

DESCRIPTION

Premier quality lithium soap multi-purpose grease based on high viscosity index mineral oil and contain lead free extreme pressure additives which offer an excellent performance characteristics

DESCRIPTION

Misr Multi-purpose Grease R is a high quality Lithium base grease It is a high recommended for plain and rolling bearings operating under severe conditions of loading and moisture . It is a medium consistency grease suitable for centralized grease.





MISR GRAPHITE GREASE

CHARACTERISTICS

- NLGI GRADE
2-3-4
- BASE TYPE
Calcium
- Dropping point
Minimum 95°C

APPLICATION

- Misr Graphite Grease is recommended for pump glands ,grease lubricated stern tubes, plain bearings that are washed by water and similar application where heavy wear has taken place
- Misr Graphite Grease is recommended for parts of machinery that are difficult of access or subject to washing by water.
- Misr Graphite Grease is Not suitable for rolling bearings



DESCRIPTION

Misr Graphite Grease is a Calcium base grease containing finely powdered graphite .

MISR MATTAT GREASE 5

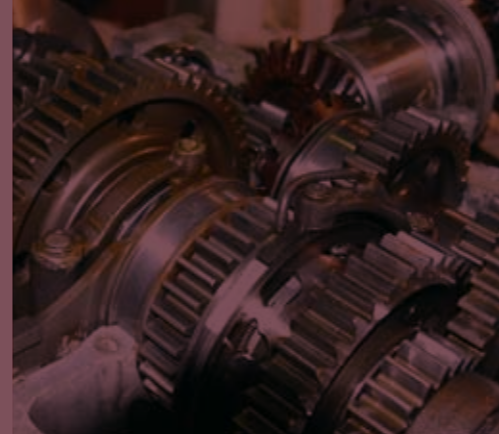
CHARACTERISTICS

- NLGI GRADE
3
- BASE TYPE
Sodium
- Dropping point
Minimum 150 °C

DESCRIPTION & APPLICATION

MISR MATTAT GREASE 5 is A high mechanical and thermal stable grease. Recommended for use in ball and roller bearings operating under high temperature conditions up to 110 °C.

MISR MATTAT GREASE 5 is Not recommended for use in presence of continuous water and high moisture.



MISR BITUMEN COMPOUNDS

PERFORMANCE FEATURES

- Misr Bitumen Compounds are a rang of high viscosity residual type lubricants which suitable for the lubrication of open gears, certain slow speed enclosed gears and other where high viscosity adhesive products are required. The heavier grades in the range normally require heating to facilitate application, especially under low ambient temperature condition.

