GRAND PETROLEUM

ABOUT US

Grand Petroleum is one of the fastest-growing companies in the middle east’s downstream petroleum products which has been established in 2022, based in Dubai. This brand is the newest member of a global chain of companies that are registered in different countries around the world focusing on Steel production, bitumen manufacturing, and general international trading for more than 25 years

Owing to sufficient financial resources, private factories, and transport facilities, GRAND PETROLEUM is one of the most reliable suppliers in the region. We are providing our clients with guaranteed quality Bitumen, Fuel Oil, Base Oil, RPO, and petrochemical products in different packings

Relying on our cash resources, the main goal of our employees and shareholders is to facilitate the payment methods for GRAND PETROLEUM’s customers and accelerate the commercial processes in order to achieve our business partners' and value chain members' satisfaction including suppliers and customers

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Bitumen Penetration Grade

One of the important characteristics of bitumen, is its sensitivity to temperature changes, and to evaluate this characteristic, the penetration index is used to determine the penetration grade bitumen
Due to the fact that bitumen has a viscoelastic nature, its behavior depends on changes in the degree of gravity and the

Test	Methodology	30-40	40-50	60-70	85-100	100-120
Density	ASTM D-7	1/01-1/06	1/01-1/06	1-01-1/06	1-1/05	1/01-1/04
Penetration Rate at 25°C	ASTM D-5	30-40	40-50	60-70	85-100	100-120
Softening Point °C	ASTM D-36	55-63	52-60	49-56	45-52	42-49
Ductility at 25 °C (cm) - Min	ASTM D-113	100	100	100	100	100
Flash Point °C - Min	ASTM D-92	250	250	250	250	250
Solubility in Disulfide %wt	ASTM D-4	99/5	99/5	99/5	99/5	99/5
Stain Test	AASHTO T 102	Negative	Negative	Negative	Negative	Negative
Weight Loss by Heating %wt-Max	ASTM D-6	0/2	0/2	0/2	0/2	0/2
Penetration Loss by Heating % - Max	ASTM D-6-D-5	20	20	20	20	20

amount of loading per unit of time
For example, In hot weather, bitumen acts like a viscous liquid, and in this case, permanent deformation and less reversible grooves in it
In cold weather, bitumen acts like an elastic solid material and changes its shape during the passage of vehiclesThe most important application is to use the value of the degree of penetration grade bitumen to find out the area where bitumen is used, so that in hot areas and for roads with a lot of traffic
The penetration degree bitumen test is used to measure the consistency, so that a higher penetration degree indicates a lower consistency and a lower penetration degree bitumen indicates a higher consistency

Viscosity Grade

Absolute viscosity at 60 °C or kinematic viscosity at 135 °C, is the index onwhich the bitumen grade is categorized. The following table indicates the results for pure bitumen graded based on ASTM D3381 standarad

As Viscosity index is mostly considered between Indian road constructors and contractors, **Grand Petroleum** has tried to supply its clients in this country with frequently requested viscosity grades of bitumen such as VG .10, VG 30, VG 40

Viscosity						Test
AC-40	AC-30	AC-20	AC-10	AC-5	AC-2/5	
4000±800	3000±600	2000±400	1000±200	500±100	250±50	Viscosity at 60 C
400	350	300	250	175	125	Viscosity at 135 C
40	50	60	80	140	220	Penetration at 25 C, 100 grams, five seconds
232	232	232	219	177	163	Flash point, Cleveland open cup
99.0	99.0	99.0	99.0	99.0	99.0	Solubility in trichloroethylene
Test on the residue of thin bitumen layer						
20000	15000	10000	5000	2500	1250	Viscosity at 60 C
10	20	50	75	100	100	Ductility at 25 C, 5cm/min

