Automotive Lubricants

DARRELL M KELLY

AMEERA HOLDINGS, LTD.

852-2862-9000 Hong Kong Office

852-2862-9090 Hong Kong Fax

443-426-0223 USA

233-545-592758 Accra, Ghana

229-971-06886 COTONOU, BENIN

227-980-030166 NIAMEY, NIGER

224-248-56834 CONAKRY, GUINEA

224 627-13809 CONAKRY, GUINEA

EMAIL: DMKELLY@AMEERAHOLDINGS.COM.HK

WEB: WWW.AMEERAHOLDINGS.COM.HK





INTRODUCTION

At AMEERA, we strive to ensure that oils carrying our brand are flawlessly produced to provide safety, reliability and protection for all driving, marine and industrial applications. Those oils are produced from superior base oils together with specially engineered additive systems. Their chemistry permits superior lubrication to all moving

We are pleased to welcome you to our latest automotive lubricants catalogue.

applications. Those oils are produced from superior base oils together with specially engineered additive systems. Their chemistry permits superior lubrication to all moving parts during cold start up. At high operating temperatures, they maintain their lubricity and thermal stability to provide a highly efficient lubricating film for engine parts, and prevent sludge formation and oxidative thickening.

Our main priority is to ensure that every batch delivered to our client is produced to match or exceed the most stringent international specifications.





AMEERA GASOLINE GRADES

AMEERASUPER PLUS is premium multigame gasoline engine oil developed for engines which operate under severe load conditions. It is primarily intended for modern gasoline engine, but can also be used in natural aspirated and turbo charged diesel engines.

AMEERASUPER PLUS is blended with highly quality base oils and carefully selected and well balanced additive package. It is characterized by:

- Maximum protection against engine wear and corrosion
- Excellent sludge and oxidation resistance.
- Helps prolong engine life by minimizing rust and varnish formation.
- Excellent detergency and dispersancy to keep the engine clean.
- Extremely shear stable Viscosity Index Modifies to ensure the needed viscosity level both during summer and winter.

AMEERA OIL/LUBRICANTS meets or exceeds the performance requirements of:

- API SJ/CF4
- CCMC G4/D4/PD2
- ACEA A2-96 issue2/B2-96/E2-96 issue 2
- MERCEDES BENZ 228.1
- MAN 271

Typical Characteristics	
SAE Grade	20W50
Density @ 15 °C, g/cm3	0.8848
Flash Point COC, °C	248
Pour Point, °C	-21
Kinematic Viscosity @ 40 °C, cSt	159.59
Kinematic Viscosity @ 100 °C, cSt	18.62
Viscosity Index	131



AMEERAPREMIUM is a multi-grade gasoline engine oil which operate under mild to moderate conditions both during summer and winter. It is formulated with highly refined base stocks together with selected and balanced additive package. It is characterized by:

- Excellent chemical stability to resist the oil thickening due to oxidation under high temperatures and severe operating conditions.
- Helps prolong engine life by minimizing corrosion, rust, and sludge and varnish formation.
- Good detergency and dispersancy to keep the engine clean.
- Excellent anti-wear properties to improve the lubricity of protective oil film on vital engine moving parts.
- Excellent shear stable viscosity modifiers to ensure consistent viscosity level.

AMEERAPREMIUM motor oil is best suited for passenger vehicles requiring the protection level of API SF/CC and the wide viscosity range of SAE 20W/50

AMEERAPREMIUM motor oil meets or exceeds the performance requirements of:

- API SF/CC
- CCMC G2/PD1
- MIL-L-2104 B
- MIL-L-46152 C
- MERCEDES BENZ 226.1

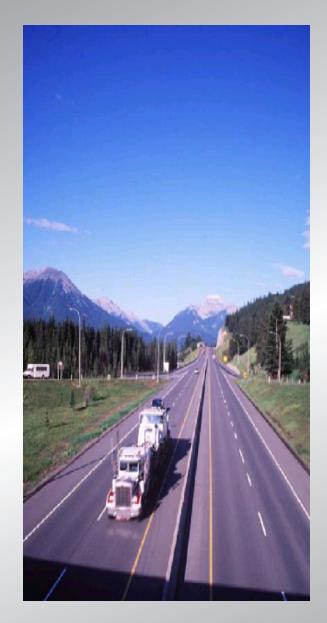


Typical Characteristics	
SAE Grade	20W/50
Density @ 15°C, g/cm3	0.8824
Flash Point, (COC) °C	230
Pour Point, °C	-15
Kinematic Viscosity @40°C, cSt	162.14
Kinematic Viscosity @ 100°C, cSt	18.08
Viscosity Index	124

