



LUBRICANTS FOR MINING INDUSTRY

Gazpromneft – Lubricants Ltd.

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LUBRICANTS

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LUBRICANTS

GAZPROMNEFT-LUBRICANTS LTD. IS A 100% SUBSIDIARY OF GAZPROM NEFT PJSC, SPECIALIZING IN THE MANUFACTURE AND SALE OF LUBRICANTS, GREASES, AND TECHNICAL FLUIDS.

4 REPRESENTATIVE OFFICES
IN RUSSIA, BELARUS, KAZAKHSTAN

4 PRODUCTION SITES

№ 17 IN THE WORLD



№ 1 IN RUSSIA*

>55 COUNTRIES —
GEOGRAPHY
OF EXPORT

550k TONS
OF OILS, GREASES, AND
TECHNICAL FLUIDS PER
YEAR

BUSINESS

- Production of synthetic and mineral base oils (I, II, III, and V API groups)
- Development and production of additive packages
- An international network of Service stations G-Energy Service
- The company's management system and production assets comply with international standards



ISO 9001



ISO 45001



ISO 14001

SCALE

- More than 150 distributors
- More than 1000 products
- 1st place in the Russian marine oil market**

* In terms of sales of packaged products in 2023.

** According to 2022 data.

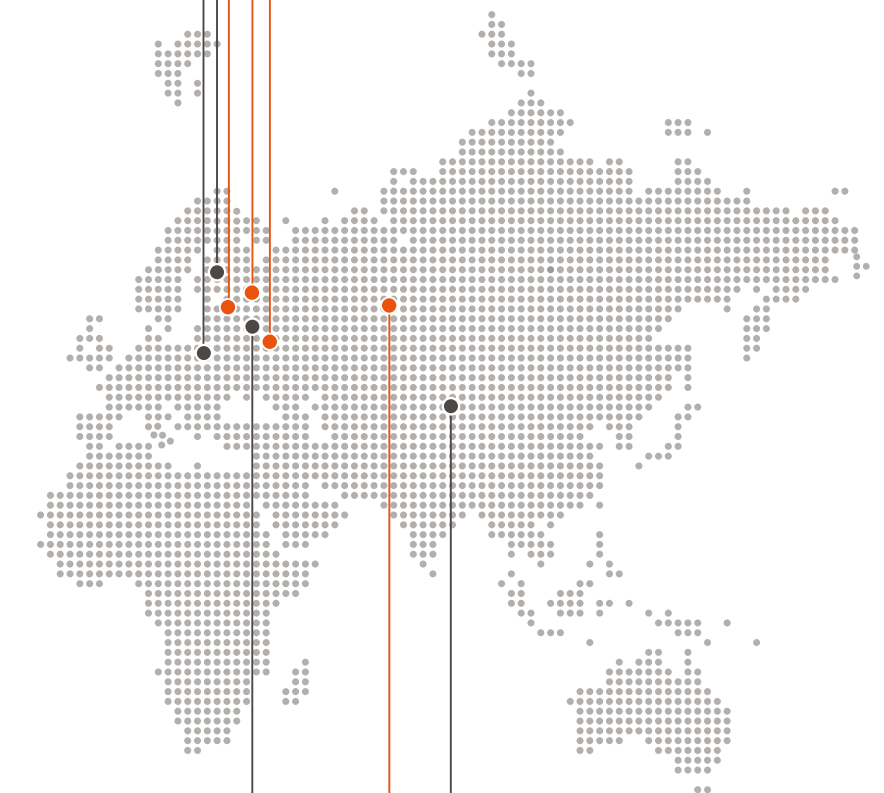
SAINT PETERSBURG

MINSK

YAROSLAVL

FRYAZINO

NIZHNIY NOVGOROD



ALMATY

OMSK

MOSCOW



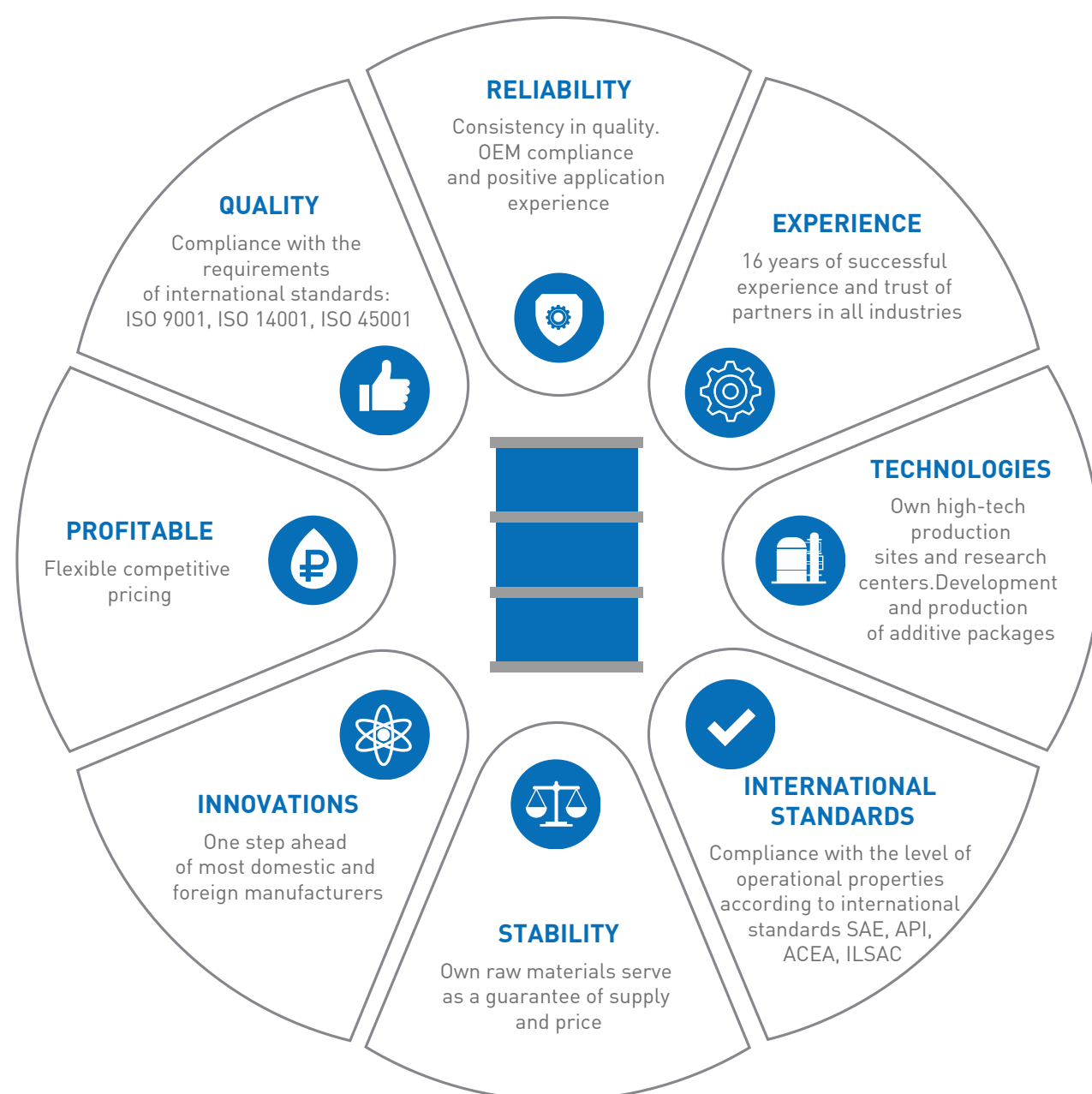
Production sites



Representative offices and branches

Gazpromneft-Lubricants Ltd. is a reliable partner that offers comprehensive solutions for various industries.

Benefits of working with the company



Company overview



G-PROFI ENGINE OIL

Lubricants and technical fluids of the G-Profi, G-Box, G-Truck, G-Special, and G-Energy brands have improved performance characteristics and exceed the main requirements of equipment manufacturers. They ensure the most efficient operation of equipment in difficult operating conditions.

Gazpromneft-Lubricants Ltd. is focused on developing and implementing of a range of specialized lubricants that meet global quality standards and the requirements of leading manufacturers of industrial equipment and machinery.

GAZPROMNEFT ENGINE OIL

Gazpromneft oils, plastic lubricants, and technical fluids meet all requirements for modern lubricants. They ensure the reliable operation of equipment.

This catalogue presents a series of motor, transmission, hydraulic, gear, compressor, and other oils, lubricants, and technical fluids intended for use in mining industry enterprises.

Key partners



Engine oil specifications

G-Profi oils according to International specifications

Specifications		G-Profi GTS		G-Profi GT		G-Profi GT LA	G-Profi MSK				G-Profi FLI	G-Profi MSI Plus	G-Profi MSI			G-Profi MSH	
SAE Viscosity Grade		5W-30	10W-40	5W-30	10W-40	10W-40	5W-30	5W-40	10W-30	15W-40	15W-40	15W-40	5W-40	10W-30	10W-40	10W-40	15W-40
ACEA	E4	✓	✓	✓	✓	✓					✓						
	E6					✓	✓										
	E7	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	E9					✓	✓	✓	✓	✓							
API	CH-4															✓	✓
	CI-4	✓	✓	✓	✓						✓	✓	✓	✓	✓		
	CJ-4					✓	✓	✓	✓	✓							
	CK-4					✓	✓	✓	✓	✓							
	SG																
	SL											✓	✓		✓	✓	✓
	SN						✓	✓									
Global	DHD-1	✓	✓	✓	✓						✓	✓	✓	✓	✓		
JASO	DH-1	✓	✓	✓	✓						✓	✓		✓			
	DH-2					✓	✓	✓	✓								
Allison	TES-439									✓							

Engine oil specifications

G-Profi oils are produced according to Original Equipment Manufacturers (OEM) specifications.

Specifications		G-Profi GTS		G-Profi GT		G-Profi GT LA	G-Profi MSK				G-Profi FLI	G-Profi MSI Plus	G-Profi MSI			G-Profi MSH	
SAE Viscosity Grade		5W-30	10W-40	5W-30	10W-40	10W-40	5W-30	5W-40	10W-30	15W-40	15W-40	15W-40	5W-40	10W-30	10W-40	10W-40	15W-40
Caterpillar	ECF-1a					✓						✓		✓	✓	✓	✓
	ECF-2					✓		✓	✓	✓	✓	✓		✓	✓	✓	✓
	ECF-3							✓	✓	✓							
Cummins	CES 20076/77	✓	✓	✓	✓						✓	✓		✓	✓	✓	✓
	CES 20078	✓	✓	✓	✓	✓					✓	✓		✓	✓		
	CES 20081					✓		✓	✓	✓							
	CES 20086					✓	✓	✓	✓	✓							
Deutz	DQC II															✓	✓
	DQC III										✓	✓		✓	✓		
	DQC III-LA							✓	✓	✓							
	DQC IV	✓	✓	✓	✓												
MTU	DQC IV-LA		✓			✓											
	Cat. 2											✓		✓	✓	✓	✓
	Cat. 2.1					✓		✓	✓	✓							
	Cat. 3	✓	✓	✓	✓	✓					✓						
Komatsu	Cat. 3.1					✓											
				✓	✓							✓		✓	✓	✓	✓
Volvo	VDS-2															✓	✓
	VDS-3	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓		
	VDS-4																
	VDS-4.5					✓	✓	✓	✓	✓							
MACK	EO-M Plus														✓	✓	✓
	EO-N	✓	✓	✓	✓	✓					✓	✓		✓	✓		
	EO-O PP																
	EOS-4.5					✓	✓	✓	✓	✓							
MAN	M 3275					✓						✓	✓	✓	✓	✓	✓
	M 3277	✓	✓	✓	✓												
	M 3377			✓	✓												
	M 3477					✓											
	M 3575							✓	✓	✓							
	M 3677							✓									
MB	M 3775							✓	✓	✓							
	228.3											✓	✓	✓	✓	✓	✓
	228.31					✓											
	228.5	✓	✓	✓	✓						✓						
Renault Trucks	228.51					✓	✓										
	RLD-2	✓	✓	✓	✓	✓	✓				✓	✓		✓	✓		
Scania	RLD-3					✓	✓	✓	✓	✓							
	LDF 3	✓	✓			✓											
	LDF 4						✓										
JSC	Low Ash					✓											
	Avtodizel (YAMZ)			✓	✓	✓						✓	✓		✓	✓	✓
	KAMAZ											✓			✓	✓	✓
JSC	TMZ			✓	✓	✓						✓			✓	✓	✓

The Gazpromneft oils meet both international and OEM specifications.

Specifications		Gazpromneft Diesel Ultra			Diesel Ultra Plus	Diesel Ultra LA	Diesel Ultra CS	Gazpromneft Diesel Premium				Gazpromneft Diesel Prioritet				Gazpromneft Diesel Extra			Gazpromneft Turbo Universal		
SAE Viscosity Grade		5W-30	10W-40	15W-40	10W-40	10W-40	10W-40	5W-40	10W-30	10W-40	15W-40	10W-30	10W-40	15W-40	20W-50	10W-40	15W-40	20W-50	40, 50	15W-40	20W-50
ACEA	E7	✓	✓	✓		✓	✓	✓	✓	✓	✓										
	E4	✓	✓	✓	✓																
	E6					✓															
	E9					✓	✓														
API	CD																				✓
	CF																		✓		
	CF-4															✓			✓		
	CH-4															✓					
	CI-4	✓	✓	✓	✓	✓		✓	✓	✓	✓										
	CJ-4							✓													
	CK-4							✓													
	SG																✓				
	SJ																✓				
	SL							✓	✓	✓	✓										
	SN							✓													
Caterpillar	ECF-1a							✓	✓	✓	✓										
	ECF-2							✓	✓	✓	✓										
	ECF-3							✓	✓	✓	✓										
Cummins	CES 20076	✓	✓	✓	✓	✓		✓	✓	✓	✓			✓							
	CES 20077	✓	✓	✓	✓	✓		✓	✓	✓	✓										
	CES 20078	✓	✓	✓	✓	✓		✓	✓	✓	✓										
	CES 20081							✓													
	CES 20086							✓													
Deutz	DQC III							✓	✓	✓	✓										
	DQC IV	✓	✓																		
	DQC-III LA							✓													
	DQC-IV LA					✓															
Global	DHD-1	✓	✓	✓	✓			✓	✓	✓	✓										
JASO	DH-1	✓	✓	✓	✓			✓	✓	✓	✓										
	DH-2							✓													
MACK	EO-M Plus									✓	✓	✓	✓								
	EO-N	✓	✓	✓	✓	✓		✓	✓	✓	✓										
	EOS-4.5							✓													
MAN	M 3275							✓	✓	✓	✓			✓							
	M 3277	✓	✓		✓																
	M 3477					✓															
	M 3575							✓													
	M 3775							✓													
MB	228.3							✓			✓		✓								
	228.31							✓													
	228.5	✓	✓		✓																
	228.51					✓															
MTU	Cat. 2									✓	✓	✓	✓		✓						
	Cat. 2.1							✓													
	Cat. 3	✓	✓	✓	✓																
	Cat. 3.1					✓															
Renault Trucks	RLD-2	✓	✓	✓	✓	✓		✓	✓	✓	✓										
	RLD-3							✓													
Scania	LDF-3	✓	✓																		
Volvo	VDS-3	✓	✓	✓	✓	✓		✓	✓	✓	✓										
	VDS-4.5							✓													
JSC Avtodizel (YAMZ)		✓	✓		✓	✓	✓	✓	✓	✓	✓		✓			✓				✓	
JSC KAMAZ		✓	✓		✓	✓		✓	✓	✓	✓		✓			✓					
JSC TMZ								✓	✓	✓	✓		✓			✓				✓	

Specifications valid through 2024. See www.gazpromneft-oil.com for actual specifications/approvals and detailed information.

Conditions and environment specific to engines operating in a quarry

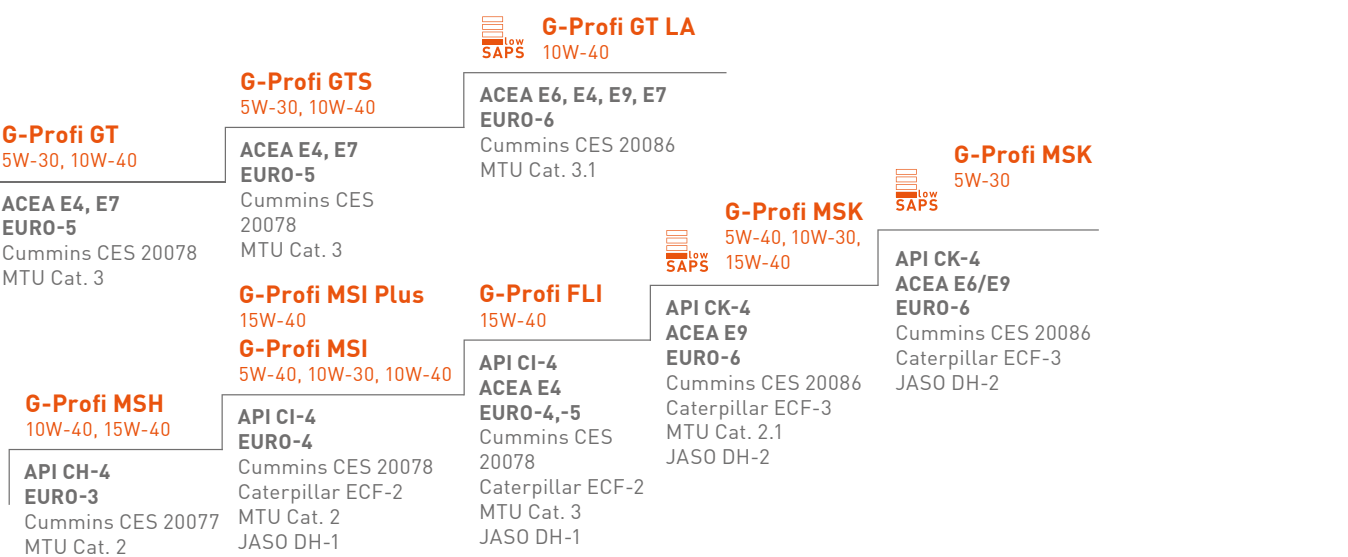
Mineral extraction and transportation equipment is exposed to specific adverse operating conditions. Dust, air humidity, substantial daily temperature fluctuations, extreme loads, and inconsistent fuel quality are regular quarrying conditions.