Viscosity					Test
AC-40	AC-20	AC-10	AC-5	AC-2/5	
4000±800	2000±400	1000± 200	500± 100	250± 50	Viscosity at 60 C
300	210	150	110	80	Viscosity at 135 C
20	40	70	120	200	Penetration at 25 C, 100 grams, five seconds
232	232	219	177	163	Flash point, Cleveland open cup
99.0	99.0	99.0	99.0	99.0	Solubility in trichloroethylene
Test on Residue					
20000	10000	5000	2500	1250	Viscosity at 60 C
10	20	50	100	100	Ductility at 25 C, 5cm/min

Viscosity					Test on the residue of thin bitumen layer
AR-16000	AR-8000	AR-4000	AR-2000	AR-1000	
16000±4000	8000±2000	4000±1000	2000±500	1000±250	**Viscosity at 60 C**
550	400	275	200	140	**Viscosity at 135 C**
20	20	25	40	65	**Penetration at 25 C, 100 grams, five seconds**
52	50	45	40	40	**Penetration at 25 C, 100 grams, five seconds. minimum**
75	75	75	100	100	**Ductility at 25 C, 5cm/min**
238	232	227	219	205	**Flash point, Cleveland open cup**
99,0	99,0	99,0	99,0	99,0	**Solubility in trichloroethylene**

Performance Grade Bitumen

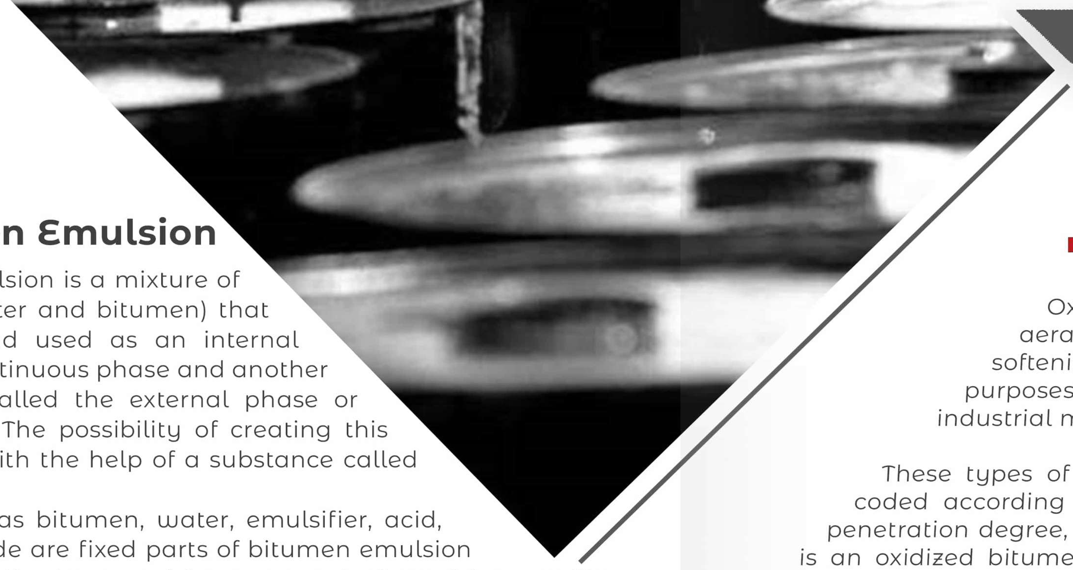
PG bitumen functional characteristics have different characteristics against cracking, deformation due to cold and heat, fatigue, and predicting the hardening of the bitumen at the production site, It is taken into consideration when preparing asphalt

Overall, Performance Grade Bitumen or PG is graded based on its performance that is indicated in different temperatures

PG Bitumen is graded based on performance at different temperatures so that the highest and lowest asphalt temperatures are already calculated and the best bitumen at that temperature is suggested .

Grand Petroleum suggests its customers from hot weather regions like Africa or those from cold weather areas such as Siberia purchase these grades .

