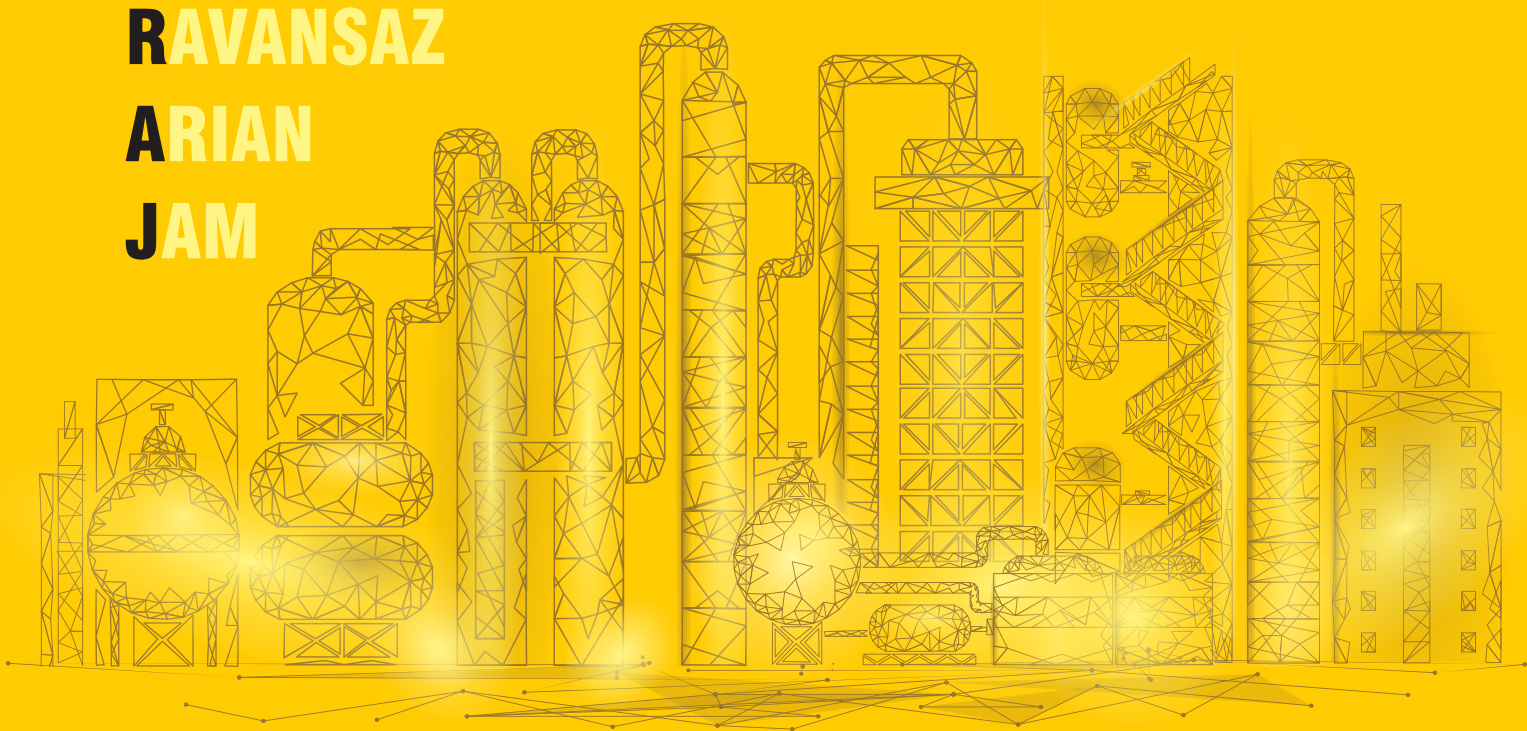




PRODUCER & EXPORTER OF OIL DERIVATIVES

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RAVANSAZ
ARIAN
JAM





01



Introduction Page 1

02



Base oil Page 3

03



Engine oil Page 5-8

04



Gear oil & ATF Page 10

05



Diesel oil Page 12-13

06



Hydraulic oil & Antifreeze Page 15

07



Grease Page 17

08



Bitumen Page 19-24

09



Contact us Page 25

RAJ
REFINERY



Introduction:

RAVANSAZ ARIAN JAM (RAJ) is a private Refinery which produce various type of Petroleum derivatives, Located in Pasargad Industrial Zone, Qazvin, Iran.

In addition to Base oil, solvent and Lubricant, we are active in trade of BITUMEN with a primary focus on the GCC, Middle East, Far East and Africa we are uniquely positioned to lead in manufacturing, marketing in the regional and international markets, providing unmatched level of support and services for its customers.

RAJ REFINERY is engaged in the manufacturing, processing, packing, modifying, upgrading, engineering and exporting on a global scale.

The purpose of our company is rendering more efficient service to the Clients.

Our Brand products have captured the substantial share of the market due to the high quality, reliability and customer satisfaction.

Quality isn't our slogan, it's our reputation. Your trust is our success.

RAJ REFINERY, Safe choice!

About Us



Base oil



Base oil

Specification : Base Oil

- Premium quality base oil suited for industrial heavy-duty & marine applications that value high viscosity and solvency.
- The product line is designed to offer broad blending coverage with performance capabilities in applications ranging from engine oils to industrial lubricants.