Equipment manufacturers strive to provide a sufficient margin of engine reliability, but poor-quality lubricants can easily destroy even the most robust engines. That may result in costly downtime. To cope with harsh quarrying environments and conditions, we developed a series of engine oils with properties that comply with the demands of key OEMs and significantly exceed them. This quality margin compensates for the high levels of contamination and temperature extremes in real life operating conditions.

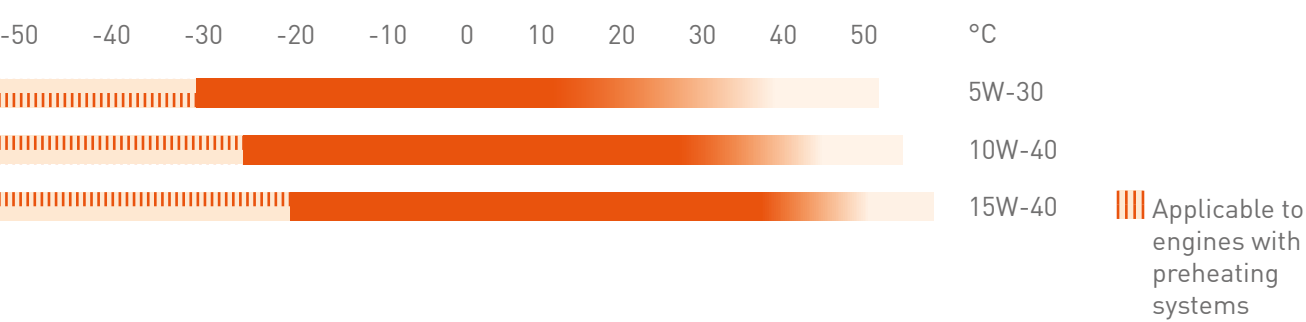
The described quality margin provides the G-Profi and Gazpromneft engine oil series. Alkalinity surplus and advanced detergent additive packages eliminate sludge-related problems even if inconsistent fuel quality has been permitted. Reinforced dispersancy controls wear-inducing soot particles and moves them to the oil filter. Effective antioxidant additives provide sufficient oil properties during the entire drain interval and additional sludge control if extended drains are prescribed.



4.1. Product range and classification of G-Profi engine oils



Application of engine oils depending on viscosity grade



Specifications valid through 2024. See g-energy.org for actual specifications/approvals and detailed information.

G-Profi engine oils

Name, SAE Viscosity Grade	Aftertreatment compatibility		Gas engine applica- bility	Antiwear protection	Anticorro- sion protection	Sludge control	High-Sul- phur fuel compati- bility	Soot control	Fuel economy
	EGR + SCR	DPF							
G-Profi GTS									
5W-30	✓			■■■	■■■	■■■	■■■■	■■■	✓
10W-40	✓			■■■	■■■	■■■	■■■■	■■■	
G-Profi GT									
5W-30	✓			■■■	■■■	■■■	■■■ ■	■■■	
10W-40	✓			■■■	■■■	■■■	■■■ ■	■■■	
G-Profi FLI									
15W-40	✓			■■■	■■■	■■■	■■■■	■■■	
G-Profi MSI Plus									
15W-40	✓			■■■	■■■	■■ ■	■■■ ■	■■■	
G-Profi MSI									
5W-40, 10W-30, 10W-40	✓			■■ ■	■■ ■	■■ ■	■■ ■ ■	■■ ■	
G-Profi MSH									
10W-40, 15W-40				■■ ■	■■ ■	■■ ■	■ ■ ■ ■	■■ ■	
G-Profi MSK									
5W-30, 10W-30	✓	✓	✓	■■■	■■■	■■■■	■ ■ ■ ■	■■■	✓
5W-40, 15W-40	✓	✓	✓	■■■	■■■	■■■■	■ ■ ■ ■	■■■	
G-Profi GT LA									
10W-40	✓	✓	✓	■■ ■	■■■	■■■	■ ■ ■ ■	■■ ■	

* Fuel economy compared to xxW-40 viscosity grade oils.



G-Profi FLI 15W-40

All-season synthetic motor oil of the UHPD class (Ultra High Performance Diesel) with an extended replacement interval. Meets the requirements of API CI-4 and ACEA E4/E7 categories. Designed to achieve maximum efficiency from the specialized equipment's engine.

SPECIFICATIONS:

ACEA E4; ACEA E7; API CI-4; Caterpillar ECF-2; Cummins CES 20078; Deutz DQC III-18; Global DHD-1; JASO DH-1; MACK EO-N; MB 228.5; MTU Cat. 3; Renault Trucks RLD-2; Volvo VDS-3.



G-Profi MSI Plus 15W-40

SHPD (Super High Performance Diesel) category oil for application in heavy-duty diesel engines of cargo vehicles, quarrying, and special machinery. Enhanced detergent properties provide excellent soot control property at any ambient temperature.

SPECIFICATIONS:

ACEA E7; API CI-4; API SL; Caterpillar ECF-1a; Caterpillar ECF-2; Cummins CES 20076; Cummins CES 20077; Cummins CES 20078; Detroit Diesel DDC 93K215; Deutz DQC III-18; Global DHD-1; JASO DH-1; Komatsu; MACK EO-N; MAN M 3275-1; MB 228.3; MTU Cat. 2; Renault Trucks RLD-2; Volvo VDS-3; JSC Avtodizel (YAMZ); JSC Kamaz; JSC TMZ.

Advantages of G-Profi MSI Plus 15W-40

	High oxidation stability	Retains oil properties till the end of drain interval — extends oil life, reduces expenses.
	Excellent dispersancy/detergency properties	Eliminates deposits and sludge on the parts and surfaces of the engine — reduces engine downtime and repair expenses.
	High TBN	Protects engine elements and oil against combustion by-products — prolongs life cycle of the engine.
	Soot control	Lessens engine oil thickening due to soot contamination — maintains optimal oil pressure.
	Viscosity stability at high temperatures	Provides reliable lubrication at any operational mode of the engine — reduces the number of unplanned downtimes.
	Good corrosion inhibition properties	Protects engine parts against corrosion — saves budget on spare parts.
	Confirmed high degree of engine protection during field trials in mining dump truck engines.	



G-Profi GTS 5W-30

Synthetic fuel saving engine oil is used for the most advanced dump truck, quarrying, and special machinery, such as diesel engines without DPF particle filters (up to and including Euro 5), operating in a wide ambient temperature range. The oil formula consists of synthetic base stock components, including top performance Group IV (PAO). Provides high detergent properties and enhanced alkalinity for long-lasting acid neutralization.

SPECIFICATIONS:

ACEA E4; ACEA E7; API CI-4; Cummins CES 20078; DAF Extended Drain; Deutz DQC IV-18; Global DHD-1; Iveco 18-1804 TFE; JASO DH-1; MACK EO-N; MAN M 3277; MB 228.5; MTU Cat. 3; Renault Trucks RLD; Renault Trucks RLD-2; Voith Retarder Oil Class A; Volvo VDS-3.

Formulation approved according to Scania LDF 3.



G-Profi GTS 10W-40

Synthetic engine oil is used for the most advanced dump trucks, quarrying, and special machinery, such as diesel engines without DPF particle filters (up to and including Euro 5), operating in a wide ambient temperature range. Provides high detergency potential and enhanced alkalinity for long-lasting acid neutralization.

SPECIFICATIONS:

ACEA E4; ACEA E7; API CI-4; Cummins CES 20078; DAF Extended Drain; Deutz DQC IV-18; Global DHD-1; JASO DH-1; MACK EO-N; MAN M 3277; MB 228.5; MTU Cat. 3; Renault Trucks RLD; Renault Trucks RLD-2; Volvo VDS-3.

Formulation approved according to Scania LDF 3



G-Profi GT 5W-30, 10W-40

Synthetic engine oil is used for the most advanced dump trucks, quarrying, and special machinery, such as diesel engines without DPF particle filters (up to and including Euro 5), operating in a wide ambient temperature range. Has increased resistance to oxidation.

SPECIFICATIONS:

ACEA E4; ACEA E7; API CI-4; Caterpillar ECF-2; Cummins CES 20078; Deutz DQC IV-18; Global DHD-1; Iveco 18-1804 TFE; JASO DH-1; MACK EO-N; MAN M 3277; MB 228.5; MTU Cat. 3; Renault Trucks RLD-2; Scania LDF 3; Volvo VDS-3.

Formulation approved according to Scania LDF 3



G-Profi GT LA 10W-40

Synthetic engine oil is used for the most advanced dump trucks, quarrying, and special machinery, such as diesel engines (emission category Euro 5 and 6), operating in a wide ambient temperature range. Due to low ash content (Low-SAPS) compatible to all exhaust gas aftertreatment devices. Applicable for some gas engines.

SPECIFICATIONS:

ACEA E4, E6, E7, E9; API CJ-4; API CK-4; Caterpillar ECF-3; Cummins CES 20081/86; DAF Extended Drain; Detroit Diesel DDC 93K222; Deutz DQC IV-18 LA; JASO DH-2; MACK EO-O PP; MACK EOS-4.5; MAN M 3271-1; MAN M 3477; MAN M 3775; MB 228.31; MB 228.51; MB 228.52; MTU Cat. 2.1; MTU Cat. 3.1; Renault Trucks RLD-3; Volvo VDS-4; Volvo VDS-4.5.

Formulation approved according to Scania Low Ash



G-Profi MSK 5W-30, 5W-40, 10W-30, 15W-40

Synthetic (SAE 5W-30, 5W-40, 15W-40) and based on synthetic technologies (SAE 10W-30) motor oils for the most advanced dump trucks, quarrying, and special machinery diesel engines (Euro-5, -6 environmental class). Due to its low ash content (low-SAPS), it is compatible with all exhaust gas aftertreatment systems. It can also be used in some gas engines.

5W-30 SPECIFICATIONS:

ACEA E6; ACEA E9; API CK-4; API SN; Caterpillar ECF-3; Cummins CES 20086; Detroit Diesel DDC 93K222; JASO DH-2; MACK EOS-4.5; MAN M 3677; MB 228.51; Renault Trucks RLD-3; Volvo VDS-4.5.

Formulation approved according to Scania LDF 4.

5W-40 SPECIFICATIONS:

ACEA E7; ACEA E9; API CJ-4; API CK-4; API SN; Caterpillar ECF-2; Caterpillar ECF-3; Cummins CES 20081; Cummins CES 20086; Detroit Diesel DDC 93K218; Deutz DQC III-18 LA; Ford WSS-M2C171-F1; JASO DH-2; MACK EO-N; MACK EO-O PP; MACK EOS-4.5; MAN M3775; MB 228.31; MTU Cat. 2.1; Renault Trucks RLD-2; Renault Trucks RLD-3; Volvo VDS-3; Volvo VDS-4; Volvo VDS-4.5.

10W-30 SPECIFICATIONS:

ACEA E7; ACEA E9; API CJ-4; API CK-4; Caterpillar ECF-2/3; Cummins CES 20081/86; Detroit Diesel DDC 93K218; Detroit Diesel DDC 93K222; Deutz DQC III-18 LA; Ford WSS-M2C171-F1; JASO DH-2; MACK EO-O PP; MACK EOS-4.5; MAN M 3271-1; MAN M 3575; MAN M 3775; MB 228.31; MTU Cat. 2.1; Renault Trucks RLD-3; Volvo VDS-4; Volvo VDS-4.5.

15W-40 SPECIFICATIONS:

ACEA E7; ACEA E9; Allison TES-439; API CJ-4; API CK-4; Caterpillar ECF-2; Caterpillar ECF-3; Cummins CES 20081; Cummins CES 20086; Detroit Diesel DDC 93K218; Detroit Diesel DDC 93K222; Deutz DQC III-LA; Ford WSS-M2C171-F1; JASO DH-2; MACK EO-O PP; MACK EOS-4.5; MAN M 3575; MAN M 3775; MB 228.31; MTU Cat. 2.1; Renault Trucks RLD-3; Volvo VDS-4; Volvo VDS-4.5.



Gazpromneft Diesel Ultra

Series of synthetic engine oils with enhanced acid neutralizing properties for the most advanced turbocharged

Diesel engines are made by European or American manufacturers and comply with Euro 5 exhaust gas requirements (without DPF). It is intended for a wide range of ambient temperature applications.

SAE Viscosity Grades:
5W-30, 10W-40, 15W-40.

**5W-30
10W-40**

SPECIFICATIONS:
ACEA E4, E7; API CI-4; Cummins CES 20078; Deutz DQC IV-18; Global DHD-1; Iveco 18-1804 TFE (SAE 10W-40); JASO DH-1; MACK EO-N; MAN M 3277; MB 228.5; MTU Cat. 3; Renault Trucks RLD-2; Volvo VDS-3; JSC Avtodizel (YAMZ); JSC Kamaz.

Formulation approved according to Scania LDF 3.

15W-40

SPECIFICATIONS:
ACEA E4, E7; API CI-4; Cummins CES 20078; Detroit Diesel DDC 93K215; Global DHD-1; JASO DH-1; MACK EO-N; MTU Cat. 3; Renault Trucks RLD-2; Volvo VDS-3.



Gazpromneft Diesel Ultra Plus

Synthetic technology-based motor oil. The use of synthetic base components in combination with improved neutralizing properties allows for maintaining the oil's performance characteristics over a longer interval than ACEA E7 category oils. Meets the ACEA E4/E7 performance class and can be used in European equipment of the environmental class up to and including Euro-5 (without DPF). It is intended for a wide range of ambient temperature applications.

SAE Viscosity Grades: 10W-40.

10W-40

SPECIFICATIONS:
ACEA E4, E7; API CI-4; Cummins CES 20078; Detroit Diesel DDC 93K215; Global DHD-1; JASO DH-1; MACK EO-N; MAN M 3277; MB 228.5; MTU Cat. 3; Renault Trucks RLD-2; Volvo VDS-3; ZF TE-ML 03A, 05K, 07D, 21K.



Gazpromneft Diesel Ultra LA

Universal fully synthetic motor oil was developed using Low SAPS technology to provide maximum protection for exhaust gas neutralization systems, including diesel particulate filters (DPF). Belongs to the UHPD (Ultra High Performance Diesel) class and is intended for highly accelerated turbocharged diesel engines of European and other manufacturers of the Euro-5, -6 environmental class. It is intended for a wide range of ambient temperature applications.

SAE Viscosity Grades: 10W-40.

10W-40

SPECIFICATIONS:
ACEA E6, E7, E9; API CI-4; Cummins CES 20076/77; Deutz DQC IV-18 LA; JASO DH-2; MACK EO-N; MAN M 3271-1; MAN M 3477; MB 228.51; MTU Cat. 3.1; Renault Trucks RLD-2; Volvo VDS-3; JSC Avtodizel (YAMZ); JSC Kamaz.



Gazpromneft Diesel Ultra CS

Motor oil developed specifically for use in modern diesel engines by American, European, and Asian manufacturers operating under severe operating conditions. It is used in engines of environmental class up to Euro-5 and Euro-6 inclusive and is compatible with exhaust gas cleaning systems, including the DPF diesel particulate filter. It has high oxidation stability in accordance with the requirements of the API CK-4 standard. It surpasses API CJ-4 standard oils and replaces them. It is intended for a wide range of ambient temperature applications.

SAE Viscosity Grades: 10W-40.

10W-40

SPECIFICATIONS:
ACEA E7, E9; Allison TES-439; API CK-4, SN; Caterpillar ECF-2/3; Cummins CES 20081/86; Detroit Diesel DDC 93K222; Deutz DQC III-18 LA; JASO DH-2; MACK EOS-4.5; MAN M 3575; MAN M 3775; MB 228.31; MTU Cat. 2.1; New Holland CNH MAT 3571; Renault Trucks RLD-3; Volvo VDS-4.5; JSC Avtodizel (YAMZ).



Gazpromneft Diesel Premium

A series of universal semi-synthetic (5W-40, 10W-30; 10W-40) and mineral (15W-40) engine oils for dump trucks, quarrying, and special machinery heavy-duty diesel engines according to exhaust gas control requirements up to and including Euro 4 Oils are formulated to obtain good detergent/dispersant properties and high alkali content and is applicable in a wide range of ambient temperatures.

SAE Viscosity Grades:
5W-40, 10W-30, 10W-40, 15W-40.

5W-40

SPECIFICATIONS:
ACEA E7; API CI-4/SL; Caterpillar ECF-1a/ECF-2; Cummins CES 20076/78; Deutz DQC III-18; Global DHD-1; JASO DH-1; MACK EO-M Plus; MACK EO-N; MAN M 3275-1; MB 228.3; MTU Cat. 2; Renault Trucks RLD/RLD-2; Volvo VDS-3; JSC Avtodizel (YAMZ); JSC Kamaz; JSC TMZ.

10W-30

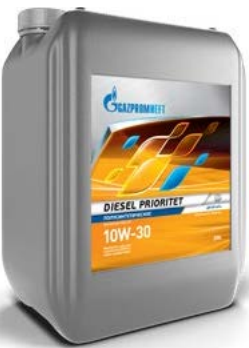
SPECIFICATIONS:
ACEA E7; API CI-4/SL; Caterpillar ECF-2; Cummins CES 20076/77/78; Deutz DQC III-18; Global DHD-1; JASO DH-1; MACK EO-M Plus; MACK EO-N; MAN M 3275-1; MTU Cat. 2; Renault Trucks RLD-2; Volvo VDS-3; JJSC Avtodizel (YAMZ); JSC Kamaz; JSC TMZ.

10W-40

SPECIFICATIONS:
ACEA E7; API CI-4/SL; Caterpillar ECF-1a/ECF-2; Cummins CES 20076/77/78; Detroit Diesel DDC 93K215; Deutz DQC III-18; Global DHD-1; JASO DH-1; MACK EO-M Plus; MACK EO-N; MAN M 3275-1; MB 228.3; MTU Cat. 2; Renault Trucks RLD-2; Volvo VDS-3; JJSC Avtodizel (YAMZ); JSC TMZ.

15W-40

SPECIFICATIONS:
ACEA E7; API CI-4/SL; Caterpillar ECF-2; Cummins CES 20078; Deutz DQC III-18; JASO DH-1; MACK EO-N; MB 228.3; MTU Cat. 2; Renault Trucks RLD-2; Volvo VDS-3; JSC Avtodizel (YAMZ); JSC Kamaz.



Gazpromneft Diesel Prioritet

A series of universal semi-synthetic (10W-30; 10W-40) and mineral (15W-40; 20W-50) engine oils for dump trucks, quarrying, and special machinery heavy-duty diesel engines according to exhaust gas control requirements up to and including Euro 3. Oils are applicable in a wide range of ambient temperatures.