High Temperature Performance	Low Temperature Performance
PG 46	-46, -40, -34
PG 52	-46, -40, -34, -28, -22,-16, -10
PG 58	-40, -34, -28, -22, -16, -10
PG 64	-40, -34, -28, -22, -16, -10
PG 70	-40-34, -28, -22, -16, -10
PG 76	-34, -28, -22, -16, -10
PG 82	-34, -28, -22, -16, -10



Bitumen Emulsion

bitumen emulsion is a mixture of two liquids (water and bitumen) that are immiscible and used as an internal phase or a non-continuous phase and another liquid (water) is called the external phase or continuous phase. The possibility of creating this issue is provided with the help of a substance called an emulsifier

Components such as bitumen, water, emulsifier, acid, and calcium chloride are fixed parts of bitumen emulsion but depending on the type and improvement of emulsion quality, solvent, stabilizer, and polymer can be added to it

Bitumen emulsions are divided into three categories in terms of setting

- Rapid Setting Bitumens (RS)
- Medium Setting-(MS)
- Slow Setting-(SS)

The classification of emulsion bitumen is divided into three categories, anionic, cationic, and nonionic. According to their ionic structure, the use of anionic emulsion bitumen has lost its use over time, and for this purpose, cationic emulsion bitumen has replaced it

Cationic bitumen emulsion, which has a positive electrical charge, sticks better to stone materials, including silica and quartz compounds, which have a negative electrical charge

Cutback bitumen

Medium Curing (MC)	MC-30		MC-70		MC-250		MC-800		MC-3000		Test Methods
Property	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Kinematic viscosity at
Kinematic viscosity at 60°C, mm2/s	30	60	70	140	250	500	800	1600	3000	6000	ASTM D-2170
Flash point (Cleveland open cup), °C	38	-	38	-	66	-	66	-	66	-	ASTM D-92
Distillation test: Distillate, volume percent of total distillate to 360°C:											
to 225°C	-	35	-	25	-	20	-	-	-	-	
to 260°C	30	75	10	70	5	55	-	40	-	15	
to 316°C	75	95	65	93	60	90	45	85	15	75	
Residue from distillation to 360°C, percent volume by difference	50	-	55	-	67	-	75	-	80	-	
Tests on residue from distillation:											
Viscosity at 60°C, Pa	30	120	30	120	30	120	30	120	30	120	
Ductility at 25°C, cm	100	-	100	-	100	-	100	-	100	-	ASTM D-113
Solubility in trichloroethylene, %	99.0	-	99.0	-	99.0	-	99.0	-	99.0	-	ASTM D-4
Water, %	-	0.2	-	0.2	-	0.2	-	0.2	-	0.2	ASTM D-95

Base Oil

Base oils are the most important component of lubricants in terms of volume, and in terms of weight, on average, they make up more than 95% of the formulation of a roller.

Most of the base oil consumed in the world today is obtained from crude oil refining

All lubricants consist of base oil. Typically, lubricants consist of 90% base oil and 10% additives.

Classification of Base oil GROUP I:

- **Base oil sn70**

  Base oil sn70 is light base oil and is derived from the further processing of vacuum distillates of specific crude oil fractions.

- **Base oil sn 100**

  SN100 is a base oil that is derived from the further processing of vacuum distillates of specific crude oil fractions.