Characteristic	Recycle			Virgine		Test Method ASTM
	SN 150	SN350	SN 500	SN150	SN500	
Kinematic viscosity						
@ 100 °C, cSt	5.5-7.5	8-9.5	9.5-12	4.7-5.7	min 10.5	D-445
@ 40 °C, cSt	>40	50	95	35-45	108	
Viscosity index (VI)	87	90	<100	90	87	D-2270
Flash point, °C	min 185	min 200	min 225	min 200	min 235	D-92
Pour point, °C	-3	-3	-6	-6	-3	D-97
Specific gravity @ 15. 6°C/ 15. 6°C	0.875	0.880	0.880	0.880	0.885	D-4052
Sulphur content ,(wt%)	0.2	0.2	0.15	0.7	0.8	D-2622
Color	max 2	max 2	max 2	1	2	D-1500
TAN , mg KOH/g	<0.05	<0.05	<0.05	<0.04	<0.04	D-664
Carbon residue content(wt%)	0.04	0.04	0.02	0.05	0.1	D-189

Application: Producing varios kind of luntricants

Packaging: 208 L, IBC Tank, Flexi Tank



Base
oil



Lubcid BRAND OF RAJ REFINERY

Engine oil



Engine oil API : SC/CC

Specification : LUBCID Engine Oil API SC/CC

- blend of highly refined mineral oils.
- high performance additives to ensure extreme it.
- use in a wide range of applications including gasoline and light duty diesel engines found in motorcycles, passenger cars, agricultural and systems.



PARAMETERS	TEST METHOD	UNIT	SAE Grade		
			30	40	50
Appearance	Visual	-	clear	clear	clear
Color	ASTM D-1500	-	L 3.0	L 3.0	L 3.0
Kinematic Viscosity 104 °F/40 °C	ASTM D-7042	cSt	TBR	TBR	TBR
Kinematic Viscosity 212 °F/100 °C	ASTM D-7042	cSt	11.3	14.8	19.6
Viscosity index(min)	ASTM D-2270	-	90	95	98
SP.Gravity @15 °C/ 60 °F	ASTM D-4052	g/cm³	0.882	0.888	0.895
Flash Point(min)	ASTM D-92	°C	240	230	240
Pour Point(max)	ASTM D-97	°C	-15	-15	-15
TBN	ASTM D-2896	Mg KOH/g	4	4	4
NOACK(max)	D-5800	Wt %	10	10	10

Application:   
 Packaging: 1, 4L, 5L, 20L, 208L 

Engine oil API : SF/CC

Specification : LUBCID Engine Oil API SF/CC

- used for passenger cars, light trucks, farm staff.
- These oils contain inhibitors to combat acids formation, oxidation and foaming.
- formulated with high quality mineral base stock and advance additive system.
- Gasoline and light duty diesel engines found in passenger cars.
- Farm & construction equipment, stationary diesel engines and four stroke engines.



PARAMETERS	TEST METHOD	UNIT	SAE Grade		
			40	50	20w-50
Appearance	Visual	-	clear	clear	clear
Color	ASTM D-1500	-	L 3.0	L 3.0	L 3.0
Kinematic Viscosity 104 °F/40 °C	ASTM D-7042	cSt	TBR	TBR	TBR
Kinematic Viscosity 212 °F/100 °C	ASTM D-7042	cSt	15	15.3	19
Viscosity index(min)	ASTM D-2270	-	103	135	125
SP.Gravity @15 °C/ 60 °F	ASTM D-4052	g/cm³	0.891	0.884	0.888
Flash Point(min)	ASTM D-92	°C	240	225	235
Pour Point(max)	ASTM D-97	°C	-15	-27	-24
TBN	ASTM D-2896	Mg KOH/g	6	6	6
CCS, CP(max)	D-5293	mPa.s	N/A	6800(-10)	9300(-15)
NOACK(max)	D-5800	Wt %	6	11	8

Application:   
 Packaging: 1, 4L, 5L, 20L, 208L 

Engine oil API : SF/CD

Specification : LUBCID Engine Oil API SF/CD

- high performance lubricant that designed to meet very severe performance requirements for a range of high-out engines.
- formulated from premium mineral base oil & specialized additives for service in gasoline & diesel engines where SF/CD requirement.



PARAMETERS	TEST METHOD	UNIT	SAE Grade		
			40	50	20w-50
Appearance	Visual	-	clear	clear	clear
Color	ASTM D-1500	-	L 3.0	L 3.0	L 3.0
Kinematic Viscosity 104 °F/40 °C	ASTM D-7042	cSt	TBR	TBR	TBR
Kinematic Viscosity 212 °F/100 °C	ASTM D-7042	cSt	15	15.3	19
Viscosity index(min)	ASTM D-2270	-	95	135	125
SP.Gravity @15 °C/ 60 °F	ASTM D-4052	g/cm³	0.890	0.884	0.898
Flash Point(min)	ASTM D-92	°C	240	220	230
Pour Point(max)	ASTM D-97	°C	-15	-27	-24
TBN	ASTM D-2896	Mg KOH/g	6	6	6
CCS, CP(max)	D-5293	mPa.s	N/A	7000(-20)	9500(-15)
NOACK(max)	D-5800	Wt %	10	18	18

Application: 
 Packaging: 1, 4L, 5L, 20L, 208L 

Engine oil API : SG/CD

Specification : LUBCID Engine Oil API SG/CD

- use for gasoline and diesel engines that having high resistance.
- effectively reduces carbon formation & high temperature lacquer formation.
- provide safe lubrication of the engine components.
- use for passengers cars, farm & construction equipment, stationary diesel engines and four stroke engines.



PARAMETERS	TEST METHOD	UNIT	SAE Grade		
			15w-40	20w-40	20w-50
Appearance	Visual	-	clear	clear	clear
Color	ASTM D-1500	-	L 2.5	L 3.0	L 3.0
Kinematic Viscosity 104 °F/40 °C	ASTM D-7042	cSt	TBR	TBR	TBR
Kinematic Viscosity 212 °F/100 °C	ASTM D-7042	cSt	15	15.3	20.5
Viscosity index(min)	ASTM D-2270	-	136	125	127
SP.Gravity @15 °C/ 60 °F	ASTM D-4052	g/cm³	0.885	0.888	0.889
Flash Point(min)	ASTM D-92	°C	215	220	225
Pour Point(max)	ASTM D-97	°C	-27	-24	-24
TBN	ASTM D-2896	Mg KOH/g	9.5	9.5	9.5
CCS, CP(max)	D-5293	mPa.s	6800(-20)	6800(-15)	9300(-15)
NOACK(max)	D-5800	Wt %	11	7	8

Application: 
 Packaging: 1, 4L, 5L, 20L, 208L 

Engine oil API : SJ/CF

Specification : LUBCID Engine Oil API SJ/CF

- superior quality multi grade oil.
- formulated with highly refined base stocks and premium additive technology help deliver outstanding engine protection.
- engine cleanliness & low combustion residue prevent the build up of dirt and sludge in older engine suitable for gasoline, diesel, CNG, LNG engines.