10W-30	SPECIFICATIONS: API CH-4/SJ; Cummins CES 20076; MAN M 3275-1; MTU Cat. 2; JSC Avtodizel (YAMZ); JSC Kamaz, JSC TMZ.
10W-40	
15W-40	SPECIFICATIONS: API CH-4/SJ; Cummins CES 20076/77; Deutz DQC II-18; MAN M 3275-1; MTU Cat. 2; Volvo VDS-2; JSC Avtodizel (YAMZ); JSC Kamaz.
20W-50	SPECIFICATIONS: API CH-4/SJ; Cummins CES 20076; MAN M 3275-1; MTU Cat. 2; JSC Avtodizel (YAMZ); JSC Kamaz; JSC TMZ.



Gazpromneft Diesel Extra

A series of universal semi-synthetic (10W-40) and mineral (20W-50, 40, 50) engine oils for dump trucks, quarrying, and special machinery heavy-duty diesel engines according to exhaust gas control requirements up to and including Euro 2 Oils are applicable in a different ranges of ambient temperatures.

10W-40	SPECIFICATIONS: API CF-4/SG; JSC Avtodizel (YAMZ); JSC Kamaz; JSC TMZ.
15W-40	
20W-50	
SAE 40	SPECIFICATIONS: API CF; API CF-4; MAN 270; MB 228.0.
SAE 50	

SAE Viscosity Grades:
10W-40, 15W-40,
20W-50, 40, 50.



Gazpromneft Turbo Universal

A series of engine oils designed specially for all season applications in diesel engines instead of oils with limited ambient temperature range properties: M-8DM, M-10DM, M-10G2K, M-10G2, M-8G2K, M-8G2.

15W-40	SPECIFICATIONS: API CD; JSC Avtodizel (YAMZ); JSC TMZ.
20W-50	

SAE Viscosity Grades:
15W-40, 20W-50.

4.3. Classification of engine oils

API classification of heavy-duty diesel engine oils

CK-4	Introduced in 2016. These oils are based on the API CJ-4 standard with improved antioxidant properties, shear stability, and deaeration properties. The motor oil meets all modern environmental standards and is compatible with diesel particulate filters (DPF).
CJ-4	Introduced in 2006. These oils are formulated for all applications with diesel fuels ranging in sulfur content up to 500 ppm (0.05% by weight). It is especially effective at sustaining emission control system durability where particulate filters (DPF) and other advanced aftertreatment systems are used. Designed to provide enhanced protection against oil oxidation, viscosity loss due to shear, and oil aeration as well as protection against catalyst poisoning, particulate filter blocking, engine wear, piston deposits, degradation of low- and high-temperature properties, and soot-related viscosity increase.
CI-4	Introduced in 2002. For modern heavy-duty diesel engines designed to meet 2004 exhaust emission standards. CI-4 oils are formulated to sustain engine durability where exhaust gas recirculation (EGR) is used and are intended for use with diesel fuels ranging in sulfur content up to 0.5% by weight. High oxidation stability, dispersancy, and antiwear properties provide good soot control.
CH-4	Introduced in 1998. For high-speed diesel engines designed to meet 1998 exhaust emission standards. Provides high protection against corrosion and engine wear and good oxidation stability of the oil. CH-4 oils are specifically compounded for use with diesel fuels ranging in sulfur content up to 0.5% by weight.
CG-4	Introduced in 1994. Developed for heavy-duty on-highway and off-road diesel engines. Introduced to meet exhaust gas control requirements according to USA's 1994 legislation.
CF-4	Introduced in 1990. Developed for high-speed diesel engines. Designed to provide enhanced control over piston deposits and minimize oil consumption through burning.
CD	Introduced in 1955. This oil category is obsolete. Developed for older naturally aspirated and turbo charged diesel engines. Compared to earlier categories of this classification it sets higher piston deposit formation and antiwear requirements. It is not suitable for engines manufactured after 1994

Comparison of specifications

- CK-4 ● CJ-4 ● CI-4 ● CH-4 ● CG-4 ● CF-4 ● CD

① Protection against bore polishing

② DPF compatibility

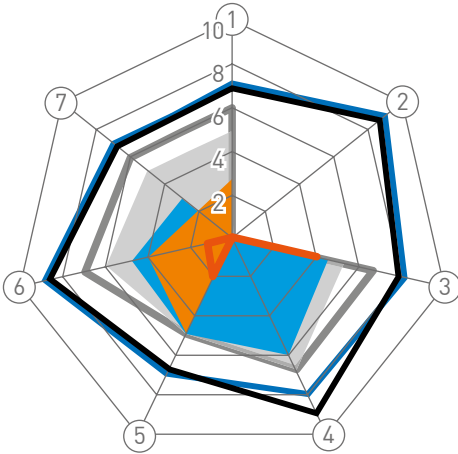
③ Anticorrosion protection

④ Oxidation stability and thickening inhibition

⑤ Prevention of high-temperature deposits

⑥ Soot control

⑦ Antiwear properties



Engine oil specifications: Cummins engines

CES 20086	Category developed for highly rated diesel engines equipped with exhaust gas recirculation system (EGR). Compatible with diesel particle filters (DPF). Developed on the basis of API CK-4 with addition of Cummins specific tests.
CES 20081	Category developed for highly rated diesel engines equipped with exhaust gas recirculation system (EGR). Compatible with diesel particle filters (DPF). Developed on the basis of API CJ-4 with addition of Cummins specific tests.
CES 20078	Category developed for highly rated diesel engines equipped with exhaust gas recirculation system (EGR). Developed on the basis of API CI-4 with addition of Cummins specific tests.
CES 20077	Category developed for highly rated diesel engines without exhaust gas recirculation system (EGR), operating in extreme conditions outside North America. Developed on the basis of ACEA E7 with addition of Cummins specific tests.
CES 20076	Category developed for highly rated diesel engines without exhaust gas recirculation system (EGR). Devel-oped on the basis of API CH-4 with addition of Cummins specific tests.

Comparison of specifications

- CES 20081 ● CES 20078 ● CES 20077 ● CES 20076
- ① Protection against bore polishing

② DPF compatibility

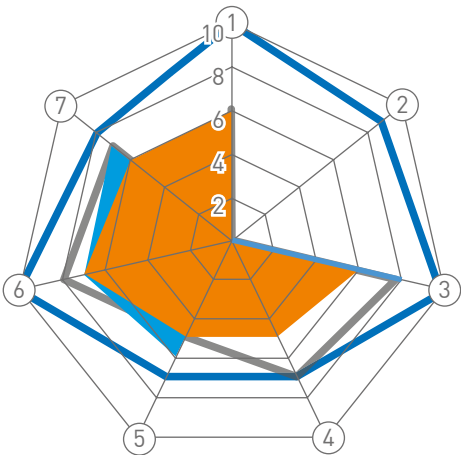
③ Anticorrosion protection

④ Oxidation stability and thickening inhibition

⑤ Prevention of high-temperature deposits

⑥ Soot control

⑦ Antiwear properties



According to The Lubrizol Corporation.

JASO classification of heavy-duty diesel engine oils

JASO DH-1	Heavy duty equipment diesel engine oil category for pump protection, anticorrosion protection, oxidation inhibition, and soot control. These oils are recommended for engines without diesel particle filter (DPF). High Sulphur fuels above 0.05% are admissible for engines lubricated by motor oils according to DH-1.
JASO DH-2	Heavy duty diesel oils for engines equipped with aftertreatment systems like diesel particle filters (DPF) and catalysts. Requirements to antiwear, sludge, anticorrosion, and soot control properties similar as set by JASO DH-1 oils.

ACEA classification of heavy-duty diesel engine oils

ACEA E6	Oil providing excellent control of piston cleanliness, wear, soot handling, and lubricant stability. It is recommended for highly rated diesel engines meeting up to Euro 6 emission requirements and running under very severe conditions, e.g. significantly extended oil drain intervals. It is suitable for engines with or without particulate filters, most EGR engines, and most engines fitted with SCR NOx reduction systems. E6 quality is strongly recommended for engines fitted with particulate filters and is designed for use in combination with low sulphur diesel fuel.
ACEA E9	Oil providing effective control with respect to piston cleanliness and bore polishing. It further provides excellent wear control, soot handling, and lubricant stability. It is recommended for highly rated diesel engines meeting up to Euro 6 emission requirements and running under severe conditions, e.g. extended oil drain intervals. It is suitable for engines with or without particulate filters, and for most EGR engines and for most engines fitted with SCR NOx reduction systems. E9 is strongly recommended for engines fitted with particulate filters and is designed for use in combination with low Sulphur diesel fuel.
ACEA E4	Oil providing excellent control of piston cleanliness, wear, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting up to Euro 5 emission requirements and running under very severe conditions, e.g. significantly extended oil drain intervals according to the manufacturer’s recommendations. It is suitable for engines without particulate filters, most EGR engines, and most engines fitted with SCR NOx reduction systems.
ACEA E7	Oil providing effective control with respect to piston cleanliness and bore polishing. It further provides excellent wear control, soot handling and lubricant stability. It is recommended for highly rated diesel engines meeting up to Euro 5 emission requirements and running under severe conditions, e.g. extended oil drain intervals. It is suitable for engines without particulate filters, most EGR engines, and most engines fitted with SCR NOx reduction systems.

Engine oil specifications: Caterpillar engines

ECF-3	Low Ash technology oils for the latest Caterpillar engines. Compatible with diesel particle filters (DPF). Developed on the basis of API CJ-4 requirements with additional Caterpillar tests. Comply with engine requirements according to Tier 4
ECF-2	Engine oil category for Caterpillar engines, including engines equipped with ACERT and HEUI systems. Developed on the basis of API CI-4 requirements with additional Caterpillar tests.
ECF-1a	Engine oil category for Caterpillar engines, including engines equipped with ACERT and HEUI systems. Developed on the basis of API CH-4 requirements with additional Caterpillar tests.

Engine oil specifications: Volvo engines

VDS-4.5	Engine oils with improved antioxidant properties and high-temperature viscosity stability relative to the Volvo VDS-4 specification. Compatible with diesel particulate filters (DPF). Comply with API CK-4.
VDS-4	Low ash engine oils for the latest Volvo engines, including Tier III. Compatible with diesel particle filters (DPF). Comply with API CJ-4 requirements.
VDS-3	Engine oils for Volvo engines. Specification based on ACEA E7 demands with additional requirements to high-temperature deposits and protection against bore polishing. Specification includes test trials on Volvo engines.
VDS-2	Engine oil for Volvo engines. Specification confirms successful field trials on Volvo engines in extreme conditions.
VDS	Engine oils for Volvo engines. Contains API CD/CE specifications/requirements and field trial tests on Volvo engines.

Comparison of specifications

● VDS-4.5 ● Volvo VDS-4 ● Volvo VDS-3 ● Volvo VDS-2 ● Volvo VDS-1

- ① Protection against bore polishing

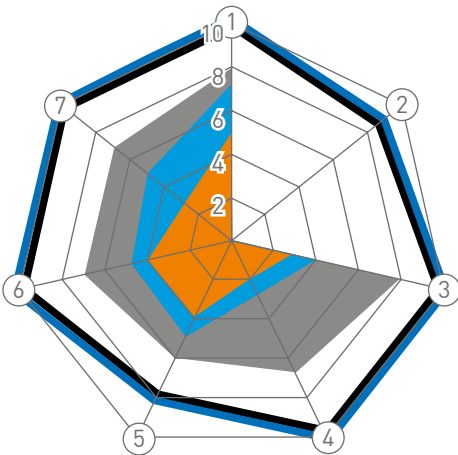
② DPF compatibility

③ Anticorrosion protection
- ④ Oxidation stability and thickening inhibition

⑤ Prevention of high-temperature deposits

⑥ Soot control

⑦ Antiwear properties



According to The Lubrizol Corporation.

Engine oil specifications: Deutz engines

DQC IV LA	Low-ash diesel engine oils according to UHPD requirements. In some instances conforms to higher requirements to closed crankcase ventilation system engines compared to ACEA. They provide enhanced thermal stability under high thermal stress.
DQC IV	Oil for diesel engines with closed crankcase system and high thermal stress according to UHPD specifications.
DQC III	Oil for high performance engines with closed crankcase ventilation system and high thermal stress.
DQC II	General purpose engine oils for engines with open crankcase ventilation system and standard drain intervals. Developed according to ACEA E7 and API CH-4 norms.
DQC I	Oils for standard applications if equipment manufacturer do not require latest specification oils. Developed on the basis of ACEA E2 and API CF specifications.

Engine oil specifications: MTU engines

Cat. 3.1	Low-ash top quality oils for wide ambient temperature range applications (Low Sulfated Ash, Phosphorus, and Sulphur). Depending on operational conditions, prolonged oil drain intervals are admissible. DPF compatible. Based on ACEA E6 specification.
Cat. 3	Top quality oils for wide ambient temperature range applications. Depending on operational conditions, prolonged oil drain intervals are admissible. Based on ACEA E4 specification.
Cat. 2.1	Low-ash top quality oils for wide ambient temperature range applications (Low Sulfated Ash, Phosphorus and Sulphur). DPF compatible. Based on ACEA E9 and API CJ-4 specifications.
Cat. 2	Mainstream products for various ambient temperature range applications. Based on ACEA E5 specification.
Cat. 1	Multigrade oils for various ambient temperature range applications. Based on ACEA E2 and API CG-4 specifications.

Comparison of specifications

● Cat. 3.1 ● Cat. 3 ● Cat. 2.1 ● Cat. 2 ● Cat. 1

- ① Protection against bore polishing

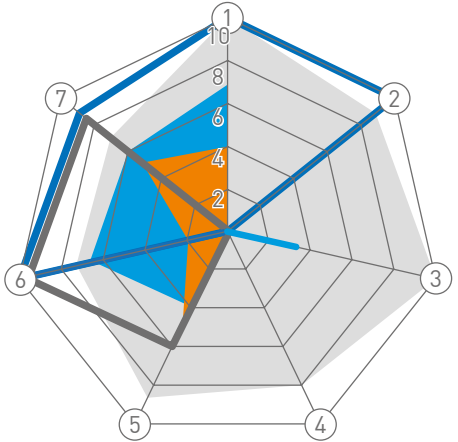
② DPF compatibility

③ Anticorrosion protection
- ④ Oxidation stability and thickening inhibition

⑤ Prevention of high-temperature deposits

⑥ Soot control

⑦ Antiwear properties



According to The Lubrizol Corporation.



Conditions and environment specific to transmissions operating in a quarry

Due to specific conditions in the mining industry, quarry roads are bumpy and uneven. Such road surface is detrimental not just to the chassis and suspension but is tough on transmission too. Primarily described operation conditions cause excessive shock-loads on the gear teeth and bearings of transmission.

Besides, quarry equipment transmissions continuously operate at low gears and poorly ventilated environment that often leads to overheating of systems. Dust and humidity worsen conditions even further and contribute to corrosion and sludge formation in transmission.

To cope with conditions and environment described above, G-Truck, G-Box and Gazpromneft transmission oils are formulated with high safety margin of properties. Good antiwear and antiscaffing capabilities provide perfect gear protection against micropitting and wear at a wide range of loads and variable speed. High antioxidant additive content provides stable viscosity and eliminates sludge formation during high-temperature peaks. Good foam control additionally protects transmission against mechanical failures. Anticorrosion additives prevent chemical degradation of surfaces in the presence of water.



5.1. Classification of transmission oils

	API GL-4	API GL-5	API GL-4/GL-5
Application	Manual transmissions and other lightly loaded transmissions.	Differentials, Manual transmissions with steel synchronizers or non-synchronized transmissions.	Various transmissions with copper alloy elements, or hypoid transmissions.
Product range	G-Truck GL-4 80W-90 G-Truck Z 75W-80 G-Box GL-4 75W-90 G-Box Expert GL-4 75W-90	G-Truck GL-5 80W-90, 85W-90, 85W-140 G-Box GL-5 75W-90 G-Box Expert GL-5 75W-90, 80W-90 Special oils for LSD differentials: G-Truck LS 80W-90, 85W-90	G-Truck GL-4/GL-5 80W-90 G-Box GL-4/GL-5 75W-90
	Gazpromneft GL-4 75W-85, 75W-90, 80W-85, 80W-90, 90, 140	Gazpromneft GL-5 75W-90, 80W-90, 85W-140, 90, 140 Gazpromneft Super T-3 85W-90	Gazpromneft GL-4/GL-5 75W-90

Property icon



Antiwear



Antiscuffing properties



Extended drain interval



**Limited Slip Friction
modified**



Copper alloy compatibility

5.2. Product range of G-Truck and G-Box transmission oils

Name, SAE Viscosity Grade		Base oil	Prevention of micropitting	Extended drain interval	Limited Slip compatibility*	Oil film strength	Copper alloy compatibility	OEM require- ments
API GL-4/ GL-5	G-Box GL-4/GL-5 75W-90							
	G-Truck GL-4/GL-5 80W-90							
API GL-5	G-Box GL-5 75W-90							
	G-Truck GL-5							
	80W-90, 85W-90							
	85W-140							
	G-Truck LS							
	80W-90, 85W-90							
	G-Box Expert GL-5							
	75W-90							
	80W-90							
API GL-4	G-Box GL-4 75W-90							
	G-Truck GL-4 80W-90							
	G-Truck Z 75W-80							
	G-Box Expert GL-4							
	75W-90							
 Synthetic oils		 Semi-synthetic oils		 Mineral oils				

* Limited Slip Differential

G-Truck GL-5 80W-90, 85W-140

	80W-90	SPECIFICATIONS: API GL-5; DAF Axle; MAN 342 Type M1; MB 235.0; New Holland CNH MAT 3516; Renault Trucks; Volvo 97310; ZF TE-ML 05A, 07A, 08, 16B, 19B, 21A.
	85W-140	SPECIFICATIONS: API GL-5; DAF Axle; Iveco Axle; New Holland CNH MAT 3516; Scania STO 1:0; Volvo 97310; Volvo 97321; ZF TE-ML 05A, 07A, 08, 12E, 16C, 16D, 21A.

Advantages of G-Truck GL-5 80W-90, 85W-140

	Excellent antiscuffing properties	Maintains reliable lubrication of gear teeth even at the most extreme loads — long life cycle of differentials.
	Highly stable viscosity	Oil retains its lubricating properties over the whole drain interval — consistent protection of gear transmission mechanisms.
	High thermal stress resistance	Prevents deposit formation on sliding surfaces — deposit layer on gear surfaces impairs heat exchange capability.
	Seal compatibility	Eliminates leakage and unplanned downtime.