AMEERAULTRA is formulated to fully satisfy the lubrication requirements of automotive engines. It is specially made to be ideal for both diesel and gasoline engines. This lubricant is recommended for naturally aspirated gasoline and diesel engines, in passenger cars and commercial vehicles requiring API service category CC/SC. AMEERAULTRA is formulated using highly refined base stocks. Those are selectively chosen to ensure a high level of engine protection. Additionally, a well-balanced additive package system is added to greatly enhance the quality of the base oil. This combination makes AMEERAULTRA ideal for engines operated under heavy duty and in very high temperatures. Every batch of AMEERAULTRA is thoroughly tested to ensure that it consistently provides the following benefits:

- Sufficient detergency to keep the engine clean
- Prevents the formation of deposits by using chemical dispersants
- Provides corrosion protection to the engine using special anti-corrosion components
- Ensures a long engine life by minimizing its wear
- Inhibits any harmful oxidation using selected anti-oxidant additives

AMEERAULTRA series are blended at the viscosity monogrades SAE 40 and SAE 50 levels to meet different temperature operating conditions. AMEERAULTRA is suited for cold and very hot climate conditions.



Typical Characteristics		
SAE Grade	40	50
Density @ 15°C, g/cm3	0.882	0.890
Flash Point, (COC) °C	202	205
Pour Point, °C	-5	-5
Kinematic Viscosity @40°C, cSt	134.8	187.92
Kinematic Viscosity @ 100°C, cSt	13.9	17.34
Viscosity Index	99	99



AMEERAMAX is superior quality and high performance multigrade gasoline crankcase oil. It is especially developed for use in engines operating under severe conditions. It is formulated with premium mineral base stocks and high performance additive package system. AMEERAMAX is formulated to guarantee the following benefits:

- High thermal and high oxidation stability thereby minimize the oil thickening.
- Protection against wear, prolong the engine life.
- Inhibiting properties against rust, corrosion & varnish formations.
- Excellent prevention of piston deposits and sludge formation.
- Sufficient detergency and dispersancy to keep the engine clean.
- Extremely shear stable Viscosity Index Modifies to ensure consistent performance during summer and winter.

AMEERAMAX is blended at API SL/CF and viscosity multigrades SAE 20W/50 to meet cold winter and hot summer operating conditions.

Typical Characteristics		
Typical Characteristics SAE Grade	20w50	
Density @ 15 °C		
0.885 Kinematic Viscosity @40 °C	146.01	
Kinematic Viscosity @100 °C	17.85	
Viscosity Index	135	
Flash Point (COC)	246	
Pour Point	-27	



AMEERA DIESEL GRADES

AMEERAULTRA is formulated to fully satisfy the lubrication requirements of automotive engines. It is specially made to be ideal for both diesel and gasoline engines. This lubricant is recommended for naturally aspirated gasoline and diesel engines, in passenger cars and commercial vehicles requiring API service category CC/SC. AMEERAULTRA is formulated using highly refined base stocks. Those are selectively chosen to ensure a high level of engine protection. Additionally, a well-balanced additive package system is added to greatly enhance the quality of the base oil. This combination makes AMEERAULTRA ideal for engines operated under heavy duty and in very high temperatures. Every batch of AMEERAULTRA is thoroughly tested to ensure that it consistently provides the following benefits:

- Sufficient detergency to keep the engine clean
- Prevents the formation of deposits by using chemical dispersants
- Provides corrosion protection to the engine using special anticorrosion components
- Ensures a long engine life by minimizing its wear
- Inhibits any harmful oxidation using selected anti-oxidant additives

AMEERAULTRA series are blended at the viscosity monogrades SAE 40 and SAE 50 levels to meet different temperature operating conditions. AMEERAULTRA



Typical Characteristics		
SAE Grade	40	50
Density @ 15°C, g/cm3	0.8	82
0.890 Flash Point, (COC) °C	202	205
Pour Point, °C	-5	-5
Kinematic Viscosity @40°C, cSt	134.8	187.92
Kinematic Viscosity @ 100°C, cSt	13.9	17.34
Viscosity Index	99	99



AMEERAEndure is monograde, high performance diesel crankcase oil used in turbo charged and naturally aspirated diesel & gasoline engines in long haul trucks, vans, and passenger cars.

AMEERAEndure oil is formulated using highly refined base stocks and well balanced chemical additive system, which is characterized by:

- High resistance to oil oxidation and inhibits the resultant oil thickening.
- High level of wear protection.
- Excellent level of engine cleanliness
- Inhibits rust & corrosion.