PARAMETERS	TEST METHOD	UNIT	SAE Grade			
			0w-40	10w-40	15w-40	20w-50
Appearance	Visual	-	clear	clear	clear	clear
Color	ASTM D-1500	-	L 1.5	L 2.0	L 2.5	L 3.5
Kinematic Viscosity 104°F/40°C	ASTM D-7042	cSt	TBR	TBR	TBR	TBR
Kinematic Viscosity 212°F/100°C	ASTM D-7042	cSt	14	14.5	15	19
Viscosity index(min)	ASTM D-2270	-	160	150	135	130
SP.Gravity @15°C/ 60°F	ASTM D-4052	g/cm³	0.843	0.863	0.881	0.891
Flash Point(min)	ASTM D-92	°C	220	220	220	220
Pour Point(max)	ASTM D-97	°C	-42	-33	-30	-24
TBN	ASTM D-2896	Mg KOH/g	7.5	7.5	7.5	7.5
CCS,CP(max)	D-5293	mPa.s	6200(-35)	7000(-25)	7000(-20)	9500(-15)
NOACK(max)	D-5800	Wt. %	20	20	20	20

Application:   
 Packaging: 1, 4L, 5L, 20L, 208L 

Engine oil API : SL/CF

Specification : LUBCID Engine Oil API SL/CF

- formulated with synthetic technology base oil and high performance additives.
- optimized to provide outstanding protection, Oxidization resistance and lubricity.
- use in service typical of gasoline engines in present & earlier passenger cars, sports utility vehicles, vans & light trucks operating under vehicle manufacturers.



PARAMETERS	TEST METHOD	UNIT	SAE Grade						
			0w-30	0w-40	5w-50	5w-40	10w-40	10w-60	20w-50
Appearance	Visual	-	clear	clear	clear	clear	clear	clear	clear
Color	ASTM D-1500	-	L 2.0	L 1.5	L 1.5	L 1.5	L 2.0	L 2.0	L 3.0
Kinematic Viscosity 104°F/40°C	ASTM D-7042	cSt	TBR	TBR	TBR	TBR	TBR	TBR	TBR
Kinematic Viscosity 212°F/100°C	ASTM D-7042	cSt	11.5	14	19	14.5	14.5	23.5	20
Viscosity index(min)	ASTM D-2270	-	170	170	170	170	150	180	125
SP.Gravity @15°C/ 60°F	ASTM D-4052	g/cm³	0.846	0.844	0.854	0.854	0.865	0.856	0.894
Flash Point(min)	ASTM D-92	°C	220	220	220	220	220	220	230
Pour Point(max)	ASTM D-97	°C	-42	-42	-39	-39	-33	-33	-27
TBN	ASTM D-2896	Mg KOH/g	8	8	8	8	8	8	8
CCS,CP(max)	D-5293	mPa.s	6200(-35)	6200(-35)	6600(-30)	6600(-30)	7000(-25)	7000(-25)	9500(-15)
NOACK(max)	D-5800	Wt. %	15	15	15	15	15	15	15

Application:    
 Packaging: 1, 4L, 5L, 20L, 208L 

Engine oil API : SM

Specification: LUBCID Engine Oil API SM

- high quality lubricant that incorporates anti wear protection, protection against sludge & deposit formation.
- use for gasoline oil, vans and light trucks.
- designed to improved oxidation resistance.
- provide improved deposit protection.
- better protection & low temperature performance over the life of the oil.

PARAMETERS	TEST METHOD	UNIT	SAE Grade							
			0w-30	0w-40	5w-50	5w-40	10w-30	10w-40	10w-60	
Appearance	Visual	-	clear	clear	clear	clear	clear	clear	clear	
Color	ASTM D-1500	-	L 2.0	L 2.0	L 2.0	L 2.0	L 2.0	L 2.0	L 2.0	
Kinematic Viscosity 104°F/40°C	ASTM D-7042	cSt	TBR	TBR	TBR	TBR	TBR	TBR	TBR	
Kinematic Viscosity 212°F/100°C	ASTM D-7042	cSt	11.5	14	19.5	14.5	12	15	24.5	
Viscosity index(min)	ASTM D-2270	-	170	170	170	180	150	180	150	
SP Gravity@15°C/60°F	ASTM D-4052	g/cm³	0.849	0.846	0.857	0.857	0.854	0.857	0.857	
Flash Point(min)	ASTM D-92	°C	220	220	220	220	220	220	220	
Pour Point(max)	ASTM D-97	°C	-42	-42	-39	-33	-39	-33	-33	
TBN	ASTM D-2896	Mg KOH/g	10.5	10.5	10.5	10.5	10.5	10.5	10.5	
CCS, CP(max)	D-5293	mPa.s	6200(-35)	6200(-35)	6600(-30)	6600(-30)	7000(-25)	7000(-25)	7000(-25)	
NOACK(max)	D-5800	Wt. %	15	15	15	15	15	15	15	

Application:    
 Packaging: 1, 4L, 5L, 20L, 208L 



SAE 0W-30
API SM



SAE 0W-40
API SM



SAE 5W-50
API SM



SAE 5W-40
API SM



SAE 10W-30
API SM



SAE 10W-40
API SM



SAE 10W-60
API SM

Engine oil API : SN

Specification: LUBCID Engine Oil API SN

- designed for high performance engine with high compression ratio.
- use in engines requiring low viscosity lubricants under all operating conditions.
- designed to provide improved high temperature deposit protection for pistons, more stringent sludge control, and seal compatibility.