 API GL-4/GL-5

G-Box GL-4/GL-5 75W-90

Universal transmission oil made of synthetic base stock for light and heavy-duty cargo vehicles, special and off-road machinery. Applicable for transmissions requiring API GL-4 oil (differentials without hypoid spiral bevel gears, synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.), as well as for units requiring API GL-5 oils (hypoid transmissions, non-synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.). Provides extended drain intervals compared to mineral based lubricants. It is not recommended for limited slip differentials (LSD).



SPECIFICATIONS:
API GL-4/GL-5/MT-1;
ArvinMeritor 076-N; MACK GO-J; MAN 341 Type E3/Z2; MAN 342 Type S1; MAN M 3343 Type S1; MB 235.8; PRI GL 1057; SAE J2360; Volvo 97312; ZF TE-ML 02B, 05A, 12L, 12N, 16F, 17B, 19C, 21A.

Formulation performance level according to Scania STO 1:0; ScaniaSTO 1:1 G; Scania STO 2:0 A FS.

G-Truck GL-4/GL-5 80W-90

Multigrade transmission oil made of mineral base stock for heavy-duty cargo vehicles, special and off-road machinery operating in a wide ambient temperature range. Applicable for transmissions requiring API GL-4 oils (differentials without hypoid spiral bevel gears, synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.), as well as for units requiring API GL-5 oils (hypoid transmissions, non-synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.). It is not recommended for limited slip differentials (LSD).

SPECIFICATIONS:
API GL-4/GL-5/MT-1;
ArvinMeritor 076-A/D; MACK GO-J; MAN 341 Type E2/Z2; MAN 342 Type M2; MAN M 3343 Type M; MB 235.0; SAE J2360; Volvo 97321; ZF TE-ML 02B, 05A, 07A, 08, 12L, 12M, 16B, 17H, 19B, 21A.

Formulation performance level according to Scania STO 1:0; ScaniaSTO 1:1 G.

 API GL-5

G-Box GL-5 75W-90

Semi-synthetic transmission oil for light and heavy-duty cargo vehicles, special and off-road machinery operating in a wide ambient temperature range. Applicable for transmissions requiring API GL-5 oils (hypoid transmissions, non-synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.). Provides extended drain intervals compared to mineral based lubricants. It is not recommended for limited slip differentials (LSD).



SPECIFICATIONS:
API GL-5.



G-Box Expert GL-5 75W-90, 80W-90

Transmission oil for light and heavy-duty cargo vehicles, special and off-road machinery operating in a wide ambient temperature range. Applicable for transmissions requiring API GL-5 oils (hypoid transmissions, non-synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.). It is not recommended for limited slip differentials (LSD).

SPECIFICATIONS:
API GL-5; JSC AVTOVAZ

G-Truck GL-5 85W-90

Mineral transmission oil for heavy-duty cargo vehicles, special and off-road machinery operating in a wide ambient temperature range. Applicable for transmissions requiring API GL-5 oils (hypoid transmissions, non-synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.). It is not recommended for limited slip differentials (LSD).

SPECIFICATIONS:
API GL-5; DAF Axle;
MAN 342 Type M1;
MB 235.0; ZF TE-ML 05A, 16C, 17B, 19B, 21A.

G-Truck LS 80W-90, 85W-90

Series of transmission oils intended for driving axles of heavy duty cargo, special and off-road machinery with limited slip differentials (LSD) operating in a wide range of ambient temperatures. Oils of this series can be used for lubrication of other transmission units requiring API GL-5 oils (non-synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.).

**SPECIFICATIONS:**
API GL-5; MIL-L-2105C/D;
ZF TE-ML 05C, 12C, 16E (SAE 85W-90), 21C.



G-Box GL-4 75W-90

Semi-synthetic transmission oil for light and heavy-duty cargo vehicles, special and off-road machinery operating in a wide ambient temperature range. Applicable for transmissions requiring API GL-4 oils (differentials without hypoid spiral bevel gears, synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.). It provides extended drain intervals compared to mineral-based lubricants.

**SPECIFICATIONS:**
API GL-4.

G-Box Expert GL-4 75W-90

Transmission oil for light and heavy-duty cargo vehicles, special and off-road machinery operating in a wide ambient temperature range. Applicable for transmissions requiring API GL-4 oils (differentials without hypoid spiral bevel gears, synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.).

SPECIFICATIONS:
API GL-4; JSC AVTOVAZ

G-Truck GL-4 80W-90

Mineral transmission oil for light and heavy-duty cargo vehicles, special and off-road machinery operating in a wide ambient temperature range. Applicable for transmissions requiring API GL-4 oils (differentials without hypoid spiral bevel gears, synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.).

**SPECIFICATIONS:**
API GL-4; MAN 341 Type E1/ Z2; ZF TE-ML 02B, 16A, 17A, 19A.

G-Truck Z 75W-80

Fully synthetic, energy-saving transmission oil developed for manual transmissions (including automated ones) of commercial highway and off-road transport manufactured by ZF, which are installed on MAN, DAF, Iveco, etc., as well as for Volvo gearboxes. Operates in a wide range of ambient temperatures. It provides extended intervals between oil changes in accordance with the manufacturer's requirements.

**SPECIFICATIONS:**
API GL-4; DAF; Iveco; MAN 341 Type Z4; Renault; Robert Bosch TE-ML 08; Volvo 97307; ZF TE-ML 01L, 02L, 13, 16K.

Automatic Transmission Fluids (ATF)



Basic ATF applications in Mining Industry

 Power steering and several other hydraulic systems of heavy duty equipment.

 POWERSHIFT Powershift gear boxes.

Specifics of Dexron classification

1955		
1960	Type A Suffix A (TASA)	General Motors develops the first specification for automatic transmission fluids: Type A (later — Type A Suffix A)
1965		
1970		
1975	Dexron II (D)	Oils made of plant and animal origin are replaced by solely mineral base oils, additives, and other components
1980		
1985		
1990	Dexron II (E)	Synthetic base oils are applied
1995	Dexron III (G)	   
2000		
2005	Dexron III (H)	   

Key features

-  Low temperature
-  Viscosity performance
-  Protection of friction discs
-  Antioxidative capability
-  Enhanced anticorrosion

G-Box oils for Automatic Transmissions

Name	Base oil	Drain interval	Sludge control	Clutch protection	Viscosity stability	Low temperature properties
G-Box ATF DX III						
G-Box Expert ATF DX III						
G-Box ATF DX II						

-  Synthetic oils
-  Semi-synthetic oils
-  Mineral oils

5.3. Product range of Gazpromneft transmission oils

Name, SAE Viscosity Grade	Base oil	Provention of micropitting	Extended drain intervals	Film strength	Copper alloy com- patibility	OEM require- ments
Gazpromneft GL-4/GL-5 75W-90			✓		✓	
Gazpromneft GL-5						
75W-90						
80W-90						
85W-140, 140						
90						
Gazpromneft Super T-3 85W-90						
Gazpromneft GL-4						
75W-85, 75W-90					✓	
80W-85, 80W-90, 90					✓	
140					✓	

 Synthetic oils

 Semi-synthetic oils

 Mineral oils

 API GL-4/GL-5

Gazpromneft GL-4/GL-5 75W-90

Multigrade transmission oil made of synthetic base stock for machinery operating in a wide ambient temperature range. Applicable for transmissions requiring API GL-4 oils (differentials without hypoid spiral bevel gears, synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.), as well as for units requiring API GL-5 oils (hypoid transmissions, nonsynchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.). It is not recommended for limited slip differentials (LSD). It provides extended drain intervals compared to mineral based lubricants.



SPECIFICATIONS:
API GL-4/GL-5/MT-1; MAN 341 Type E2; MAN 341 Type E3/Z2; MAN 342 Type M3; MIL-PRF-2105E; SAE J2360; ZF TE-ML 02B, 05A, 12L, 12M, 12N, 16B, 17B, 19C, 21A.

Formulation approved according to Scania ST0 1:0 and Scania ST0 1:1 G requirements.

Transmission oils

 API GL-5

Intended for transmission systems if equipment requires API GL-5 oils (hypoid transmissions, non-synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.). It is not recommended for limited slip differentials (LSD).

Gazpromneft GL-5 75W-90

Semi-synthetic transmission oil operating in a wide ambient temperature range.



SPECIFICATIONS:
API GL-5.

Gazpromneft GL-5 80W-90

Mineral transmission oil operating in a wide ambient temperature range..

SPECIFICATIONS:
API GL-5; MAN 342 Type M2; MIL-L-2105D; ZF TE-ML 05A, 07A, 08, 12E, 16B, 17B, 19B, 21A; JSC AVTOVAZ.

Gazpromneft Super T-3 (SAE 85W-90)

Mineral transmission oil operating in a wide ambient temperature range.

SPECIFICATIONS:
API GL-5; MAN 342 Type M1; MB 235.0; ZF TE-ML 16C, 17B, 19B, 21A; JSC AVTOVAZ, JSC GAZ

Gazpromneft GL-5 85W-140

Mineral transmission oil operates in a wide ambient temperature range. Intended for heavily loaded hypoid transmissions designed for API GL-5 oil with viscosity grade SAE xxW-140.



SPECIFICATIONS:
API GL-5.

Gazpromneft GL-5 90, 140

Transmission oil for heavy duty hypoid transmissions operating in a limited ambient temperature range.

SPECIFICATIONS:
API GL-5.

 API GL-4

Intended for transmission systems if equipment requires API GL-4 oils (hypoid transmissions, synchronized manual gearboxes, transfer boxes, power take-off gearboxes, etc.).

Gazpromneft GL-4 75W-85, 75W-90

Semi-synthetic transmission oil for a wide ambient temperature range.

**SPECIFICATIONS:**
API GL-4.

Gazpromneft GL-4 80W-85, 80W-90

Transmission oil for a wide ambient temperature range.

SPECIFICATIONS:
API GL-4; ZF TE-ML 08, 17A;
JSC AVTOVAZ

Gazpromneft GL-4 90, 140

Transmission oil for a limited ambient temperature range.

SPECIFICATIONS:
API GL-4.



Specifications valid through 2024. See gazpromneft-oil.com for actual specifications/approvals and detailed information.

Gazpromneft Automatic Transmission Fluids

Name	Base oil	Drain Interval	Protection against deposits	Clutch protection	Viscosity stability	Low temperature properties
Gazpromneft ATF DX III						
Gazpromneft ATF DX II						

 Semi-synthetic oils

 Mineral oils

5.4. API classification for manual transmission oils, manual transaxles, and axles

- GL-5**

Transmission oils containing highly effective extreme pressure additives. Capable to withstand harsh shock-load operation conditions, e.g. hypoid transmissions at high speed. Recommended for differentials of modern vehicles. It is not recommended for manual transmissions with copper alloy synchronmesh.
- GL-4**

Transmission oils containing highly effective extreme pressure additives. Recommended for manual gearboxes, including transmissions with copper alloy synchronmesh. It is not effective for lubrication of hypoid transmissions under shockloads.
- GL-3**

Transmission oils containing moderate extreme pressure additives. It is recommended for light-duty manual transmissions and differentials.
- GL-2**

Mineral oils containing antiwear additives. Application similar to API GL-1 but capable to withstand higher loads.
- GL-1**

Straight mineral oil without additives. Applicable for light-duty non-synchronized transmissions, spiral bevel and worm gears. Specification is obsolete.

Specifications valid through 2024. See gazpromneft-oil.com for actual specifications/approvals and detailed information.

Specifications of oils for ZF transmissions

TE-ML 01	Manual ZF transmissions for trucks.
TE-ML 02	Manual and automated ZF transmissions for trucks, buses, light commercial vehicles, and special vehicles.
TE-ML 03	Transmissions for off-road equipment.
TE-ML 04	Marine transmissions.
TE-ML 05	Axles for off-road vehicles.
TE-ML 06	Tractor transmissions and hydraulic lifts.
TE-ML 07	Hydrostatic-mechanical and electric drive systems.
TE-ML 08	Steering systems (non-power-assisted) for cars, commercial vehicles, and off-road vehicles.
TE-ML 09	Steering systems and oil pumps for cars, commercial vehicles, and off-road vehicles.
TE-ML 11	Manual transmissions, double-clutch transmissions and automatic transmissions for cars.
TE-ML 12	Axles and wheel heads for buses and trucks.
TE-ML 14	Powershift transmissions, type Ecomat, for buses, trucks, and special vehicles.
TE-ML 15	Brake systems for special vehicles.
TE-ML 16	Transmissions for rail vehicles.
TE-ML 17	Transmissions and axles for lift-trucks.
TE-ML 19	Transfer and offset transmissions for commercial vehicles.
TE-ML 20	Powershift transmissions, type EcoLife, for buses and trucks.
TE-ML 21	Tractor axles, transmissions for harvesters and final drives.

Conditions and environment specific to hydraulic systems operating in Mining industry

Hydraulic systems of mobile machinery, particularly those operating in mining, are subjected to significant loads. Wide range of ambient temperatures combined with dust and humidity of the working environment pose high risk of water and dust contamination. That leads to corrosion and premature wear of components. Due to the extreme pump capacity of mining hydraulic systems, oil is exposed to substantial temperature rises, which potentially leads to varnish formation and cavitation.

Excellent oxidation stability properties combined with high quality base oils inhibits the varnish formations. Good antiwear properties provide protection of hydraulic system components against failure. Excellent water separation properties separate emulsified water even in small oil sumps. Enhanced anticorrosion properties protect components of hydraulic systems in case if water contamination is inevitable. Minimized tendency to foaming and rapid air release provides additional protection of hydraulic pumps against overheating, cavitation, and wear.

As a result, hydraulic oils of G-Special and Gazpromneft series provide considerable performance safety gap.



6.1. Classification of hydraulic oils

DIN 51524	ISO 6743/4	GOST 17479.3	Type of Oil	Application
H	HH	A	Mineral oils without additives	Outdated hydraulic systems of earlier generations equipped with gear or piston pumps under low system pressure.
HL	HL	B	Mineral oils with anti-oxidants and corrosion inhibitors	Outdated hydraulic systems of earlier generations equipped with any type of pump under different types of pressure. Extended drain interval compared to the previous category.
HLP	HM	C	HL + antiwear additives	Modern hydraulic systems are equippe with any type of pump and capable of operating under or high pressure. Category sets additional requirements for antiwear properties. Applicable at ambient temperatures above 0°C (indoors or outdoors at moderate climate conditions).
HVLP	HV		HM + viscosity modifiers	Modern hydraulic systems are equipped with any type of pump capable of operating under high pressure. Category sets additional requirements for antiwear properties. Applicable for a wide range of ambient temperatures, including tempretures under 0 °C.
HVLPD			HM + viscosity modifiers	Modern hydraulic systems are equipped with any type of pump, capable of operating under high pressure. Recommended for specific conditions when potential water, dirt, or other contamination is highly probable and accumulated water can not be drained from the sump. Applicable for a wide range of ambient temperatures.



6.2. Product range of G-Special hydraulic oils

Name, ISO Viscosity Grade	Base oil	Oxidation stability	Viscosity stability*	Antiwear properties	Water separation	Emulsifying property	Antifoaming property	Zinc-Free technology	Low tem- perature properties
G-Special Hydraulic Nord-32		■■■■■	■■■	■■■	✓		■■■		■■■■■
G-Special Power HVLP ISO VG: 32, 46		■■■■■	■■■	■■■	✓		■■■		■■■■■
G-Special Hydraulic HVLP ISO VG: 22, 32, 46, 68		■■■■■	■■■	■■■	✓		■■■		■■■■■
G-Special Hydraulic HVLPD-46		■■■■■	■■■	■■■		✓	■■■	✓	■■■■■

 Synthetic oils

 Mineral oils

* Ability to stay in initially assigned ISO viscosity grade.



G-Special Hydraulic Nord-32

Hydraulic oil providing superior properties at low ambient temperatures. Formulation designed using synthetic components of Group IV (PAO) and Group V base stock according to API classification. Intended for application in hydraulic systems of quarrying, special and off-road equipment operating in a harshest Nordic climate conditions (e.g. Northern Siberia). Excellent viscosity behavior at extremely low temperatures makes it possible to operate hydraulic systems the whole year round. High antiwear protection, oxidation stability, and good filterability prolong the life cycle of hydraulic components.



SPECIFICATIONS:
DIN 51524 Part 3 (HVLP);
ISO 11158 HV.

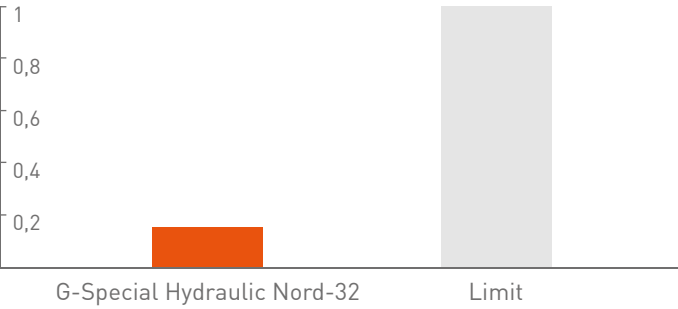
High temperature oxidation stability*

High oxidation stability at high temperatures makes G-Special Hydraulic Nord-32 exceptionally resistant against sludge formation and improves filterability, as well as anticorrosion properties.

Seal compatibility**

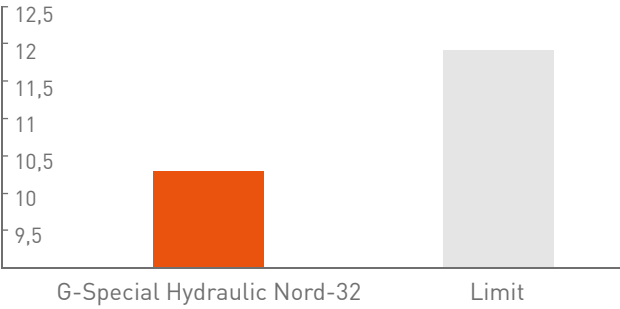
G-Special Hydraulic Nord-32 compatibility with elastomers minimizes leakage and top-up volume of lubricant.

Acid Number TAN, mg KOH/g



* Test ASTM D4310; ** Test ISO 642

Hardening, degree



Minimum temperature for cold start of hydraulic pump*



* Temperature when hydraulic oil reaches maximum cold start dynamic viscosity limit admissible by Bosch Rexroth pumps.

See g-energy.org for actual specifications/approvals and detailed information.