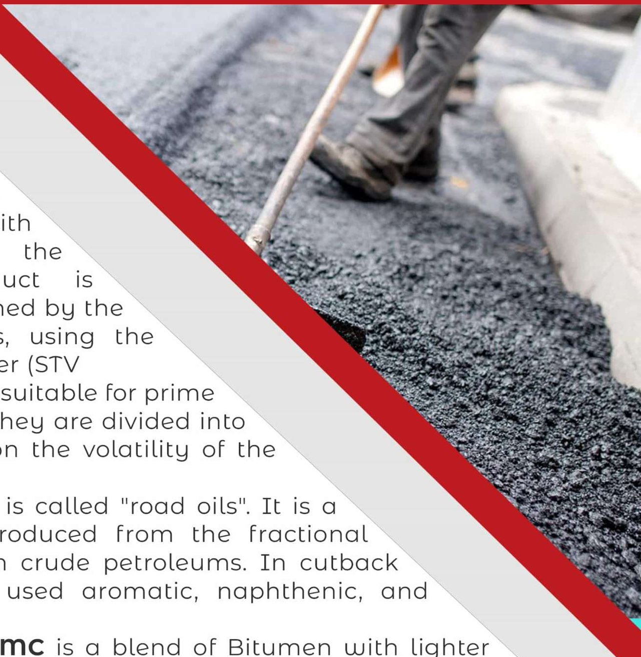
- **Base oil sn 150**

Oxidized Bitumen

Oxidized bitumen produced by vacuum bottom aeration having low penetration and a high softening point is mainly used for industrial purposes such as roof insulation, pipe coating, industrial mastics, etc

These types of bitumen are categorized and coded according to the softening point and penetration degree, like, 85/40 bitumen which is an oxidized bitumen that has a softening point of 85±5 oC and a penetration degree of 40±5 mm

Index	Standard	Oxidized Bitumen Grade					
		75/30	85/25	85/40	95/25	105/35	115/15
Softening Point Temperature (C)	ASTM D36	75±5	85±5	85±5	95±5	105+5	115±5
Penetration at 25 C (dmm)	ASTM D5	30±5	25±5	40+5	25±5	35±5	15±5
Thermal Loss Percentage	ASTM D1754	0.2	0.2	0.2	0.2	0.2	0.5
Solubility in trichloroethylene	ASTM D2042	99.5	99.5	99.5	99.5	99.5	99.5



Cutback bitumen is produced by mixing 70/100 or 220/160 Penn grade bitumen with kerosene to adjust the viscosity. This product is determined and designed by the flow time in seconds, using the Standard Tar Viscometer (STV

This type of bitumen is suitable for prime coats and tack coats. they are divided into three groups based on the volatility of the solvent added

- **Slow Curing or SC** is called "road oils". It is a residual material produced from the fractional distillation of certain crude petroleums. In cutback bitumen has been used aromatic, naphthenic, and paraffinic oils
- **Medium Curing or MC** is a blend of Bitumen with lighter hydrocarbons like kerosene. This kind of bitumen is used to cover areas with moderate weather conditions
- **Rapid Curing or RC** products are prepared with a light, rapidly evaporating diluent like naphtha or gasoline. RC is used for asphalting cold areas. RC bitumen is a mixture of bitumen and naphtha (gasoline

Grand Petroleum is able to provide all customers with the requested grades of cutback bitumen in different packings

- **Base oil sn 500**

  Base Oil sn500 base stocks less than 90 % saturates and more than 0.03% sulfur.

  This grade has more than or equal to 80 and less than 120 viscosity index. it is used in the manufacturing of many lubricants oil.

  SN500 is used in different other oils such as engine oil, motor oil, hydraulic oil, gear oil, etc.

- **Base oil SN 600**

  Base oil SN 600 is a kind of base oil at the upper end of the specifications for Grade I base oils. SN 600 has undergone solvent refining and dewaxing processes.

in addition to the above grades, **Grand Petroleum**

Base oil sn 150 is the result of solvent extraction and waxing processes. This grade is used as one of the best groups I base oils in the formulation of gasoline and diesel engine oils, industrial lubricants, greases, and special products.

- **Base oil sn 300**

Base oil sn 300 is a light-grade base oil and is used in lubricant additives production such as mold oil, transmission fluids, gear oils, metal working fluids, hydraulic oils, and transformer oils.

provides customers around the world with the highest quality of all Base Oil grades.