AMEERAEndure oil meets or exceeds following specifications:

- API CD/SF
- MIL-L-2104D
- MIL-L46152 D
- CCMC G2,PD1,PD2
- MERCEDES BENZ 227.0
- MAN 270

Typical Characteristics			
SAE Grade	30	40	50
Density @ 15°C, g/cm3	0.884	0.889	0.893
Flash Point, (COC) °C	225	231	239
Pour Point, °C	-15	-12	-12
Kinematic Viscosity @40°C, cSt	90.34	126.0	196.48
Kinematic Viscosity @ 100°C, cSt	10.94	13.52	18.03
Viscosity Index	106	102	100

AMEERAPOWER is multigrade, mid performance diesel crankcase oil used in turbo-charged and naturally aspirated diesel & gasoline engines in long haul trucks, light duty vans, and passenger cars.

AMEERAPOWER is formulated using highly refined base stocks and well balanced chemical additive system, which is characterised by:

- Good resistance to oil oxidation and inhibits the resultant oil thickening.
- Good level of wear protection.
- Good level of engine cleanliness
- Inhibits rust & corrosion.

AMEERAPOWER meets or exceeds following specifications:

- API CD/SF
- MIL-L-2104D
- MIL-L46152 D
- CCMC G2,PD1,PD2
- MERCEDES BENZ 227.1

AMEERAPOWER can be used around the year and is best suited for mixed fleets of cars and trucks. AMEERAPOWER is also suitable for Marine Engines requiring API CD oil or detergent oil of MIL-L-2104 D level.

Typical Characteristics	
SAE Grade	15W/40
Density @ 15°C, g/cm3	0.8772
Flash Point, (COC) °C	226
Pour Point, °C	-24
Kinematic Viscosity @40°C, cSt	106.49
Kinematic Viscosity @ 100°C, cSt	14.50
Viscosity Index	140





AMEERA OTHER GRADES

AMEERAGEAR OIL "GL-1" is a gear oils intended for light duty applications, which do not require extreme pressure protection. It is used in passenger cars, commercial vehicles and off-highway equipment.

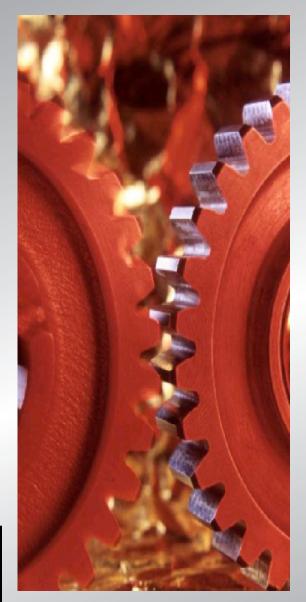
AMEERAGear Oil characterized by:

- Natural resistance against oxidation
- Anti-foaming behavior
- Compatibility with elastomers

AMEERAGear Oil meets the performance requirements of:

• API GL-1 Specs.

Typical Characteristics		
SAE Grade	90	140
Density @ 15°C, g/cm3	0.887	0.898
Flash Point, (COC) °C	238	247
Pour Point, °C	-12	-9
Viscosity @ 100°C, cSt	16.08	28.12
Viscosity @ 40°C, cSt	172.57	403.07
Viscosity Index	96	96



AMEERAGEAR TURBO is designed to meet the requirement of "API GL-4. It is suitable to use in various gear units with spur, bevel or helical gears used in synchronized manual gear boxes, transmissions and axles, intermediate gear boxes, & power take-off's working under moderately severe loads and pressure.

AMEERAGear TURBO is also applicable for hypoid gear boxes used passenger cars, light and heavy trucks, off-highway equipment.

AMEERAGear TURBO is carefully blended with a selected and well balanced chemical additive package, it is characterized by:

- Minimize the driveline component wear
- Good oxidation and thermal stability
- Protects against corrosion & rust
- Reasonably smooth gear shifting
- Good compatibility with elastomer seals

AMEERAGear TURBO meets the following specifications:

- API GL-4
- MIL-L-2105D
- MERCEDES BENZ 235.1
- U.S. Steel 225



Typical Characteristics			
SAE Grade	80W-90	90 1	40
Density @ 15°C, g/cm3	0.8886	0.903	0.906
Flash Point, (COC) °C	208	240	248
Pour Point, °C	-18	-12	-9
Viscosity @ 100°C, cSt	158.59	162.93	385.98
Viscosity @ 40°C, cSt	16.04	15.54	27.42
Viscosity Index	105	97	97

AMEERAGEAR MAX is designed to use in hypoid, bevel & spiral gears units, axle and final drives operating under high speed-shock load, high speed-low torque & low speed-high torque conditions over wide range of operating temperatures.