G-Special Power HVLP-32, -46



Energy saving hydraulic oil providing improved performance of equipment and fuel saving advantages. Since oil formula is based on synthetic base stock product possesses excellent oxidation stability and minimized sludge formation tendency, as well as effectively protects parts of hydraulic system against corrosion and cavitation at high loads and various climate conditions. Last generation thickener provides maximal oil viscosity stability during elevated mechanical loads on the hydronic system and varying operating temperatures throughout the entire drain period.



SPECIFICATIONS:
DIN 51524 Part 3 (HVLP);
ISO 11158 HV;
Bosch Rexroth RDE 90235;
Denison Hydraulics HF-0,
-1, -2; MAG P-68 (ISO 32);
MAG P-70 (ISO 46); Eaton
E-FDGN-TB002-E.

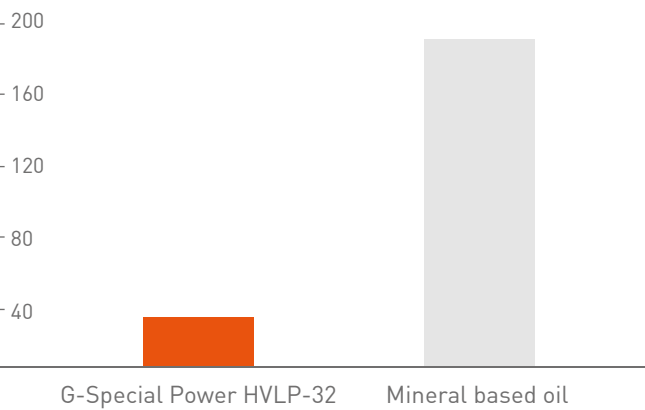
High temperature oxidation stability*

Excellent oxidation stability of G-Special Power HVLP-32 provides stable performance and varnish control in the hydraulic system within the entire drain interval.

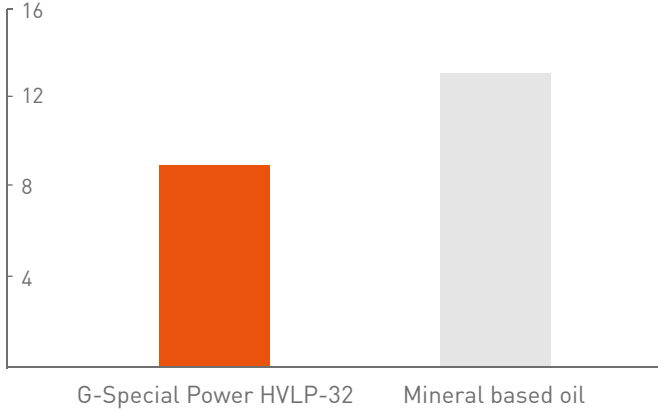
Viscosity stability**

Outstanding viscosity stability of G-Special Power HVLP-32 guarantees required viscosity and oil pump output at elevated mechanical loads on the hydraulic system during the entire drain interval.

Increase of oxidation by-products at IR spectrum, SM⁻¹/MM



Kinematic viscosity change at 100 °C after KRL shear stability test, %



* ASTM D7214; ** DIN 51350-6.

See g-energy.org for actual specifications/approvals and detailed information.



**G-Special Hydraulic
HVLP-22, -32, -46, -68**

Series of hydraulic oils designed for application in hydraulic systems of quarrying, special and off-road machinery, as well as stationary equipment operating at high and low ambient temperatures. Oils provide operation of mobile hydraulic systems at wide range of weather conditions, protect hydraulic system components against wear, contribute to quick air and water separation, and inhibit oxidation and foam formation.



SPECIFICATIONS:
DIN 51524 Part 3 (HVLP);
ISO 11158 HV;
Denison Hydraulics HF-0, -1, -2
(ISO VG 32, 46, 68); MAG
P-68/69/70 (ISO VG 32, 46, 68);
Eaton E-FDGN-TB002-E;
Bosch Rexroth RDE 90235
(ISO 32, 46, 68).



G-Special Hydraulic HVLPD-46

Oil for round the year application in quarrying, special and off-road machinery operating at extremely dirty and wet conditions. Suitable for the hydraulic sump with no water draining system. Oil keeps water and dirt suspended so that contamination is driven to the oil filter instead of settling out on the surfaces, which prevents the negative effect on the hydraulic system.



SPECIFICATIONS:
DIN 51524 Part 3 (HVLP)
(except Water Separation
according to ASTM D1401 —
not applicable to HVLPD type
of oils).

6.3. Product range of Gazpromneft hydraulic oils

Name, ISO Viscosity Grade	Oxidation sta- bility	Viscosity stability	Antiwear prop- erties	Water separation	Emulsifying property	Air separation/ Antifoaming property	Zinc-free tech- nology	Zinc-free tech- nology
Gazpromneft Hydraulic Nord-32	■■■	■■■	■■■	✓		■■■		■■■
Gazpromneft Hydraulic HVZF ISO VG: 22, 32, 46, 68	■■■	■■■	■■■	✓		■■■	✓	■■■
Gazpromneft Hydraulic HVLP ISO VG: 10, 15, 22, 32, 46, 68	■■■	■■■	■■■	✓		■■■		■■■
Gazpromneft Hydraulic Standard HVLP ISO VG: 32, 46	■■■	■■■	■■■	✓		■■■		■■■
Gazpromneft Hydraulic All Seasons	■■■	■■■	■■■	✓		■■■		■■■
Gazpromneft Hydraulic HLP ISO VG: 32, 46, 68, 100	■■■	■■■	■■■	✓		■■■		■■■
Gazpromneft Hydraulic HZF ISO VG: 32, 46, 68	■■■	■■■	■■■	✓		■■■	✓	■■■
Gazpromneft Hydraulic HLPD ISO VG: 32, 46, 68	■■■	■■■	■■■		✓	■■■	✓	■■■
Gazpromneft Hydraulic ISO VG: 32, 46, 68, 100	■■■	■■■	■■■	✓		■■■		■■■

* Ability to stay in initially assigned ISO viscosity grade.



Gazpromneft Hydraulic Nord-32

Hydraulic fluid providing enhanced low-temperature resistance properties which make hydraulic system start possible in extreme climate conditions (such as Northern Siberia). Intended for mobile hydraulic systems.

* Except flash point



SPECIFICATIONS:
DIN 51524 Part 3* (HVLP).



Gazpromneft Hydraulic HVLP

Series of hydraulic oils designed for application in hydraulic systems of quarrying, special and off-road machinery, as well as stationary equipment operating at high and low ambient temperatures. Oils provide operation of mobile hydraulic systems in a wide range of weather conditions, protect hydraulic system components against wear, deposit formation, and corrosion.



**AVAILABLE VISCOSITY
GRADES:** 10, 15, 22, 32, 46,
68.

Specifications

Specifications	ISO Viscosity Grade					
	10	15	22	32	46	68
ISO 11158 HV	✓	✓	✓	✓	✓	✓
DIN 51524 Part 3 (HVLP)	✓	✓	✓	✓	✓	✓
Denison HF-0, -1, -2				✓	✓	✓
Eaton E-FDGN-TB002-E		✓	✓	✓	✓	✓
Bosch Rexroth RDE 90235				✓	✓	✓
MAG P-68 (ISO 32)						
MAG P-69 (ISO 68)				✓	✓	✓
MAG P-70 (ISO 46)						
ABB Azipod				✓		✓
Beltramelli				✓	✓	✓
Sierra T 1000					✓	



Gazpromneft Hydraulic HVZF-22, -32, -46, -68

A series of synthetic zinc-free hydraulic oils for use in hydraulic equipment systems, for which both low and high operating temperatures are typical. Due to the use of synthetic base components, they have increased oxidation stability, providing the possibility to operate with extended service intervals. Zinc-free technology provides very high protection for non-ferrous hydraulic system working surfaces.



Zn-FREE

Specifications

Specifications	ISO Viscosity Grade			
	22	32	46	68
DIN 51524 Part 3	✓	✓	✓	✓
Denison HF -0, -1, - 2		✓	✓	✓
Eaton E-FDGN-TB002-E		✓	✓	✓
Bosch Rexroth RDE 90235		✓	✓	✓
MAG P-68		✓		
MAG P-69				✓
MAG P-70			✓	



Gazpromneft Hydraulic Standard HVLP -32, -46

A range of hydraulic oils for all-season use in mobile and stationary equipment operating in a wide ambient temperature range.



SPECIFICATIONS:
DIN 51524 Part 3 (HVLP);
ISO 6743-4 HV



Gazpromneft Hydraulic All Seasons

Hydraulic fluid based on G-Base synthetic base components, providing an extended temperature range of -35 to +70 °C compared to standard multigrade oils. The combination of synthetic G-Base components and a high-stability polymer additive provides improved low-temperature and antioxidant properties. Due to improved viscosity-temperature characteristics, it can be used as a substitute for multigrade oils. Can be used instead of multigrade oils of viscosity classes ISO VG 22 and ISO VG 32.



SPECIFICATIONS:
DIN 51524 Part 3,
ISO 6743-4 HV; OJSC
PNEVMOSTROYMASHINA
PSM-HYDRAULICS.

Hydraulic oils



Gazpromneft Hydraulic HLP-32, -37, -46, -68, -100



Series of oils for heavy-duty hydraulic systems of the quarrying, special, off-road machinery or stationary equipment. Highly recommended for systems that require high viscosity stability during the whole drain interval. Application for low-temperature operation admissible only according to the recommendations of the equipment manufacturer.

Specifications	ISO Viscosity Grade				
	32	37	46	68	100
DIN 51524 Part 2 (HLP)	✓	✓	✓	✓	✓
ISO 11158 HM	✓	✓	✓	✓	✓
Denison Hydraulics HF -0, -1, -2	✓		✓	✓	✓
Eaton E-FDGN-TB002-E	✓		✓	✓	✓
Bosch Rexroth RDE 90235	✓		✓	✓	
MAG P-68 (ISO 32)					
MAG P-69 (ISO 68)	✓		✓	✓	
MAG P-70 (ISO 46)					
Engel			✓		
Battenfeld	✓		✓	✓	✓
Beltrameili	✓			✓	✓
Bekum			✓		
Demag				✓	
Danieli			✓	✓	
Woojin Plaimm	✓		✓		
Arburg			✓		



Gazpromneft Hydraulic-32, -46, -68, -100

Series of hydraulic oils designed to replace monograde oils (IGP, IGS) quality requirements and is intended for application at temperature above 0 °C



SPECIFICATIONS:
DIN 51524 Part 2 (HLP).



Gazpromneft Hydraulic HZF-32, -46, -68

Series of zinc-free oils for hydraulic systems with a fine clearance servo-valves (silver coated parts present) installed on quarrying, special, off-road machinery, or stationary equipment. Application for low-temperature operation is admissible only according to the recommendation of the equipment manufacturer.



Zn-FREE

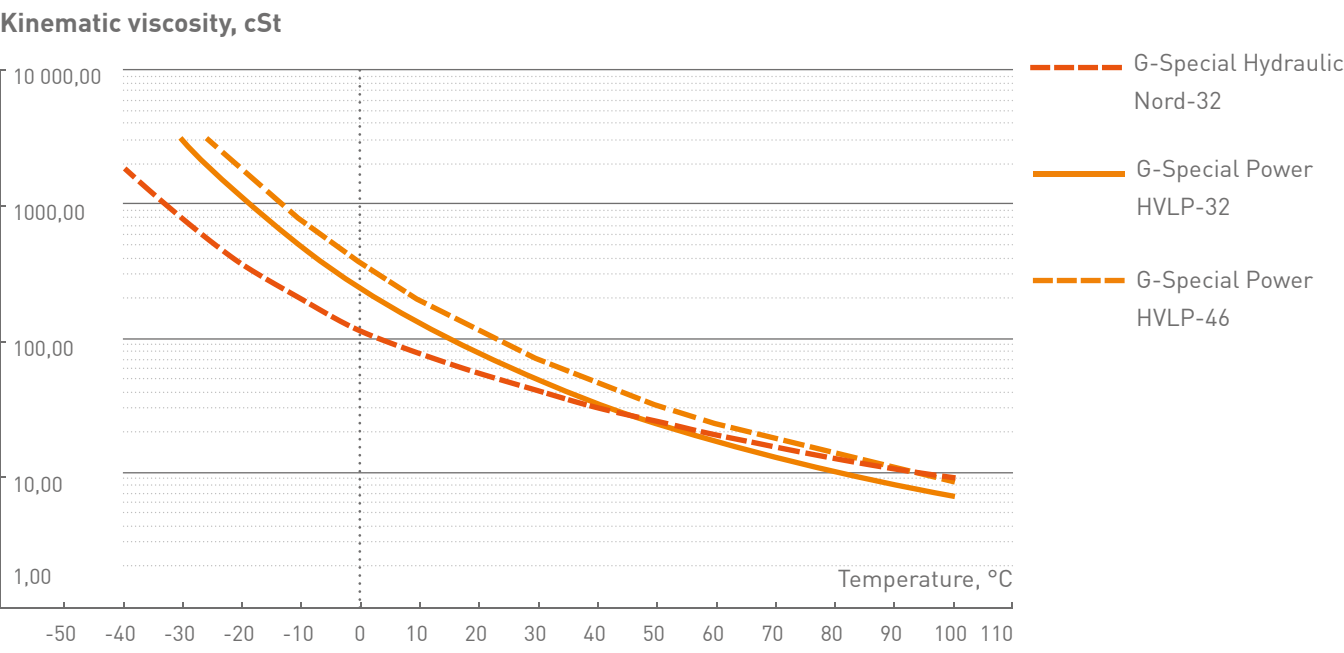
SPECIFICATIONS:
Denison Hydraulics HF-0, -1, -2; Eaton E-FDGN-TB002-E; Bosch Rexroth RDE 90235; DIN 51524 Part 2 (HLP); ISO 11158 HM; Sumitomo; SHI Demag (ISO 68); MAG P-68, -69, -70.

6.4. Diagrams: dependence of kinematic viscosity of hydraulic oil on temperature



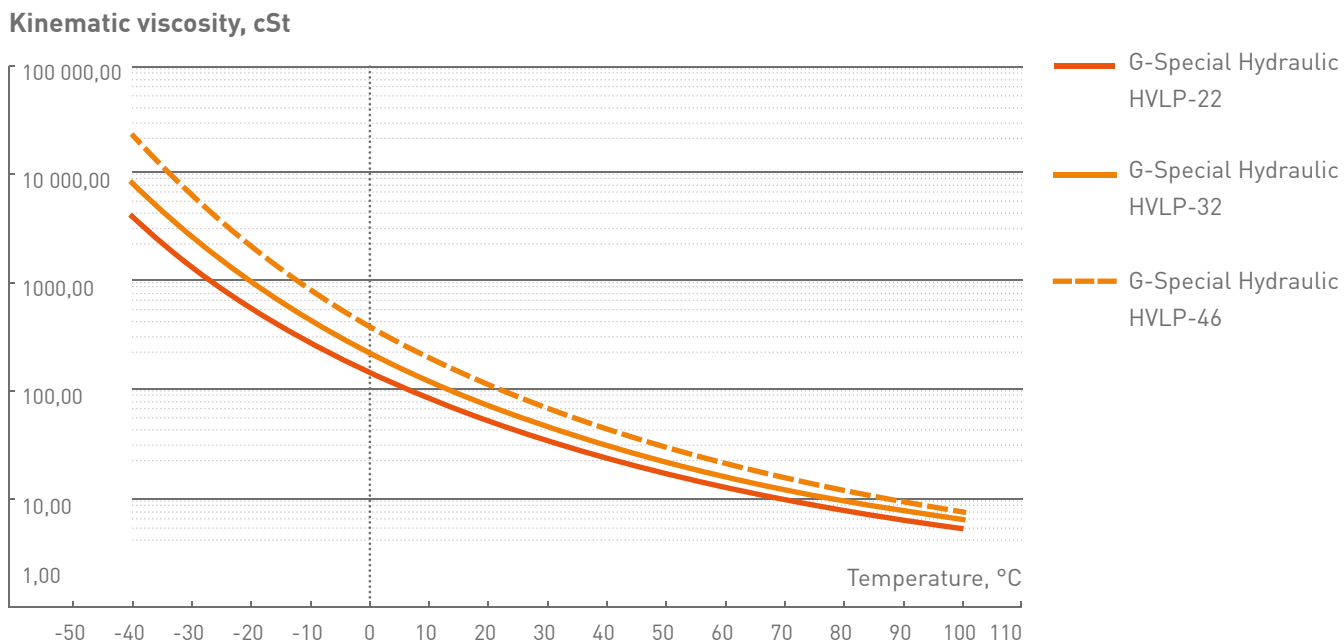
G-Special Hydraulic Nord-32; G-Special Power HVLP-32, -46

Dependence of kinematic viscosity on temperature:
G-Special Hydraulic Nord-32; G-Special Power HVLP-32, 46



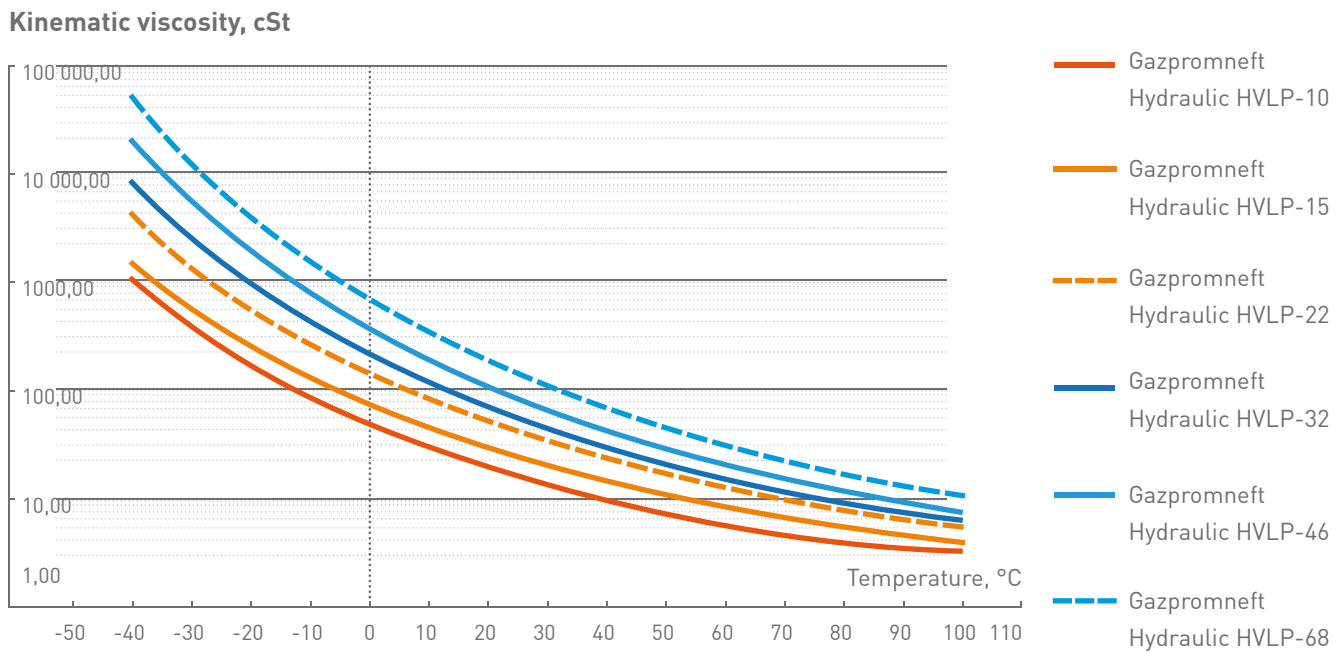
G-Special Hydraulic HVLP

Dependence of kinematic viscosity on temperature:



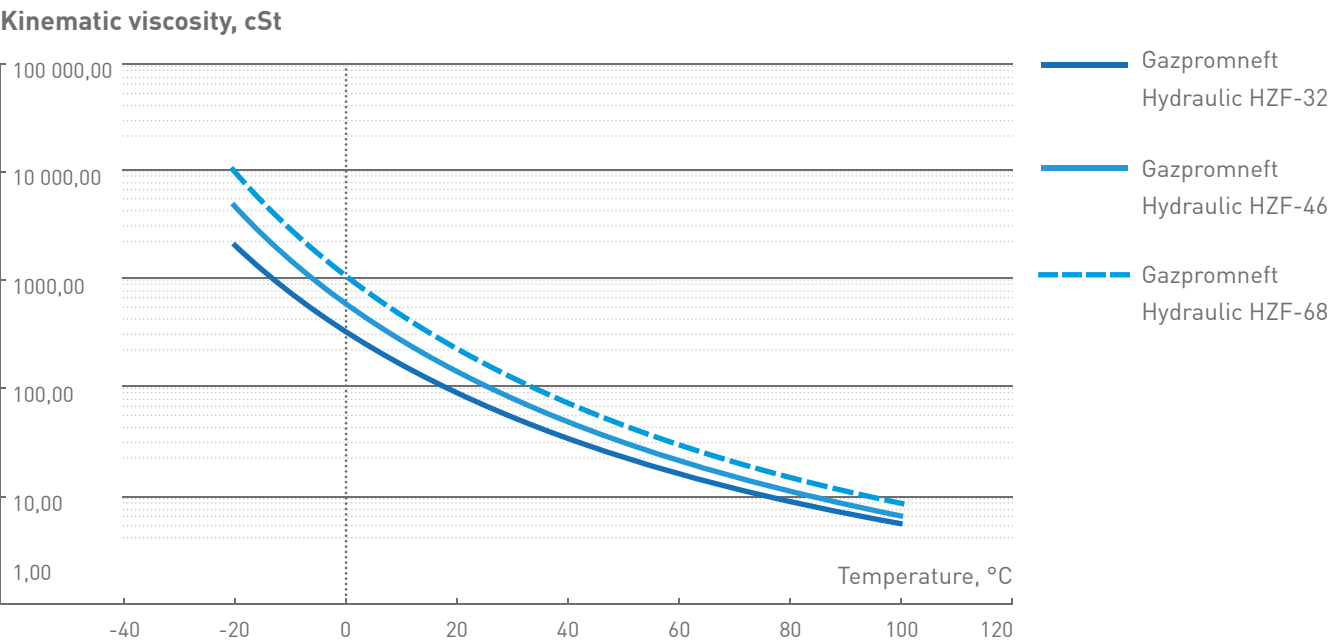
Gazpromneft Hydraulic HVLP

Dependence of kinematic viscosity on temperature:



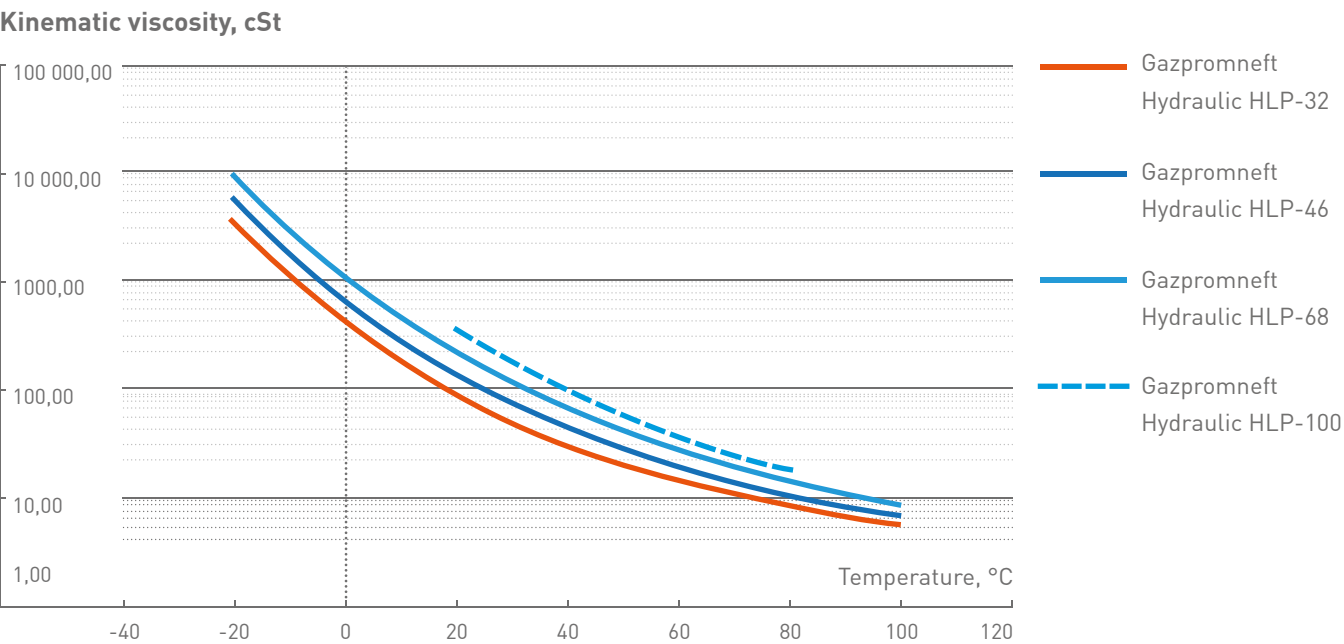
Gazpromneft Hydraulic HZF

Dependence of kinematic viscosity on temperature:



Gazpromneft Hydraulic HLP

Dependence of kinematic viscosity on temperature:



Power transmission and hydraulic transmission fluids

Off-road machinery applications require widely used universal products (TO-4, UTTO, STOU) supposed to be suitable for various transmissions and hydraulic systems. Due to extreme loads engineers of quarrying equipment prefer oils according to TO-4 specification for power transmission.

Oils of these specifications perform equally well for: gear teeth protection against wear and micropitting, protection of clutch and wet brake friction elements against destruction and overheating. It also works well as a hydraulic fluid. Besides these oils must provide sufficient friction of clutch discs, so that transmission shifts smoothly without disruption of torque, and wet brakes provide adequate grip without excessive heat generation.

G-Special TO-4 series oils perfectly fit these conditions. The enhanced antiwear additive property protects transmission and hydraulic system elements against premature failures. Antioxidative properties, combined with high quality base oils, inhibit sludge and deposit formation while friction properties provide smooth transmission and wet brake operation.



G-Special universal oils

Name, SAE Viscosity Grade	Sludge control	Viscosity stability	Heavy-duty mining application	Engine application	Low temperature properties
G-Special TO-4 Arctic 0W-20	■■■	■■■	✓		■■■
G-Special TO-4					
5W-30	■■■	■■■	✓		■■■
10W	■■■	■■■	✓		■■■
30, 50	■■■	■■■	✓		■■■
G-Special FD-1 60	■■■	■■■	✓		■■■
G-Special UTTO Premium 10W-30	■■■	■■■			■■■
G-Special UTTO 10W-30	■■■	■■■			■■■
G-Special STOU 10W-30, 10W-40	■■■	■■■		✓	■■■

Gazpromneft univeral oils

Gazpromneft UTTO 10W-30	■■■	■■■	✓	■■■
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! Oils classified according to TO-4 and UTTO/STOU are not interchangeable and are intended for diverse applications.



7.1 Power Transmission Oils according to TO-4 and FD-1

G-Special TO-4 5W-30, 10W, 30, 50



Transmission
units

Hydraulic
system

Clutch systems
of heavy duty equipment

Series of hydraulic-transmission fluids designed for hydraulic systems and transmissions of heavy duty quarrying, special and off-road machinery. High and stable friction properties provide effective operation of highly loaded wet brakes and continuous torque in a transmission.

VISCOSITY GRADES:
5W-30, 10W, 30, 50.

SPECIFICATIONS:
Caterpillar TO-4; Allison C-4; ZF TE-ML 03C; (SAE 10W, 30, 50); ZF TE-ML 03C, 07F (SAE 5W-30, 30, 50); Komatsu KES 07.868.1 (SAE 10W, 30, 50); Komatsu KES 07.871 (SAE 5W-30).

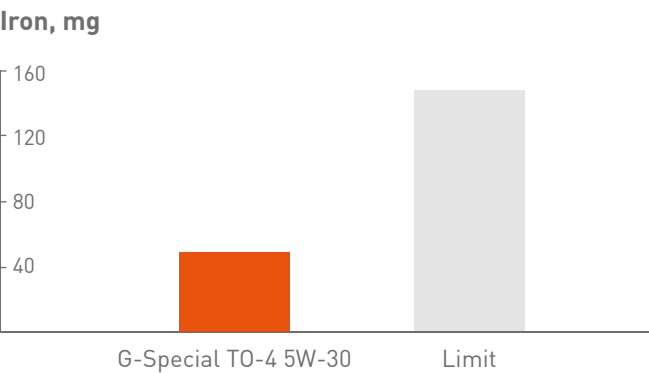
Advantages of universal G-Special TO-4 oils

Stable friction properties	Provides smooth operation of clutch discs and brakes – reliability of equipment.
High oxidation stability	Prevents deposit formation on the parts – maximized life cycle of equipment.
Excellent antiwear properties	Protects hydraulic system – saved maintenance budget.
High viscosity stability	Maintains stable viscosity properties during operation – reliable lubrication of units and long-lasting performance of hydraulic system.
UNIVERSAL Universal application	Provides the option of multiple applications, including hydraulic systems, transmissions, and wet brakes – saved storage space and budget.

Specifications valid through 2024. See g-energy.org for actual specifications/approvals and detailed information.

Antiwear protection*

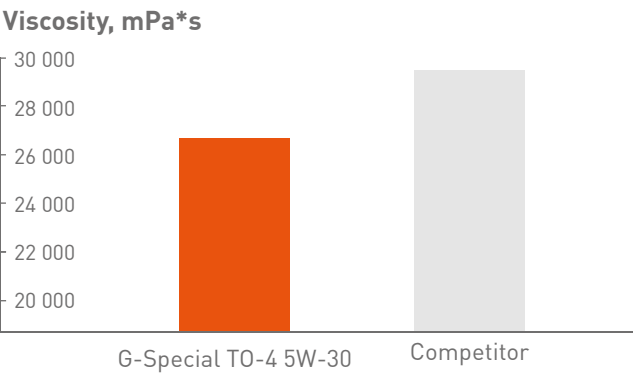
G-Special TO-4 5W-30 minimizes wear of gear teeth and prolongs life cycle of gears.



* FZG Test Wear. ** ASTM D2983.

Low dynamic viscosity at -40 °C**

G-Special TO-4 5W-30 has excellent low-temperature properties to ensure efficient operation in low-temperature conditions.



G-Special TO-4 Arctic 0W-20



- Transmission units
- Hydraulic system
- Clutch systems of heavy duty equipment

Synthetic hydraulic-transmission fluid (based on Group IV PAO base stock) designed for hydraulic systems and transmissions of heavy duty quarrying, special and off-road machinery. High and stable friction properties provide effective operation of highly loaded wet brakes and continuous torque in a transmission. Maintains lubricating properties at low ambient temperatures and provides operational capacity of equipment in harsh climate conditions.

SPECIFICATIONS:
Caterpillar TO-4;
Allison C-4; Komatsu
Micro-Clutch;
Eaton E-FDGN-TB002-E
(35VQ25).

G-Special FD-1 60



- Transmission units

Transmission oil designed for use in the main gears, differentials and final drives of Caterpillar off-road equipment. The oil helps to maximize the life of transmission components and meets the requirements of Caterpillar FD-1. Provides higher protection of machinery components in comparison with oils of Caterpillar TO-4 class.

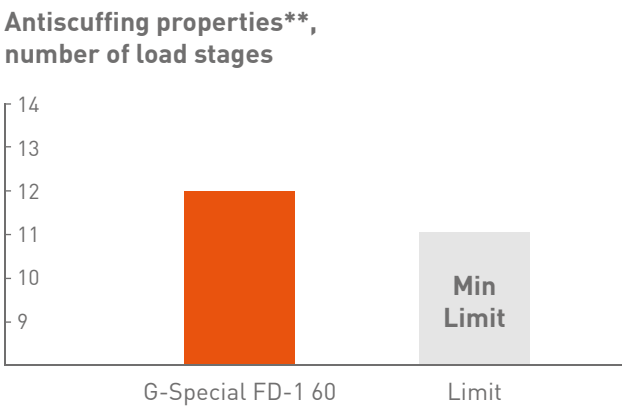
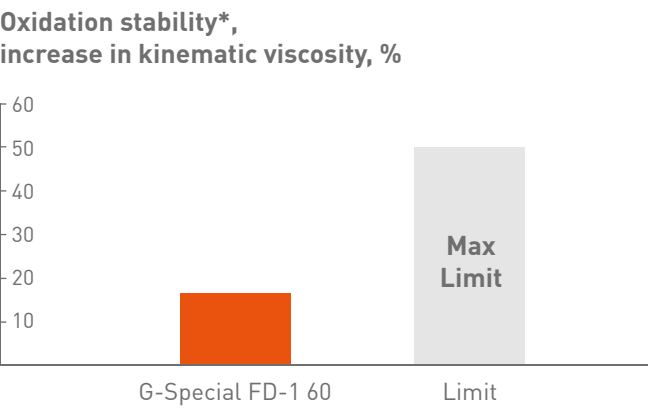
SPECIFICATIONS:
Caterpillar FD-1.

Universal oils

G-Special FD-1 60 transmission oil exceeds the requirements of the main specifications, according to tests.

High resistance to oxidation ensures efficient oil performance over extended drain intervals.

The high load-bearing capacity allows gear and bearing units to be reliably protected under very high loads.



* ASTM D5704 Oxidation Stability (100 h). ** FZG D5182.

7.2. Universal UTTO and STOU tractor oils

G-Special UTTO Premium 10W-30



- Transmission units
- Hydraulic system
- Clutch systems of heavy duty equipment

Semi-synthetic hydraulic-transmission fluid for hydraulic systems and transmissions of special and off-road machinery operating in a wide range of ambient temperatures. Optimal friction properties provide smooth operation of wet brakes and power transmissions. In contrary to mineral oils extended drain intervals can be applied.

SPECIFICATIONS:
API GL-4; Allison C-4; Volvo 97303 (WB 101); John Deere JDM J20C; AGCO Powerfluid 821XL; Massey Ferguson CMS M1135; Massey Ferguson CMS M1141; Massey Ferguson CMS M1143; Massey Ferguson CMS M1145; New Holland CNH MAT 3505; New Holland CNH MAT 3525; New Holland CNH MAT 3540; New Holland CNH MAT 3510 (MS1317); New Holland CNH MAT 3509; New Holland CNH MAT 3506 (MS 1210); New Holland CNH MAT 3526 (FNHA 2-C-200.00); Ford ESN M2C 86 B/C; Ford ESN M2C 134-D Deutz-Fahr; Fendt (Non Vario), Komatsu; Claas; AGCO Q-186 (White Farm); ZF TE-ML 03E; ZF TE-ML 05F; ZF TE-ML 06K; ZF TE-ML 06D; ZF TE-ML 06E; ZF TE-ML 17E; ZF TE-ML 21F; Kubota UDT Fluid; SAME Transmissions; Caterpillar TO-2; Valtra G02-08; Landini.

G-Special UTTO 10W-30



Transmission units



Hydraulic
system



Clutch systems
of heavy duty equipment

Semi-synthetic hydraulic-transmission fluid for hydraulic systems and transmissions of special and off-road machinery operating in a wide range of ambient temperatures. Optimal friction properties provide smooth operation of wet brakes and power transmissions.

SPECIFICATIONS:

API GL-4, Allison C-4; Volvo 97303 (WB 101); John Deere JDM J20C; Massey Ferguson CMS M1143; Massey Ferguson CMS M1145; New Holland CNH MAT 3525; New Holland CNH MAT 3505; New Holland CNH MAT 3506 (MS 1210); New Holland CNH MAT 3509; New Holland CNH MAT 3540; ZF TE-ML 03E; ZF TE-ML 05F; ZF TE-ML 17E; ZF TE-ML 21F.

G-Special STOU 10W-30, 10W-40



Transmission units



Hydraulic
system



Clutch systems
of heavy duty
equipment



Engines of special
machinery
(check OEM
recommendations)

Series of semi-synthetic multigrade tractor oils suitable for application in engines, hydraulic systems and transmissions of special and off-road machinery. Provide optimal operational properties of wet brakes.

SAE Viscosity Grades: 10W-30, 10W-40.

SPECIFICATIONS:

Massey Ferguson CMS M1145*; ZF TE-ML 06B*, 07B*; Ford WSS-M2C159B/C, M2C86B, M2C134A**; John Deere JDM J27; New Holland NH 024C*, NH410B**, NH420A**, FNH 82009201**, 82009202**, 82009203*; Sperry Vickers/Eaton I-280-S/ M2950S; Sauer Sunstrand/ Danfoss, Hydro Static Trans Fluid; Massey Ferguson CMS M1144, M1145**, 1139**, 1135**, 1127A*; ZF TE-ML* 05K, 06B, 06C, 07B, 07D; API CG-4, CF-4, CF, CE, CD, SF, SE; API GL-4; ACEA E3; MAN 271; Caterpillar TO-2; Allison C-4; MB 227.1; MB 228.1*.