Fuel Oil

Fuel oil is one of the petroleum hydrocarbons that is obtained during the refining process of crude oil after ether, gasoline, and lamp oil. Some fuel oils include heavy fuel oil, marine fuel oil (MFO), bunker fuel, furnace oil, gas oil, heating oils, diesel fuel, and others

Types of fuel oil

- **Fuel oil CST 180 and 230**

Structure

These products are heavier cuts than petroleum gas. Their constituent compounds are mainly heavy hydrocarbons found in the residue of crude oil distillation, which, depending on the consumption, are adjusted to viscosity using light oil cuts and .are used as heavy fuel

Application

This product can be used as a fuel in stationary and mobile diesel and industries where the burner is designed for their combustion system

- **Fuel oil CST 280 and 380**

Structure

Fuel oil CST 280 and 380 are the products of heavy oil from the residue of distillation towers, which are adjusted and sold as fuel. The composition of the percentage of hydrocarbons gives a suitable heating value to the fuel and the amount of metals present does not cause problems in the consumer systems

Application

This fuel oil is suggested as a fuel in industries in their combustion system

- **fuel oil m100**

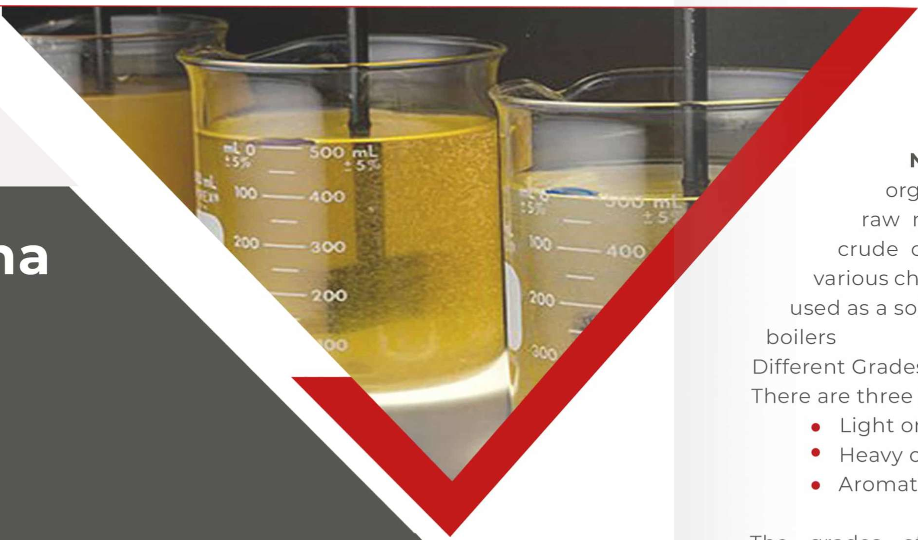
Structure

Mazut is a low-quality fuel oil that is heavy. This heavy fuel oil is used for heating homes. Although it is called “waste oil” heaters or “waste oil” furnaces, fuel oil m100 is the product of heavy oil from the residue of distillation towers, which is adjusted sold as fuel. The composition of the percentage of hydrocarbons gives a suitable heating value to the fuel and the amount of metals present does not cause problems in the consumer systems

Application

Almost Heavy fuel oil m100 is suggested as a fuel in industries in their combustion system

Fuel oil	180	230	280	380
Viscosity kinematic @ 50 ° C (max)	180	230	280	380
Pour point (max) ° C	5.0	15.0	24	32
Flash point (min) ° C	63	63	65	65
SulphurTotal (max)%mass	3.0	3.0	3.5	3.5
Carbon Residue Conradson (max)%mass	13	13	15	20
Ash (max) %mass	0.05	0.05	0.15	0.15
Water & sediment (max) % vol	0.5	0.5	1.0	1.0
Colorific value higher (min) MJ/kg	42.2	42.2	41.7	41.7