PARAMETERS	TEST METHOD	UNIT	SAE GRADE							
			0w-20	0w-30	0w-40	5w-30	5w-40	5w-50	10w-40	10w-60
Appearance	Visual	-	clear	clear	clear	clear	clear	clear	clear	clear
Color	ASTM D-1500	-	L 2.0	L 2.0	L 2.0	L 2.0	L 2.0	L 2.0	L 2.0	L 2.0
Kinematic Viscosity 104°F/40°C	ASTM D-7042	cSt	TBR	TBR	TBR	TBR	TBR	TBR	TBR	TBR
Kinematic Viscosity 212°F/100°C	ASTM D-7042	cSt	8.5	11.5	14	12	14.5	19	14.5	23.5
Viscosity index(min)	ASTM D-2270	-	163	170	170	170	170	170	150	180
SP Gravity@15°C/60°F	ASTM D-4052	g/cm³	0.849	0.8469	0.848	0.854	0.856	0.856	0.856	0.857
Flash Point(min)	ASTM D-92	°C	220	220	220	220	220	220	220	220
Pour Point(max)	ASTM D-97	°C	-42	-42	-42	-39	-39	-39	-33	-33
TBN	ASTM D-2896	Mg KOH/g	11	11	11	11	11	11	11	11
CCS, CP(max)	D-5293	mPa.s	6200(-35)	6200(-35)	6200(-35)	6600(-30)	6600(-30)	6600(-25)	7000(-15)	7000(-25)
NOACK(max)	D-5800	Wt. %	15	15	15	15	15	15	15	15

Application:    
 Packaging: 1, 4L, 5L, 20L, 208L 



SAE 0W-20
API SN



SAE 0W-30
API SN



SAE 0W-40
API SN



SAE 5W-30
API SN



SAE 5W-40
API SN



SAE 5W-50
API SN



SAE 10W-40
API SN



SAE 10W-60
API SN



Lubcid BRAND OF RAJ REFINERY

Gear oil & ATF





Lubcid BRAND OF RAJ REFINERY

Diesel oil



Diesel oil API : CD

Specification: LUBCID Diesel Oil API CD

- specially formulated super grade crank case diesel lubricant for all type of passenger cars, vans and light trucks operating under severe driving condition throughout the year.
- This oil is blended with highly refined paraffinic base oil & incorporated with effective additives and shear stable viscosity index improvers.



SAE 40
API CD



SAE 20W-40
API CD



SAE 20W-50
API CD

PARAMETERS	TEST METHOD	UNIT	SAE Grade		
			40	20w-40	20w-50
Appearance	Visual	-	clear	clear	clear
Color	ASTM D-1500	-	L 3.5	L 3.0	L 3.0
Kinematic Viscosity 104°F/40°C	ASTM D-7042	cSt	TBR	TBR	TBR
Kinematic Viscosity 212°F/100°C	ASTM D-7042	cSt	15	15.8	20.5
Viscosity index(min)	ASTM D-2270	-	100	120	125
SP.Gravity@15°C/ 60°F	ASTM D-4052	g/cm³	0.894	0.888	0.889
Flash Point(min)	ASTM D-92	°C	240	220	225
Pour Point(max)	ASTM D-97	°C	-21	-24	-24
TBN	ASTM D-2896	Mg KOH/g	8	8	8
CCS,CP(max)	D-5293	mPa.s	N/A	9500(-15)	9500(-15)
NOACK(max)	D-5800	Wt. %	18	18	18

Application: Packaging: 5L, 20L, 208L

Diesel oil API : CF4 / CH4

Specification: LUBCID Diesel Oil API CH/CG/CF

- high quality base stock with a proprietary.
- balanced additive system with a combination of metallic detergents, ashless dispersants.
- improved oxidation stability to minimize deposit formation.
- use for all types of service in trucks and automotive diesel and gasoline engines.
- use in low temperature environments.
- suitable for on-road & off-road applications.



SAE 15W40
API CH-4



SAE 20W-50
API CF-4

PARAMETERS	TEST METHOD	UNIT	SAE Grade	
			15w-40	20w-50
Appearance	Visual	-	clear	clear
Color	ASTM D-1500	-	L 3.5	L 3.0
Kinematic Viscosity 104°F/40°C	ASTM D-7042	cSt	TBR	TBR
Kinematic Viscosity 212°F/100°C	ASTM D-7042	cSt	15.5	19.5
Viscosity index(min)	ASTM D-2270	-	135	125
SP.Gravity@15°C/ 60°F	ASTM D-4052	g/cm³	0.884	0.888
Flash Point(min)	ASTM D-92	°C	225	235
Pour Point(max)	ASTM D-97	°C	-27	-25
TBN	ASTM D-2896	Mg KOH/g	13	13
CCS,CP(max)	D-5293	mPa.s	7000(-20)	9500(-15)
NOACK(max)	D-5800	Wt. %	15	15

Application: Packaging: 5L, 20L, 208L

Diesel oil API : CJ-4

Specification : LUBCID Gear Oil API CJ-4

- maximises engine performance, heavy duty diesel engines including severe applications.
- use for new advanced diesel powered engine in trucks, marine industries, heavy duty.
- construction equipment, mining equipment, farm vehicles, cars, all type of on-road and off-road.
- use for gasoline engines in pick-up trucks, sport utility vehicles and mixed fleets.