Gazpromneft UTTO 10W-30



Transmission units



Hydraulic
system



Clutch systems of heavy
duty equipment

Hydraulic-transmission fluid for hydraulic systems and transmissions of special and off-road machinery operating in a wide range of ambient temperatures. Optimal friction properties provide smooth operation of wet brakes and power transmissions.

SPECIFICATIONS:

Allison C-4, API GL-4; Ford M2C-134-D, Ford M2C-86-B; Ford M2C-86-C; John Deere JDM J20C; Massey Ferguson CMS M1135; Massey Ferguson CMS M1143.

Greases

Gazpromneft series of greases is intended for long-lasting operation in harsh conditions under extreme loads. Applicable to specific mining and quarrying equipment. Due to shock-loads, vibration, dusty environment and a wide range of ambient temperatures, all lubricants used in this environment undergo extensive testing and improvement process. Just high-grade and most contemporary technologies used for production of Gazpromneft greases. All components in greases, including additives, thickeners, and solids, are carefully selected for the specificity of the mining industry.

Application:

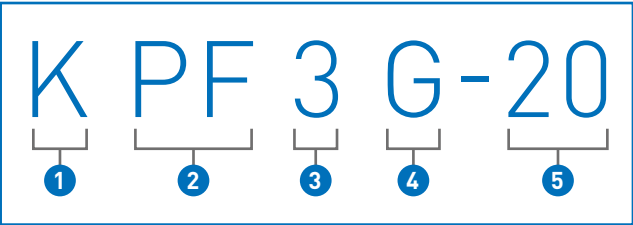
- Centralized grease system.
- Sliding bearings.
- Rolling bearings.
- Gear transmissions.

* Only G-Special STOU 10W-40; ** Only G-Special STOU 10W-30.
Specifications valid through 2024. See g-energy.org for actual specifications/approvals and detailed information.

8.1. Classification of greases

Classification of greases according to DIN 51 502

According to this classification greases are divided by properties - composition, temperature range of application, consistency, etc. A special code assigned to the performance level makes the choice of grease easier.



1 Type of grease lubricant

K	Grease lubricants for antifriction bearings, plain bearings and sliding faces according to DIN 51825
G	Grease lubricants for enclosed drives according to DIN 51826
OG	Grease lubricants for open drives
M	Lubricants for bearings and seals

2 Lubricating materials (base oil, additives etc.)

P	EP Additive
F	Solid lubricants
E	Polyester
FK	Perfluor liquids
HC	Synthetic hydrocarbons
PH	Ester of phosphoric acid
PG	Polyglycols
SI	Silicon oils
X	Others

3 Consistency index (NLGI Class)

NLGI	Penetration at 25 °C	Consistency	Application
000	445–475	Very soft (like viscous oil)	Enclosed gear systems / central lubrication systems
00	400–430		
0	355–385		
1	310–340	Normal grease	Enclosed gear systems / central lubrication systems / rolling and sliding bearings
2	265–295	Normal grease	Sliding bearings / rolling bearings / sliding surfaces / central lubrications systems
3	220–250	Firm	Sliding bearings / rolling bearings
4	175–205	Hard	Rolling bearings / water pump sealing
5	130–160	Very hard	Open gear systems / water pump sealing
6	85–115		

4 Code letter (reaction to water)

Code letter	Upper operating temperature, °C	Reaction to water °C according to DIN 51807*
C	60	0 at 40 °C or 1 at 40 °C
D		2 at 40 °C or 3 at 40 °C
E	80	0 at 40 °C or 1 at 40 °C
F		2 at 40 °C or 3 at 40 °C
G	100	0 at 90 °C or 1 at 90 °C
H		2 at 90 °C or 3 at 90 °C
K	120	0 at 90 °C or 1 at 90 °C
M		2 at 90 °C or 3 at 90 °C
N	140	
P	160	
R	180	by agreement
S	200	
T	220	
U	>220	

5 Code number for lower service temperature

Lower operating temperature limit where grease reliably sustains its properties.

* 0 – no change; 1 – slight change; 2 – moderate change; 3 – major changes.

8.2. Product range of Gazpromneft greases

Parameters	Method	Gazpromneft Grease Synth LX EP 2	Gazpromneft Premium Grease EP					Gazpromneft Grease LX EP	Gazpromneft Grease LTS		Gazpromneft Grease L EP					Gazpromneft Grease L Moly EP 2	Gazpromneft Grease LTS Moly EP 2, Moly EP 1 All Seasons		Gazpromneft Premium Grease HD	Gazpromneft Grease HighSpeed EP 3	Gazpromneft Grease Nord Moly	Gazpromneft Offroad Grease CS 2	Gazpromneft Grease Reductor LTS EP 00	Gazpromneft EP	Gazpromneft Grease L 2	Litol-24 Gazpromneft Litol	SHRUS-4M Gazpromneft grease for hinge joints		
			00	0	1	2	1	2	1	2	00	0	1	2	3										2	3			
Code according to DIN 51502	DIN 51502	KPHC 2 N-50	KP 00 N-50	KP 0 N-50	KP 1 P-40	KP 2 P-40	KP 1 KP 2 P-30	KP 1 KP 2 K-30	KP 00 K-30	KP 0 K-30	KP 1 K-30	KP 2 K-30	KP 3 K-30			KPF 2 K-30	KPF 2 K-30	KPF 1 K-30	KPF 2 N-25	KP 3 N-40	KPF 0 K-50	KP 2 S-30	GP 00 K-40	KP 2 K-40	KP 3 K-40	K 2 K-30	K 3 K-40	KPF 2 K-40	
NLGI Grade	ASTM D217	2	00	0	1	2	1	2	1	2	00	0	1	2	3		2	2	1	2	3	0	2	00	2	3	2		
Operating temperature, °C		-50 up to +150	-50 up to +140		-40 up to +160		-30 up to +160	-30 up to +120*	-30 up to +120*							-30 up to +120*	-30 up to +120*		-25 up to +150	-40 up to +140	-50 up to +120*	-30 up to +200	-40 up to +120	-40 up to +130*		-40 up to +120	-40 up to +120	-40 up to +120	
Color	Visually	Light beige	Light brown				Blue	From light yellow to amber	Amber							Dark Grey			Grey	Creamy	Dark Grey	From light yellow to amber		Amber	Amber to dark brown	Light beige	Dark Grey		
Thickener		Lithium Complex Soap						Lithium Calcium Soap	Lithium Soap							Lithium Soap	Lithium Calcium Soap	Lithium Complex Soap			Calcium Sulfonate	Lithium Calcium Soap	Lithium Soap						
Solid additives		–	–				–	–	–							Molybdenum disulfide				–	Molybdenum disulfide	–	–	–	–	–	–	–	Molybdenum disulfide
Drop point, °C	ASTM D2265/ GOST 6793	> 250	unstan- dardized	> 210	> 250	> 250	> 250	> 250	> 180	> 180	> 170	> 170	> 180	> 180	> 190		> 180	> 180	> 170	> 250	> 250	> 210	> 300	> 160	> 190	> 200	> 180	> 185	190
Base oil		Syn- thetic	Semi-synthetic				Mineral	Mineral							Mineral				Group III base oil		Mineral								
Kinematic viscosity of Base oil at 40 °C, мм²/c	ASTM D445	100	100	100	100	100	220	220	220	220	160	160	160	160	160		160	220	220	400	45	20	>400	600	70	70	160	–	–
4-ball welding load, (not less than), N	GOST 9490	2800	3200	3200	3200	3200	3000	3000	2800	2800	2400	2400	2400	2400	2400		2800	4136	4136	5508	2400	4000	4000	4000	2450	2450	1600	1381	4900
4-ball wear scar diameter, mm	GOST 9490	0,6	0,5	0,5	0,5	0,5	0,6	0,6	0,6	0,6	0,5	0,5	0,5	0,5	0,5		0,5	0,5	0,5	0,5	0,6	0,6	0,5	0,7	0,5	0,5	0,5	–	–

* Short peaks – up to +150 °C.

Data on physical and chemical characteristics is valid through 2024. See gazpromneft-oil.com for actual specifications/approvals and detailed information.



Gazpromneft Grease Nord Moly

High quality lithium complex grease containing molybdenum disulfide. Intended for lubrication of units operated under extreme loads and at wide range of ambient temperatures, including low temperatures characteristic such as Northern Siberia. Applicable for central lubrication systems.



Advantages

-  Excellent performance at the range of ambient temperature between -50 to +120 °C. (short peaks up to +150 °C)
-  EP additives and molybdenum disulfide provide exceptional antiwear and anti-micro pitting properties. Grease withstands high loads and prevents failure of highly loaded units.
-  Excellent oxidation stability provides long life cycle of the grease in arduous operating conditions.
-  Assures highly effective anticorrosion protection in particularly harsh conditions like presence of moisture, cold or hot water.
-  High mechanical stability insures applicability in units under severe vibration forces.



Gazpromneft Premium Grease 00, 0, 1, 2

A line of multifunctional semi-synthetic greases with an EP additive package based on lithium complex soap, designed for friction units lubricated both by automatic centralized systems (NLGI 00, 0, 1, 2) and by embedded method (NLGI 2). It is recommended for use in units with high and medium speeds, ultra-high loads of commercial vehicles, industrial equipment, and special machinery (used in mining, mining enterprises, logging, construction, agricultural, and other industries), operated in a wide range of temperatures and loads.

Advantages

-  Excellent performance in the range of ambient temperatures between -50 to +140 °C (for NLGI 00, 0) and between -40 to 160 °C (for NLGI 1, 2).
-  Possesses high mechanical stability, so the product can be used for the lubrication of bearings subjected to strong vibration and extremely high loads.
-  Provides continuous lubrication in case of water ingress.



Gazpromneft Grease LTS Moly EP 1 All Seasons, LTS Moly EP 2

High-performance lithium-calcium multifunctional greases containing EP additives and solid filler (molybdenum disulfide). They are used for the lubrication of friction units of construction, mining, and other machinery exposed to extremely high loads and operated under extremely severe operating conditions, including in the presence of water and when the use of lubricants with fillers in the composition is recommended by the manufacturer of machinery.

Used as a universal grease (Gazpromneft Grease LTS Moly EP 2) and for centralized lubrication systems (Gazpromneft Grease LTS Moly EP 1 All Seasons). The performance of Gazpromneft Grease LTS Moly EP 1 All Seasons in pumping systems depends on the recommendations of the machinery manufacturer, the design features of the ACSS system, and operating pressure.

Advantages

-  Provides continuous operation of parts in the temperature range from -30 to 120 °C, short peaks up to 150 °C.
-  Molybdenum disulfide protects surfaces even when insufficient lubrication or the working environment is particularly contaminated.
-  It has excellent resistance to the corrosive action of water, preventing rusting and corroding.



Gazpromneft Grease LTS 1, 2

Multifunctional greases with EP additives based on lithium-calcium soap. They are used for the lubrication of friction units of industrial, construction, and agricultural equipment operating under ultra-high load conditions. Gazpromneft Grease LTS 1 is used for centralized lubrication systems. Gazpromneft Grease LTS 2 is used as a universal grease both for centralized lubrication systems and as a grease for embedded lubrication.

Advantages

-  Excellent performance in the temperature range of -30 to +120 °C, with short peaks up to +150 °C.
-  Guarantee long service life in high-temperature applications due to excellent resistance to thermal oxidation.
-  Resistant to corrosion and the damaging effects of water.
-  The versatility of the grease allows its use in various friction units, which makes it possible to significantly reduce the nomenclature of the application and storage of lubricants.



Gazpromneft Grease Premium HD

Multipurpose plastic grease with an anti-zenith additive package and a solid filler (molybdenum disulfide) based on lithium complex soap. Designed for various special equipment and withstands extremely high loads (the typical impact load of grease application is up to 5508 N).



Advantages

-  Excellent performance in the range of ambient temperatures between -25 to +150 °C.
-  It has excellent sealing properties, which protect friction units from the penetration of water, dirt, dust.
-  Ensures highly effective corrosion protection even when operating in harsh conditions such as humidity, cold, or hot water.
-  Due to EP additives and molybdenum disulfide, the grease has exceptional anti-wear and extreme pressure properties, withstands extremely high loads, and eliminates the seizure of heavily loaded friction units.

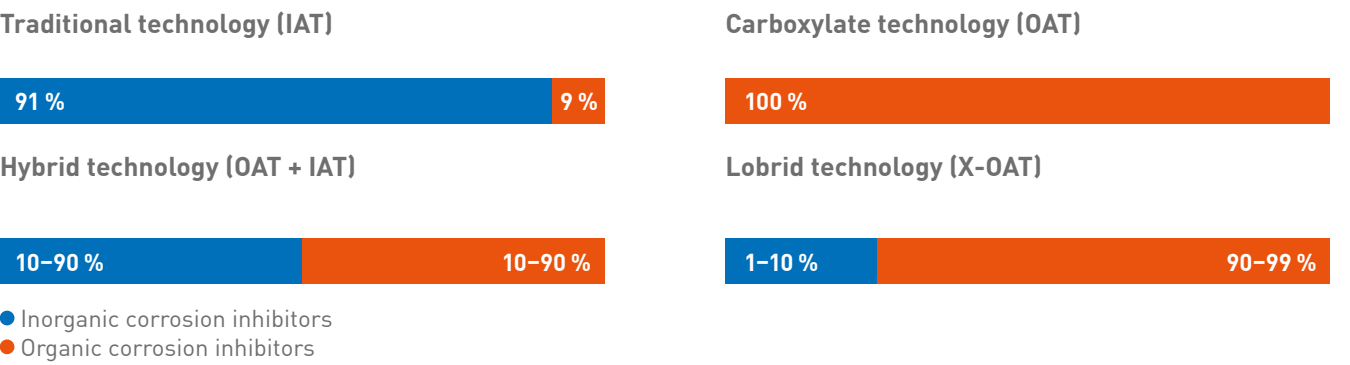


Coolants

Due to specific operating conditions and design of quarrying, earth moving and special machinery diesel engines, high performance lubricants are not enough to guarantee long life cycle of the engine. Coolant is another fluid providing problem-free operation. The immense size of the parts and units, plus extremes of ambient temperature require enhanced protection of bore cylinders against cavitation. Besides various metal alloys in combination with non-metallic composite sealing materials are used for the design of parts and gaskets. That makes any development of the universal coolant recipe impossible. Hence, G-Energy and Gazpromneft series of coolants made to satisfy requirements of all main OEMs. Products represent various corrosion inhibiting additive technologies: carboxylate acid (OAT), lobrid, hybrid and traditional (IAT).

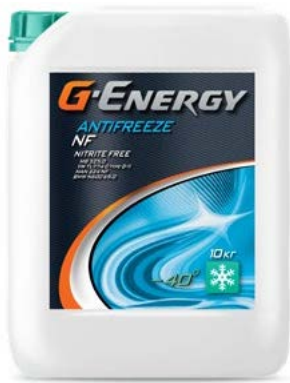


Classification of antifreezes according to additive technologies



9.1. Product range of G-Energy antifreezes

Name	Additive technology	Conformity to industry ASTM	Key Specifications	Color	Application
G-Energy Antifreeze SNF	OAT	ASTM D3306; ASTM D4985; ASTM D6210	MAN 324 SNF; MB 325.3; MTU MTL 5048; DEUTZ DQC CB-14; CATERPILLAR; MWM; DAF MAT 74002	Red	For light and heavy operating conditions. Lightly and heavily loaded engines. Comply with DAF, MTU, Volvo Trucks requirements.
G-Energy Antifreeze			JSC KAMAZ, LLC AVTOZAVOD GAZ, JSC AVTODIZEL [YAMZ]	Green	For light operating conditions and equipment made in Russia. Comply with KAMAZ, LIAZ, PAZ, GAZ, NEFAZ requirements.
G-Energy Antifreeze NF	OAT + IAT	ASTM D3306; ASTM D4985	MAN 324 NF; MB 325.0; Deutz DQC CA-14	Blue-Green	For light and heavy operating conditions. Comply with Liebherr, MWM, Volvo Trucks requirements.
G-Energy Antifreeze Si-OAT	X-OAT	ASTM D3306; ASTM D4985	MB-APPROVAL 325.5; CUMMINS 14603; MAN 324 SI-OAT; MTU MTL 5048	Purple	For light and heavy operating conditions. Comply with Cummins CES 14603, Deutz, Liebherr, MWM, Mercedes-Benz, MTU requirements.
G-Energy Antifreeze PSi-OAT		ASTM D3306; ASTM D4985	DEUTZ DQC CC-14; VOLKSWAGEN (VW) TL 774-L (G12 EVO)	Red	For light and heavy operating conditions. Comply with the requirements of Deutz, Volvo (from 2020), Scania, MAN, Liebherr. Recommended for use in Chinese vehicles in accordance with Chinese standard GB 29743.
G-Energy Antifreeze HD		ASTM D3306; ASTM D4985; ASTM D6210	CATERPILLAR EC-1; CUMMINS CES 90T8-4; DETROIT DIESEL 7SE298; FREIGHTLINER 48-22880	Purple	For light and heavy operating conditions. Reinforced protection against cavitation. Comply with Caterpillar CAT EC-1, Cummins, Detroit Diesel requirements.



G-Energy Antifreeze NF

Concentrated and premixed coolant based on ethylene glycol and designed according to hybrid technology (organic acid salt and silicate based corrosion inhibitors). Hybrid technology antifreezes are widely used for engines of European manufacturers like Liebherr, MTU, Mercedes-Benz, MAN, and DEUTZ (according to OEM requirements, the instruction manual must be checked before application).

SPECIFICATIONS:
MAN 324 NF; VW (Audi, Seat, Skoda) TL 774-C (G-11); Jenbacher TA-Nr. 1000-0201; MB 325.5; DEUTZ DQC CA-14; Liebherr Machines Bulle TLV 035; TLV 23009 A; Porsche 924, 928, 944, 968; Saab 6901599; General Motors B 040 0240; BMW N 600 69.0; Ford; General Motors; Iveco; ASTM D3306; ASTM D4985; AS 2108-2004; ÖNORM V 5123; CUNA NC 956-16; SANS 1251:2005; BS 6580-2010; GOST 33591-2015.

DIVERSE OPTIONS:

- **G-Energy Antifreeze NF** — concentrated coolant for dilution.
- **G-Energy Antifreeze NF 40** — premixed coolant with anti-freezing protection at -40 °C. 50:50 ratio concentrated coolant and water mix.