Naphtha

Naphtha is a liquid hydrocarbon that belongs to a class of organic compounds known as petroleum distillates. It is a crucial raw material in the petrochemical industry and is derived from crude oil. Naphtha is primarily used as a feedstock for producing various chemicals, including ethylene, propylene, and butadiene. It is also used as a solvent, a gasoline additive, and a fuel for industrial furnaces and boilers

Different Grades of Naphtha

There are three primary grades of naphtha, which are:

- Light or Paraffinic Naphtha
- Heavy or Naphthenic Naphtha
- Aromatic Naphtha

The grades of naphtha are distinguished based on their chemical .composition, which affects their properties and applications

Grand Your Ultimate Solution for Top-Quality Naphtha Needs

At Grand Petroleum, we pride ourselves on maintaining the highest quality standards throughout our export process. We have implemented comprehensive quality control measures to deliver only the best naphtha to our clients

We have perfected our capabilities to deliver the best quality naphtha that meets your requirements. Our product range is diverse and can be customized to fit the unique demands of our clients

Paraffin wax is a white or colorless soft solid that can be derived from crude oil It is made by dewaxing base oil from which a feedstock is obtained for paraffin production. This feedstock is then further processed to obtain commercial paraffin wax. Paraffin wax is used in various industries, including

.candle-making, pharmaceuticals, cosmetics, and food packaging
Paraffin wax is a widely used material with several grades, each with unique properties and applications. The most common grades of paraffin are

- **Fully refined paraffin** - this is the purest form of paraffin wax, with a melting point between 130-140°F. It is commonly used in candles, food .packaging, and cosmetic products
- **Semi-refined paraffin** - this grade of paraffin contains fewer oil and impurities and has a melting point between 120-140°F. It is often used for industrial purposes, such as making adhesives, lubricants, and

.

At **Grand Petroleum**, we're experts in exporting only the highest quality Paraffin Wax directly from the source. Whether you're an importer, trader, or final user, we're the go-to solution for all your paraffin wax needs

.

Semi-Refined Paraffin Wax
Melting Point: 58-65 c
Oil Content: 3-5%
Delivery Time: 3 weeks
Contact us at "*commercial.e4@grandpetroleum.org*" today to learn more and start placing your order

Paraffin wax

Packing

DRUM

This method of packing is highly popular. Drum are made of cold rolled steel coated with rustproof black painting. The most popular barrel used in bitumen, is new steel drum 180kg. Each 20-foot container accommodate 110

New Steel Drum Specification 180 KG

Plate thickness (Body)	0.6 mm
Plate Thickness (Top & Bottom)	0.6 mm
LID Hole Position	Center
LID Hole Diameter	20 cm
Net Filling Capacity	182.5 ± 2.5 Kg
Empty Drum Weight	9.5 ± 0.2 Kg
Height	100 cm
Diameter	50 ± 2 cm
Color	Furnace Black

Flexi Tank

Flexi tank is a type of single/multilayer thick bag which is used for bitumen and liquid protechemical packing. This packing type shows good resistance to the pressure made by liquid on internal layer.
However, to carry bitumen by a flexitank, each flexi can hold 20 tons of bitumen per 20-foot container. Standard flexis are made of polyethylene and polypropylene with capacity of 14,000-24,000 liters.

Jumbo bag

Jumbo bag, also known as bitu-plast/bag or poly-bag/cube, is a large flexible multi-layer bag that is used to transport bulk materials like bitumen.
This is the cheapest, easiest and least wasted bitumen packing. Furthermore its inner lining is 100% consumble and outer lining is recyclable.
Each bag contains a ton of bitumen and each 20-foot container can hold 20 jumbo bags of bitumen.

Grand Petroleum Co. offers its products in different forms including bulk, barrels, poly bags (jumbo bag, flexi,..). Main part of our export is being done in bulk, through Bandar Abbas and Bandar Imam Khomeini respectively with the capacity of up to 8000 and 45000 MT