SAE 15W-30
API CJ-4



SAE 15W-40
API CJ-4



SAE 20W-50
API CJ-4

PARAMETERS	TEST METHOD	UNIT	SAE Grade		
			15w-30	15w-40	20w-50
Appearance	Visual	-	clear	clear	clear
Kinematic Viscosity 104°F/40°C	ASTM D-7042	cSt	89.1	112	170
Kinematic Viscosity 212°F/100°C	ASTM D-7042	cSt	12.0	15.4	20.2
Viscosity index(min)	ASTM D2270	-	128	145	138
SP.Gravity@15°C/ 60°F	ASTM D-4052	g/cm³	0.870	0.870	0.878
Flash Point(min)	ASTM D-92	°C	234	230	240
Pour Point(max)	ASTM D-97	°C	-33	-33	-24
TBN	ASTM D-2896	Mg KOH/g	8	8	8
CCS, CP(max)	D-5293	mPa.s	6700(-20°C)	6700(-20°C)	9000(-15°C)

Application:     

Packaging: 5L, 20L, 208L 

Diesel oil API : CI-4

Specification : LUBCID Diesel Oil API CI-4

- extra high performance diesel motor oil.
- provides excellent lubrication of diesel engines.
- promoting extended engine life.
- high performance in a wide variety of industries applications, and mixed fleets.
- designed for high-speed, four-stroke engines.
- effective at sustaining emission control system durability.



SAE 10W-40
API CI-4



SAE 15W-40
API CI-4



SAE 20W-50
API CI-4

PARAMETERS	TEST METHOD	UNIT	SAE Grade		
			10w-40	15w-40	20w-50
Appearance	Visual	-	clear	clear	clear
Color	ASTM D-1500	-	L 2.0	L 2.5	L 3.0
Kinematic Viscosity 104°F/40°C	ASTM D-7042	cSt	TBR	TBR	TBR
Kinematic Viscosity 212°F/100°C	ASTM D-7042	cSt	14.5	14.5	20
Viscosity index(min)	ASTM D-2270	-	150	135	125
SP.Gravity@15°C/ 60°F	ASTM D-4052	g/cm³	0.880	0.880	0.890
Flash Point(min)	ASTM D-92	°C	220	220	230
Pour Point(max)	ASTM D-97	°C	-33	-30	-24
TBN	ASTM D-2896	Mg KOH/g	13	13	13
CCS, CP(max)	D-5293	mPa.s	7000(-25)	7000(-20)	9500(-15)
NOACK(max)	D-5800	Wt. %	15	15	15

Application:     

Packaging: 5L, 20L, 208L 



Lubcid BRAND OF RAJ REFINERY

Hydraulic oil - Antifreeze/ coolant



Hydraulic Oil

Specification: LUBCID Hydraulic Oil API ISO

- high performance hydraulic oil that formulate from advanced base oil & balanced system.
- designed to satisfy a wide range of heavy duty equipment.
- excellent oxidation resistance delivers good.
- performance at higher temperature and it extended operating intervals.
- high level of anti- wear protection results in extended equipment & fewer breakdowns.

PARAMETERS	TEST METHOD	UNIT	Grade			
			32	46	68	100
Appearance	Visual	-	B/C	B/C	B/C	B/C
Color	ASTM D-1500		Red	Red	Red	Red
Viscosity 104°F/40°C	ASTM D-44	cSt	33	48	70	105
Viscosity 212°F/100°C	ASTM D-44	cSt	5.5	6.8	8.8	11.5
Viscosity index(min)	ASTM D-2270	-	102	95	97	96
Air Release at 50°C	ASTM D-3427		10 Max	10 Max	10 Max	10 Max
Neutralization Number	ASTM D-4052	Kg KOH/g	0.878	0.883	0.885	0.889
Pour Point(max)	ASTM D-97	°C	-22	-18	-18	-15



HYDRAULIC
ISO 32



HYDRAULIC
ISO 46



HYDRAULIC
ISO 68



HYDRAULIC
ISO 100

Application: 
Packaging: 5L, 20L, 208L 

ANTIFREEZE/ COOLANT

Specification: LUBCID Antifreeze/ Coolant

- designed for both petrol and diesel engines.
- formulated as mixture of mono-ethylene glycol selected additive package that can provide outstanding all round protection.
- use for all types of heavy-duty diesel, gasoline and natural gas engines, stationary engine.
- suitable for marine cooling system.
- mixed fleets for both light-duty & heavy-duty trucks are present.

PARAMETERS	TEST METHOD	UNIT	AVALANCHE		
Grade			33%	60%	100%
Ash Content	ASTM D-1119	%w/w	1.0	1.0	-
Freezing Point	ASTM D-1177	°C	-16	-47	-13
Ph	ASTM D-1287	-	8.0	8.1	8.2
Reserve Alkalinity	ASTM D-1121	MI 0/1N HCL	1.5	3.5	4.5
SP, Gravity@ 15°C/60°F	ASTM D-4052	g/cm³	1.04	1.07	1.11

safety & Handling:

Avalanche is stable in ambient conditions, it is non-corrosive and it can be stored in mild steel containers.

when topping-up system use antifreeze diluted with the appropriate amount of water.

ANTIFREEZE
AVALANCHE 33%



ANTIFREEZE
AVALANCHE 60%

ANTIFREEZE
AVALANCHE 100%

Application: 
Packaging: 1, 4L, 5L, 20L, 208L 



Lubcid BRAND OF RAJ REFINERY

Grease



Grease **CALCIUM**

Specification : LUBCID Calcium Grease

- thickened by calcium hydroxide with mineral oil.
- excellent water resistant property, mechanical stability and lubricating performance.
- smooth and buttery texture.
- Suitable for lubrication of pivots,joints,springs use for all Automotive Application including chassis points, king pins, die pins.
- used in typical Industrial Construction & Agricultural equipments.