COMPOUND GRADE

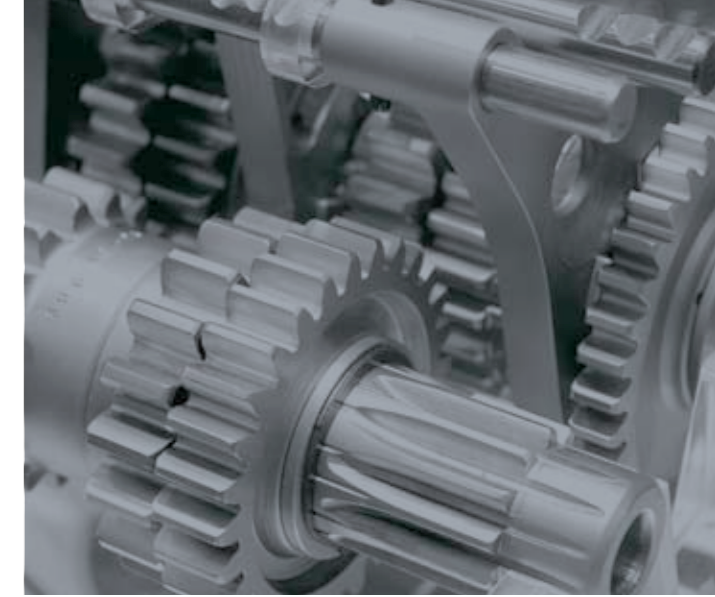
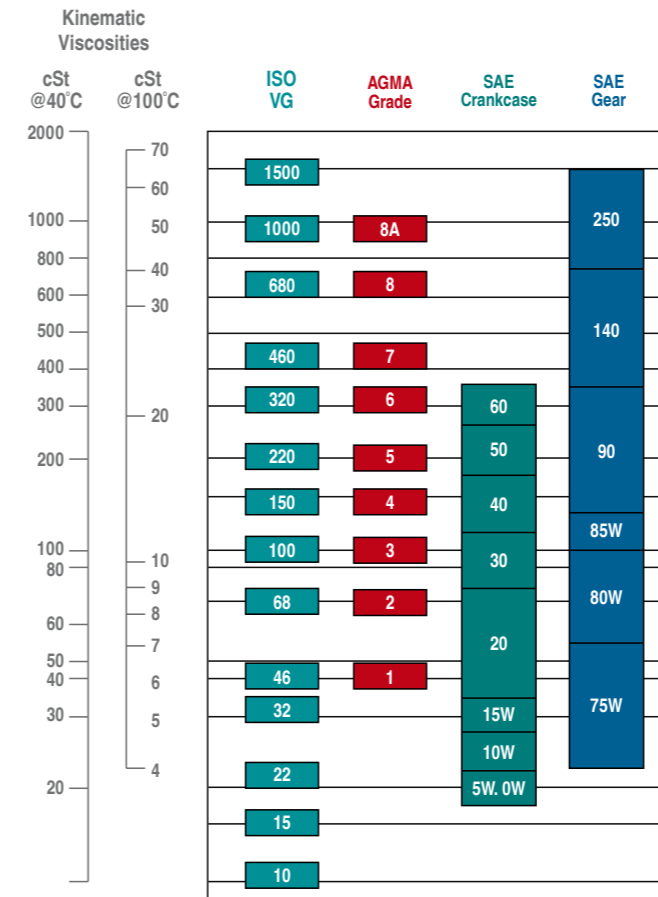
(A - D - F - G)

ISO VISCOSITY CLASSIFICATION SYSTEM

THE ISO VISCOSITY GRADES ARE AN INTERNATIONAL SYSTEM APPROVED BY THE INTERNATIONAL STANDARDS ORGANIZATION FOR CLASSIFYING LUBRICANTS ACCORDING TO VISCOSITY. EACH ISO VISCOSITY GRADE CORRESPONDS TO A MID-POINT OF A VISCOSITY RANGE EXPRESSED IN CENTISTOKES (cSt or mm²/s) AT 40°C.



VISCOSITY CLASSIFICATION EQUIVALENTS



ISO VISCOSITY GRADE	VISCOSITY RANGES, mm ² /s at 40°C	MID POINT mm ² /s
ISO VG 2	1,98 - 2,42	2.2
ISO VG 3	2,88 - 3,52	3.2
ISO VG 5	4,14 - 5,06	4.6
ISO VG 7	6,12 - 7,48	6.8
ISO VG 10	9,00 - 11,0	10
ISO VG 15	13,5 - 16,5	15
ISO VG 22	19,8 - 24,2	22
ISO VG 32	28,8 - 35,2	32
ISO VG 46	41,4 - 50,6	46
ISO VG 68	61,2 - 74,8	68
ISO VG 100	90,0 - 110	100
ISO VG 150	135 - 165	150
ISO VG 220	198 - 242	220
ISO VG 320	288 - 352	320
ISO VG 460	414 - 506	460
ISO VG 680	612 - 748	680
ISO VG 1000	900 - 1100	1000
ISO VG 1500	1350 - 1650	1500

NLGI GRADES AND THE WORKED PENETRATION RANGES

NLGI GRADE	WORKED PENETRATION AFTER 60 STROKES AT 25 °C	APPEARANCE
000	445-475	FLUID
00	400-430	SEMI-FLUID
0	355-385	VERY SOFT
1	310-340	SOFT
2	265-295	GREASE LIKE
3	220-250	FIRM
4	175-205	VERY FIRM
5	130-160	HARD
6	85-115	VERY HARD





MISR PETROLEUM

For additional information about these products or other MISR PETROLEUM products that suits your business please refer to:

MISR PETROLEUM TECHNICAL SERVICES DIVISION REPRESENTATIVES.

Tel./Fax: 0222339475 - 0222349057



MISR PETROLEUM