AMEERAGEAR MAX is applicable for hypoid gear boxes used in passenger cars, light and heavy duty trucks, buses & off-highway equipment.

AMEERAGEAR MAX is carefully blended with a selected and well balanced chemical additive package, it is characterized by:

- Excellent wear protection under severe load conditions
- Excellent oxidation and thermal stability
- Excellent protection against corrosion & rust
- Sufficient smooth gear shifting
- Enhanced compatibility with elastomer seals

AMEERAGEAR MAX meets the following specifications:

- API GL-5
- MIL-L-2105D
- MERCEDES BENZ 235.1



Typical Characteristics			
SAE Grade	80W-90	90	140
Density @ 15°C, g/cm3	0.8872	0.887	0.898
Flash Point, (COC) °C	202	220	236
Pour Point, °C	-18	-12	-9
Viscosity @ 100°C, cSt	158.75	162.35	390.18
Viscosity @ 40°C, cSt	15.68	15.48	27.27
Viscosity Index	102	96	95

AMEERAHYDRAULIC Oils are premium multipurpose hydraulic fluids conforming to the international classification

ISO TYPE HM, designed for modern high pressure & highly stressed hydraulic systems, precision machine tools, industrial equipment and all circulating lubrication systems.

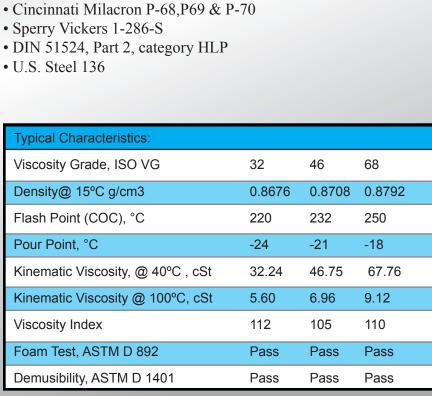
AMEERAHydraulic oil formulated with highly refined base stocks and full additive treatment to impart high level anti-wear performance and meet filtration requirements for most hydraulic systems.

AMEERAHydraulic oil has the following benefits:

- Excellent wear protection
- Excellent oxidation resistance & thermal stability
- Excellent compatibility elastomer seals
- Well filterability
- Inhibits corrosion & rust
- Sufficient resistance for foam build up
- Excellent water separation characteristic

AMEERAHydraulic oils meets or exceed the major hydraulic pump and machine manufactures:

- ISO 6743/4 ,category HM
- Denison HF-0 ,HF-2





AMEERAMULTI-PURPOSE Greases is a premium quality Lithium base grease, produced from high quality base oils and selected additives. It is intended for the general use in automotive and industrial applications. AMEERAMulti-Purpose grease is recommended for all types of plain and roller bearings.

AMEERAMulti-purpose greases have the following performance:

- Excellent mechanical and oxidation stability to minimize the leakage and premature softening of the Grease.
- Outstanding rust and corrosion protection, that minimizes the corrosion effects and protects against rust during storage.
- Excellent water resistance and will not wash off easily during application.
- Sufficient sealing which provides protection to equipment's operating in dusty or wet conditions.

Typical Characteristics		
NLGI Class	NLGI- 2	NLGI-3
Soap Type	Lithium	Lithium
Texture / Appearance	Smooth /Clear	Smooth /Clear
Colour	Amber	Amber
Dropping Point, ASTM D566	192	194
Worked Penetration	276	239
@25°C		



AMEERA HOLDINGS, LTD.

AMEERAEP GREASE is premium quality lithium complex soap grease, fortified with extreme pressure additive, anti-oxidant & rust inhibitors. It has excellent thermal and mechanical stability, & imparts wear protection.

AMEERAEP Grease has been formulated for use in plain & rolling bearings used in automotive and industrial equipment. It may be used at continuous operating temperature between -20 °C & 130 °C.

AMEERAEP GREASE has the following advantages:

- Universal Use (multipurpose)
- Good wear protection
- High load carrying capacity
- Good pumpability
- Resistance to oxidation
- High Adherence, hence resistant to wash off easily by water.
- Surfaces protection against corrosion

AMEERAEP GREASE is particularly recommended to lubricate the hubs of vehicles' wheels. It is also recommended to use in:

- Bearing of Rolling-mills
- Paper-mill equipments
- Bearings of quarries equipment serving under severe conditions



Typical Characteristics		
NLGI Class	NLGI- 2	NLGI-3
Soap Type	Lithium	Lithium
Texture / Appearance	Smooth /Clear	Smooth /Clear
Colour	Amber	Amber
Dropping Point, ASTM D566	190	192
Worked Penetration	282	236
@25°C		