PARAMETERS	TEST METHOD	UNIT	Grade	
			2	3
Thickener Type			Calcium	Calcium
Color	-	-	Light Brown	Light Brown
Worked Penetration@ 25°C	ASTM D-217	0.1mm	265-295	220-250
Dropping Point	ASTM D-2265	°C	95	95
Operating Temperature Range	-	°C	-15 to +60	-15 to +60
Extreme Pressure	-	-	No	No
Water Resistance	-	cSt	Very Good	Very Good
Structure	-	g/cm³	Natural	Natural



CALCIUM GREASE
GRADE 2



CALCIUM GREASE
GRADE 3

Application:



Packaging: 1 kg,5kg,10kg
15kg,180kg,250kg, 500kg



Grease **LITHIUM**

Specification : LUBCID Lithium

- suitable for high-temperature service in rolling element bearings & industrial staff.
- high performance; multipurpose lithium soap base.
- using an optimized combination of high quality mineral oil,proprietary thickener technology & an especially selected additive system enabling.
- reliable performance across a wide range of temperatures.

PARAMETERS	TEST METHOD	UNIT	Grade			
			MP 2	MP 3	EP 2	EP 3
Thickener	-	-	Lithium soap	Lithium soap	Lithium soap	Lithium soap
Color	-	-	Light Brown	Light Brown	Light Brown	Light Brown
Texture			Smooth	Smooth	Smooth	Smooth
Worked Penetration@ 25°C	ASTM D217	60 Stokes	280	235	280	235
Dropping Point	ASTM D2265	°C	190	190	190	190
Base Oil Viscosity@40 °C		cSt	150	150	160	160
Operating Temperature Range	-	°C	-25 to 120	-25 to 120	-20 to 130	-20 to 130
Water Resistance	-	-	Very Good	Very Good	Very Good	Very Good



LITHIUM GREASE
MP 2



LITHIUM GREASE
MP 3



LITHIUM GREASE
EP 2



LITHIUM GREASE
EP 3

Application:



Packaging: 1 kg,5kg,10kg
15kg,180kg,250kg, 500kg





Bitumen



Air Blowing Bitumen

Specification : Air Blowing Bitumen

Bitumen production in according to three standard method (Blowing method ,Straight run method and Blending method) in Iran and other countries.

The Air Blowing Bitumen is produced by process of vacuum Bottom (VB) and air in the reactor. and due to the control of the process conditions, different grades are produced.

Bitumen clasification according to various specification such as Penetration, Viscosity, Performane of bitumen in the road and



Packaging: Jumbo Bag,
Drum, Bulk



AIR BLOWING BITUMEN						
Analysis	Unit	40-50	60-70	85-100	120-150	Test Method
		Limit	Limit	Limit	Limit	
Density @ 25°C	kg/m3	1010-1060	1010-1060	1010-1050	1000-1050	ASTM D70 or D3289
Penetration @ 25°C	mm/10	40-50	60-70	85-100	120-150	ASTM D5
Softening Point	°C	49 min	46 min	42 min	37 min	ASTM D36
Ductility @ 25°C	cm	100 min	100 min	100 min	100 min	ASTM D113
Loss on heating	wt%	0.2 max	0.2 max	0.5 max	0.5 max	ASTM D6
Drop in Penetration after heating	%	20 max	20 max	20 max	20 max	ASTM D5
Flash point	°C	230 min	230 min	230 min	220 min	ASTM D92
Solubility in trichloroethylene	wt%	99.0 min	99.0 min	99.0 min	99.0 min	ASTM D2042
Spot test	-	Negative	Negative	Negative	Negative	AASHTO T102
Dynamic Viscosity @ 60°C	Pa.S	400 ± 80	200 ± 40	100 ± 20	45 ± 9	ASTM D2171
Kinmatic Viscosity @ 60°C	cSt	400 min	300 min	250 min	170 min	ASTM D2170
Wax content	%	2 max	2 max	2 max		DIN EN 12606-1

Test on residue form thin film oven test (ASTM D1754)						
Retained Penetration after (T.F.O.T), %	%	55 min	52 min	47 min	42 min	ASTM D5
Ductility, (25°C), 5cm/min, cm after TFOT	cm	-	50 min	75 min	100 min	ASTM D113
Viscosity @ 60°C	Pa.S	2000 max	1000 max	500 max	225 max	ASTM D2171

Analysis	AIR BLOWING BITUMEN VISCOSITY GRADE SPECIFICATION				
	VG 40	VG 30	VG 20	VG 10	Test Method
Viscosity at 60°C, Poises	Min. 3200	Min. 2400	Min. 1600	Min. 800	ISO 1206 (Part 2)
Kinematic Viscosity at 135°C, cSt	Min. 400	Min. 350	Min. 300	Min. 250	ISO 1206 (Part 3)
Flash point (Cleveland open cup), °C	Min. 220	Min. 220	Min. 220	Min. 220	ISO 1209
Solubility in trichloroethylene, %	Min. 99	Min. 99	Min. 99	Min. 99	ISO 1206
Softening Point (R&B), °C	Min. 50	Min. 47	Min. 45	Min. 40	ISO 1205
Penetration @ 25°C(100 g,5 sec),0.1mm	40-60	50-70	60-80	80-100	ISO 1203



Packaging: Jumbo Bag,
Drum, Bulk



Test residue form thin film film oven test /RTFOT

Viscosity ratio @ 60°C	Max4.0	Max4.0	Max4.0	Max4.0	ISO 1206 (Part 2)
Ductility at 25°C,cm after thin film oven test	Min. 25	Min. 40	Min. 50	Min. 75	ISO 1208
Specific Gravity @ 27/27°C	Min. 0.99	Min. 0.99	Min. 0.99	Min. 0.99	ISO 1202

Characteristic	AIR BLOWING BITUMEN EN 12591 SPECIFICATION						
	Unit	35-50	50-70	70-100	100-150	160-220	Test Method
Penrtation @ 25°C	dmm	35-50	50-70	70-100	100-150	160-220	EN 1426
Softening Point, °C	°C	50-58	46-54	43-51	39-47	35-43	EN 1427
Resistance to Hardening @ 163°C							
Retained Penetration	%	53 min	50 min	46 min	43 min	37 min	EN 12607-1
Change of Mass	%	0.5 max	0.5 max	0.8 max	0.8 max	1.0 max	
Flash point °C	°C	240 min	230 min	230 min	230 min	220 min	EN ISO 2592
Solubility	%	99.0 min	99.0 min	99.0 min	99.0 min	99.0 min	EN 12592
Penetration Index	-	-1.5 to +0.7	-1.5 to +0.7	-1.5 to +0.7	-1.5 to +0.7	-1.5 to +0.7	EN 12591- Annex A
Dynamic Viscosity @ 60°C	Pa.s	225 min	145 min	90 min	55 min	30 min	EN 12596
Fraass Breaking Point	°C	-5 max	-8 max	-10 max	-12 max	-15 max	EN 12593
Kinematic Viscosity @ 135°C	cSt	370 min	295 min	230 min	175 min	135 min	EN 12595

Air Blowing Bitumen

Specification : Air Blowing Bitumen PG

Bitumen production in according to three standard method (Blowing method ,Straight run method and Blending method) in Iran and other countries.



Packaging: Jumbo Bag,
Drum, Bulk



Performance Grade

PG 52-28	PG 52-22	PG 52-16	PG 52-10	PG 58-22	PG 58-16	PG 58-10
PG 64-22	PG 64-16	PG 64-10	PG 70-22	PG 70-16	PG 70-10	PG 76-10

Performance Grade	PG 52			PG 58			PG 64			PG 70		PG 76	Test Method
	10	16	22	10	16	22	10	16	22	10	16	10	
Average 7-Day Maximum Pavement Design Temperature °C	+52			+58			+64			+70		+76	-
Minimum Pavement Design Temperature °C	-10	-16	-22	-10	-16	-22	-10	-16	-22	-10	-16	-22	-
Orginal Binder													
Flash Point Temperature °C	230												AASHTO T48
Viscosity, T 316, Maximum 3 Pas, Test Temp, °C	135												AASHTO T316
Dynamic Shear, T 315, G*/sin Minimum 1.00 KPa Test Temperature, @10 rad/s, °C	52			58			64			70		76	AASHTO T315
Rolling Thin Film Oven Test													
Mass Change, Maximum, Percent	1.00												AASHTO T240
Dynamic Shear G*/sin Minimum 2.2 KPa Test Temperature, @10 rad/s	52			58			64			70		76	AASHTO T315
Pressure Aging Vessel													
PAV Aging Temperature °C	90			100			100			100(110)		100(110)	AASHTO R28
Dynamic Shear G*/sin Maximum 5000 KPa Test Temperature, @10 rad/s	25	22	19	26	25	22	22	31	25	25	34	31	AASHTO T315
Creep Stiffness S Maximum 300 Mpa M-Value Minimum 0.300 Test Temp, @60s	0	-6	-12	0	-6	-12	0	-6	-12	0	-6	0	AASHTO T313
Direct Tension, T 314, Failure Strain, Minimum 0.300 Test Temperature, @60s, °C	0	-6	-12	0	-6	-12	0	-6	-12	0	-6	0	AASHTO T314
Critical Low Cracking Temp, PP42, Critical Cracking Temp Determined by PP 42, Test Temp, °C	0	-6	-12	0	-6	-12	0	-6	-12	0	-6	0	AASHTO PP42

Bitumen Emulsion

Specification: Bitumen Emulsion

Bitumen emulsions are basically an O/W – Oil on Water solution – A dispersion of bitumen particles on water phase, stabilized with the addition of surfactants – Surface active agents – or most commonly known as emulsifiers. They are primarily used for tack coats for use in between hot mix asphalt layers and prime coats for thin hot mix surfacing layers or a chip seal pavements, other cold mixed asphalt and maintenance binder .

Bitumen emulsions are divided into three categories:

- Anionic with negatively charged globules
- Cationic with positively charged globules
- Non-ionic with neutral globules.

Base on the time of setting after spraying, Bitumen emulsions classification as Quick Set (QS), Rapid set (RS), Medium set (MS) and Slow set (SS)



Packaging: Jumbo Bag,
Drum, Bulk



BITUMEN EMULSION														
SPECIFICATION OF CATIONIK BITUMEN EMULSION	Quick- Setting		Rapid- Setting				Medium- Setting				Slow- Setting			
	COS-1h		CRS-1		CRS-2		CMS-2		CMS-2h		CSS-1		CSS-1h	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Test on emulsions														
Viscosity Saybolt fural at 25°C SFs	20	100	-	-	-	-	-	-	-	-	20	100	20	100
Viscosity Saybolt fural at 25°C SFs	-	-	20	100	100	400	50	450	50	450	-	-	-	-
Viscosity Stability test ¹ at 50°C SFs	-	1	-	1	-	1	-	1	-	1	-	1	-	1
Demulsibility, 35 ml, 0.8 % dioctyl sodium	-	-	40	-	40	-	-	-	-	-	-	-	-	-
Partid charge test	Positive		Positive		Positive		Positive		Positive		Positive		Positive	
Sieve test %A	-	0.1	-	0.1	-	0.1	-	0.1	-	0.1	-	0.1	-	0.1
Coment mixing test,%	-	N/A	-	-	-	-	-	-	-	-	-	2	-	2
Coating ability and water resistance:														
Coating, dry aggregate	-	-	-	-	-	-	good	-	good	-	-	-	-	-
Coating, after spraying	-	-	-	-	-	-	fair	-	fair	-	-	-	-	-
Coating, wet aggregate	-	-	-	-	-	-	fair	-	fair	-	-	-	-	-
Coating, after spraying	-	-	-	-	-	-	fair	-	fair	-	-	-	-	-
Distillation														
Oil distilate , by volume of emulsion, %	-	-	-	3	-	3	-	12	-	12	-	-	-	-
Residue,%	57	-	65	-	65	-	65	-	65	-	57	-	57	-
Test on Residue from distillation test:														
Penetration, 25°C, 100g, 5s	40	90	100	250	100	250	100	250	40	90	100	250	40	90
Ductility, 25°C, 5 cm/min, cm	40	-	40	-	40	-	40	-	40	-	40	-	40	-
Solubility in trichloroethlene, %	97.5	-	97.5	-	97.5	-	97.5	-	97.5	-	97.5	-	97.5	-

Cutback Bitumen

Specification : Cutback Bitumen

Cutback Bitumen is by adding controlled amounts of petroleum solvent such as Kerosene, Gasole and Gasoline.

Base on reduce of bitumen viscosity for spraying in ambient temperature for several application such as Asphalt Pavement Construction, Maintenance, Prime and Tack Coating and ...

Base on the time of curing after spraying, Cutback bitumen classification as Rapid Curing(RC), Medium Curing (MC) and Slow Curing (SC)



Packaging: Jumbo Bag,
Drum, Bulk



Designation	CUTBACK BITUMEN									
	MC-30		MC-70		MC-250		MC-800		MC-3000	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Kinematic Viscosity at 60 °C [140 °F],mm7/s	30	60	70	140	250	500	800	1600	3000	6000
Flash piont (Tag open-cup), °C [° F]	38 [100]	-	38 [100]	-	66 [150]	-	66 [150]	-	66 [150]	-
distilate test: distilate, volume percent of total distilate to 360 °C [680 °F]										
to 225 °C [437 °F]	-	35	-	25	-	20	-	-	-	-
to 260 °C [500 °F]	30	75	10	70	5	55	-	40	-	15
to 316 °C [600 °F]	75	95	65	93	60	90	45	85	15	75
Residue form distillation to 360 °C [680 °F] percent volume by difference	50	-	55	-	67	-	75	-	80	-
Test on residue form distillation:										
Viscosity at 60 °C [140 °F], Pa.s	30	120	30	120	30	120	30	120	30	120
Ductility, 25 °C [77 °F], cm	100	-	100	-	100	-	100	-	100	-
Solubility in trichloroethlene, %	99.00%	-	99.00%	-	99.00%	-	99.00%	-	99.00%	-
Water, %	-	0.2	-	0.2	-	0.2	-	0.2	-	0.2



Customized Bitumen

Specification: Customized Bitumen

This type is produced according to customers' request, Pavements designed and constructed for heavy duty traffic and extreme weather conditions require specially designed engineered Bitumen Grades. changing the characteristics of original bitumen with change of process condition or/and the addition of some modifier such as Polymer, Rubber and ...



Packaging: Jumbo Bag,
Drum, Bulk



Australian Standard						
PARAMETERS	TEST METHOD	Grade				
		C170	C240	C320	C450	C600
Viscosity @60°C, Pa .s	AS 2341.2 or other agreed method(Note 1)	140-200	190-280	260-380	-	500-700
Viscosity @135°C, Pa .s	AS 2341.2 or AS 2341.3 or AS 2341.4 or other agreed method	0.25-0.45	0.32-0.55	0.40-0.65	0.70 Max	0.60-0.85
Penetration @ 25°C, 0.1 mm 100 gm, 5 sec.	AS 2341.12	62 Min	53 Min	40 Min	-	20 Min
Flash Point °C	AS 2341.14 or ASTM D92	250 Min	250 Min	250 Min	250 Min	250 Min
Matter insoluble in toluene, percent mass	AS 2341.8 or AS/NZS 2341.20	1 Max	1 Max	1 Max	1 Max	1 Max
Viscosity at 60 °C, percentage of original after RTFO treatment (Note 2)	AS/NZS 2341.10 and either AS 2341.2 or other agreed method	300 Max	300 Max	300 Max	-	300 Max
	ASTM D 2872 and either AS 2341.2 or other agreed method	340 Max	340 Max	340 Max	-	340 Max
Viscosity at 60 °C, after RTFO treatment, Pa.s (Note 2)	AS/NZS 2341.10 and either AS 2341.2 or other agreed method	-	-	-	-	-
	ASTM D 2872 and either AS 2341.2 or other agreed method	-	-	-	-	-
Penetration @ 25 °C after RTFO treatment (100 g,5s) , [0.1 mm]	Either AS/NZS 2341.10 or ASTM D2872 and AS 2341.12	-	-	-	-	-
Long – term effect of heat and air , days	AS/NZS 2341.13 and either AS/NZS 2341.5 or other agreed method	-	-	-	-	-
Density at 15 °C , kg/m3	AS 2341.7	-	-	-	-	-
Mass change , percent mass	AS/NZS 2341.10 or ASTM D2872	-	-	-	-0.60-+0.60	-



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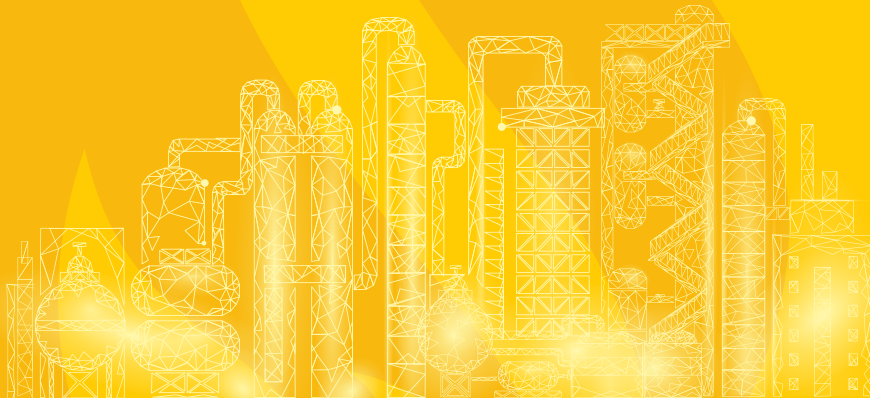
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