G-Energy Antifreeze HD

Concentrated and premixed coolant based on ethylene glycol and designed according to lobrid technology (organic acid salts, nitrites and molybdates based corrosion inhibitors). Lobrid technology antifreezes are widely used for heavy duty engines of American manufacturers like Caterpillar, Cummins, as well as for JCB engines (according to OEM requirements, the instruction manual must be checked before application).

SPECIFICATIONS:
Caterpillar ELC (EC-1); Cummins 90T8-4; Detroit Diesel 7SE298; Freightliner 48-22880; General Motors 1825, 1899M, 6277M; ASTM D6210, D3306, D4985; SAE J1034, J1038; TMC RP329; GOST 33591-2015.

DIVERSE OPTIONS:

- **G-Energy Antifreeze HD** — concentrated coolant for dilution.
- **G-Energy Antifreeze HD 40** — premixed coolant with anti-freezing protection at -40 °C. 50:50 ratio concentrated coolant and water mix.



G-Energy Antifreeze SNF

Concentrated and premixed coolant based on ethylene glycol and designed according to OAT technology (organic acid salt based corrosion inhibitors).

OAT technology antifreezes are widely used for engines of European and Japanese manufacturers like MTU, Mercedes-Benz, MAN, Komatsu, Volvo, and Hitachi (according to OEM requirements, the instruction manual must be checked before application).

DIVERSE OPTIONS:

- **G-Energy Antifreeze SNF** — concentrated coolant for dilution.
- **G-Energy Antifreeze SNF 40** — premixed coolant with anti-freezing protection at -40 °C. 50:50 ratio concentrated coolant and water mix.

SPECIFICATIONS:

MB 325.3; MTU MTL 5048; MWM 2091/15; MAN 324 SNF; VW/Audi/Seat/Skoda TL 774-D/F (G-12/G-12+); Bentley TL 774-D/F; DAF MAT 74002; Deutz DQC CB-14; Jaguar (built as from 1999); Lamborghini TL 774-D/F; MINI Cooper D (built as from 2007); Porsche (built as from 1996); Ford WSS-M97B44-D; Great Wall; Fiat; Case New Holland; Claas; Caterpillar; MWM (Deutz Power Systems) 0199-99-2091; GE Jenbacher TA 1000-0200; Deutz 0199-99-1115; DDC Power Cool Plus; GM 6277 M; Wärtsilä 32-9011; John Deere JDM H5; Komatsu KES 07.892; Liebherr MD1-36-130; Mazda; Isuzu; Volvo VCS 418-0001; ASTM D3306; ASTM D4985; ASTM D6210; ASTM D7583; BS 6580:2010; KSM 2142; JASO M325; JIS K2234; AS 2108-2004; SAE J1034; AFNOR SNF R15-601; ÖNORM V 5123; CUNA NC 956-16; SANS 1251:2005; SH 0521-1999.



G-Energy Antifreeze Si-OAT

Concentrated and premixed coolant based on ethylene glycol and designed according to lobrid technology (corrosion inhibitor based on salts of organic acids and silicates, Si-OAT). Widely used for engines of European and American manufacturers like MTU, Cummins, Mercedes-Benz, and MAN (according to OEM requirements, the instruction manual must be checked before application).

DIVERSE OPTIONS:

- **G-Energy Antifreeze Si-OAT** — concentrated coolant for dilution.
- **G-Energy Antifreeze Si-OAT 40** — premixed coolant with anti-freezing protection at -40 °C. 50:50 ratio concentrated coolant and water mix.

SPECIFICATIONS:

Cummins 14603; MB 325.5; MAN 324 Si-OAT; MTU MTL 5048; WV TL 774 G (G12++); ASTM D3306; ASTM D4985.



G-Energy Antifreeze PSi-OAT

Concentrated and premixed coolant based on ethylene glycol and designed according to lobrid technology. Contains a package of corrosion inhibitors based on salts of organic acids, phosphates and silicates (PSi-OAT). Recommended for use in Chinese cars in accordance with the Chinese standard GB 29743.

Recommended for use in the following models of trucks: Deutz, Volvo (since 2020), Scania, MAN, Liebherr, as well as other heavy-duty equipment. Suitable for use in Japanese and Korean equipment (according to OEM requirements, the instruction manual must be checked before application).

DIVERSE OPTIONS:

- **G-Energy Antifreeze PSi-OAT** — concentrated coolant for dilution.
- **G-Energy Antifreeze PSi-OAT 40** — premixed coolant with anti-freezing protection at -40 °C. 50:50 ratio concentrated coolant and water mix.

SPECIFICATIONS:

Volkswagen (VW) TL 774-L (G12 EVO); Deutz DQC CC-14; Bentley TL-774-L; Audi TL 774-L; Bugatti TL 774-L; Deutz DQC CC-14; Lamborghini TL 774-L; Porsche TL 774-L; Seat TL 774-L; Skoda TL 774-L; BMW LC-18 > 01/2019; ASTM D3306; ASTM D4985.

9.2. Product range of Gazprom coolants

Name	Additive technology	Conformity to industry ASTM	Key specifications	Color	Application
Gazpromneft ANTIFREEZE SF 12+	OAT	ASTM D3306; ASTM D4985	MAN 324 SNF; MB 325.3	Red	Light and heavy duty operational conditions. Comply to Mercedes-Benz and MTU requirements.
Gazpromneft ANTIFREEZE Hybrid	OAT + IAT	ASTM D3306; ASTM D4985	DEUTZ DQC CA-14; IVECO T18-1804 CLASSE T3 E4; MAN 324 NF; MB 325.0; MTU MTL 5048; CHINA GB 29743	Blue and Green	Light and heavy duty operational conditions. Comply to MTU, MAN, MB, and Deutz requirements. Recommended for use in Chinese cars in accordance with Chinese standard GB 29743.
Gazpromneft ANTIFREEZE (BS)		ASTM D3306; ASTM D4985		Green	Light duty operating conditions. Designed for vehicles made in Russia and abroad at postwarranty period.
Gazpromneft ANTIFREEZE	IAT	ASTM D3306; ASTM D4985; ASTM D6210	Caterpillar; New Holland 9-86; Cummins CES 14603; John Deere 8650-5; Detroit Diesel 7SE298; JSC Kamaz; OJSC "MMP"; JSC Avtodizel (YAMZ)	Red	Light and heavy duty operating conditions. Enhanced protection against cavitation. Comply to Caterpillar, Cummins, Detroit Diesel, Freightliner, and John Deere requirements.
Gazpromneft TOSOL				Blue	Used for various equipment at post-warranty period.

Specifications valid through 2024. See gazpromneft-oil.ru for actual specifications/approvals and detailed information.



Gazpromneft ANTIFREEZE SF 12+

Concentrated and premixed coolant based on ethylene glycol and designed according to OAT technology (organic acid salt based corrosion inhibitors).

OAT technology antifreezes are widely used for special equipment engines of European and Japanese manufacturers like MTU, Mercedes-Benz, MAN, Komatsu, Volvo, and Hitachi (according to OEM requirements, the instruction manual must be checked before application).

DIVERSE OPTIONS:

- **Gazpromneft ANTIFREEZE SF 12+** — coolant concentrate for dilution in water.
- **Gazpromneft ANTIFREEZE SF 12+ 40** — coolant with anti-freezing protection temperature -40 °C, concentrate dilution in water at 50:50 ratio.
- **Gazpromneft ANTIFREEZE SF 12+ 60** — coolant with anti-freezing protection temperature -50 °C, concentrate dilution in water at 60:40 ratio.

SPECIFICATIONS:
MAN 324 TYP SNF; VW/ Audi/Seat/Skoda TL 774-D/F (G-12/G-12+); Bentley TL 774-D/F; DAF MAT 74002; DEUTZ DQC CB-14; Lamborghini TL 774-D/F; MINI Cooper D (built as from 2007); Porsche (built as from 1996); FORD WSS-M97B44-D; Mazda; Isuzu; Great Wall; Volvo VCS 418-0001; JJSC Avtovaz; JSC Kamaz; JSC Avtodizel (YAMZ); ASTM D3306; ASTM D4985; BS 6580:2010; KSM 2142; JASO M325; JIS K2234; SAE J1034; AFNOR SNF R15-601; ÖNORM V 5123; CUNA NC 956-16; SANS 1251:2005; SH 0521-1999.



Gazpromneft ANTIFREEZE Hybrid

Concentrated and premixed coolant based on ethylene glycol, salts of carboxylic acids and silicates (hybrid type). Suitable for use in Chinese cars in accordance with the Chinese standard GB 29743. Widely used in engines of MTU, Mercedes-Benz, MAN, Deutz, and others (according to OEM requirements, the instruction manual must be checked before application).

DIVERSE OPTIONS:

- **Gazpromneft Antifreeze Hybrid** — coolant concentrate for dilution in water.
- **Gazpromneft Antifreeze Hybrid 40** — coolant with anti-freezing protection temperature -40 °C, concentrate dilution in water at 50:50 ratio.

SPECIFICATIONS:
BMW N 600 69.0; BS 6580-2010; CUNA NC 956-16; Deutz DQC CA-14; Ford; GM B 040 0240; Iveco T18-1804 Classe T3 E4; MAN 324 NF; MB 325.0; MTU MTL 5048; ONORM V 5123; VW TL 774-C (G-11); China GB 29743; Seat; Skoda; Audi; Mitsubishi; Porsche 924, 928, 944, 968; Saab 6901599; SANS 1251:2005; Afnor R15-601; AS 2108-2004; ASTM D3306; ASTM D4985.

Specifications valid through 2024. See gazpromneft-oil.ru for actual specifications/approvals and detailed information.



Gazpromneft ANTIFREEZE

Concentrated and premixed coolant based on ethylene glycol and designed according to traditional inorganic acid salt technology (low content of silicate additives and nitrites).

Antifreezes of these series are widely used for Caterpillar, Cummins engines and can be applied for KAMAZ engines as well (according to OEM requirements, the instruction manual must be checked before application).

DIVERSE OPTIONS:

- **Gazpromneft ANTIFREEZE** — concentrated coolant for dilution.
- **Gazpromneft ANTIFREEZE 40** — coolant with anti-freezing protection temperature -40 °C, concentrate dilution in water at 50:50 ratio.
- **Gazpromneft ANTIFREEZE Arctic** — coolant with a high content of anti-cavitation additives and with anti-freezing protection temperature of -50 °C, concentrate dilution in water at 60:40 ratio.

SPECIFICATIONS:

Cummins CES 14603; Caterpillar; Detroit Diesel 7SE298; General Motors 6038M; John Deere 8650-5; Case Corp. MS1710; New Holland 9-86; Navistar; Freightliner 48-22880; PACCAR; MACK; Waukesha 4-1974D; GAZ Ltd.; JSC Avtovaz; JSC Kamaz; JSC Avtodizel (YAMZ); Minsk Motor Plant; ASTM D3306, D4985, D6210; TMC RP329; SAE 1941; BS 6580-1992; GOST 33591-2015.



Gazpromneft ANTIFREEZE (BS)

Concentrated and premixed coolant based on ethylene glycol and designed according to traditional inorganic acid salt technology (nitrites containing additives).

Antifreezes of these series are widely used for American and Russian made engines like Caterpillar, Cummins, and KAMAZ (according to OEM requirements, the instruction manual must be checked before application).

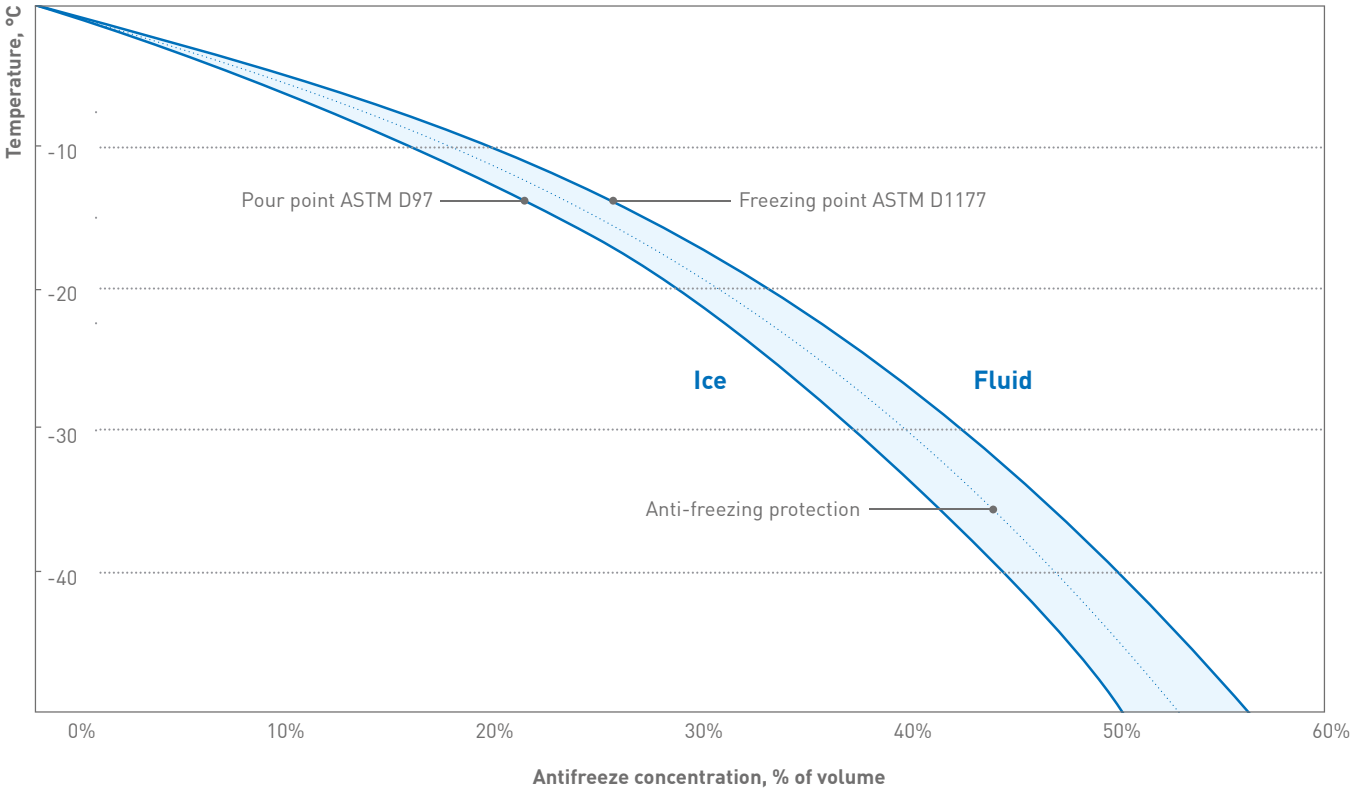
DIVERSE OPTIONS:

- **Gazpromneft ANTIFREEZE (BS)** — concentrated coolant for dilution.
- **Gazpromneft ANTIFREEZE (BS) 40** — coolant with anti-freezing protection temperature -40 °C, concentrate dilution in water at 50:50 ratio.

SPECIFICATIONS:

ASTM D3306, D4985; GOST 33591-2015.

9.3. Diagram: Anti-freezing protection temperature* dependency on concentration



* Anti-freezing protection temperature - average value between freezing point (first ice crystals) and pour point (loss of fluidity).



Gear oils

Mineral extraction and processing involves big number of various mechanisms. All of them require transfer and reduction of torque. Due to immense energy transferred through the systems, many gearboxes are exposed to high mechanical and thermal loads. Dust and humidity in the air are regular conditions of everyday operation. In light of these conditions strong antiwear and extreme pressure properties must be reinforced by gear oils with high antioxidation and anticorrosion capabilities, able to rapidly separate water.



Gazpromneft gear oils

Name, SAE Viscosity Grade	Base oil	Oxidation stability	Anticorrosion	Antifoam properties	Low temperature properties	Antiscuffing properties	Seal compatibility
Gazpromneft Reductor PAO Synth 150, 220, 320, 460, 680	PAO	■■■■	■■■	■■■	■■■■	■■■	■■■
Gazpromneft Reductor F Synth 150, 220, 320, 460, 680		■■■	■■■	■■■	■■■	■■■	■■■
Gazpromneft Reductor CLP 68, 100, 150, 220, 320, 460, 680		■■■	■■■	■■■	■■■	■■■	■■■
Gazpromneft Reductor WS 100, 150, 220		■■■	■■■	■■■	■■■	■■■	■■■
Gazpromneft Reductor ITD 68, 100, 150, 220, 320, 460, 680		■■■	■■■	■■■	■■■	■■■	■■■

PAO

Synthetic PAO oil



Synthetic oil



Mineral oil

Gear oils

Product range of Gazpromneft oils



Gazpromneft Reductor PAO Synth

A range of fully synthetic gear oils designed for use in modern industrial gearboxes operating under heavy-duty conditions. The use of synthetic base oils based on polyalphaolefins (PAO) allows Gazpromneft Reductor PAO Synth oils to be used at both negative and high operating temperatures, with the possibility of significantly extending the change interval (compared to mineral-based oils). Recommended for use in equipment with extended maintenance intervals.

ISO Viscosity Grades: 150, 220, 320, 460, 680.

SPECIFICATIONS:
AGMA 9005-E02; AIST 224; DIN 51517 PART 3 CLP; FLENDER; ISO 12925-1 (CKD).

	High load carrying capacity	Oil is capable to operate under extreme loads and to protect teeth surface against wear and micropitting.
	Formation of protective layers	Oil ensures separation of the friction surfaces, providing not only a high level of wear protection but also preventing micropitting.
	Excellent oxidation stability	Fully synthetic PAO base ensures a long drain interval.
	Resistance to emulsification with water	The oil easily separates water and maintains reliable oil film thickness
	Anticorrosion protection	Minimized corrosion risk of moisture cuts maintenance and costs.

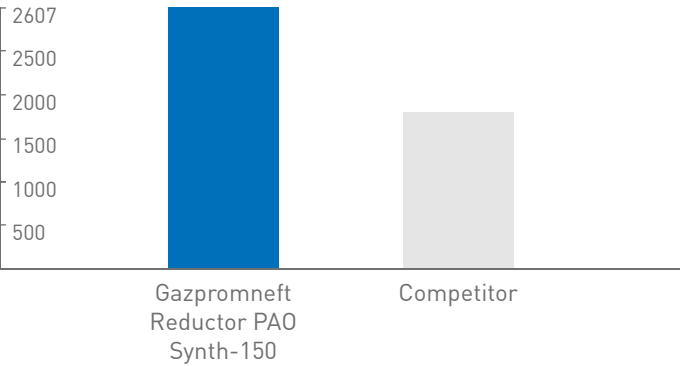
Antiwear properties*

Gazpromneft Reductor PAO series of oils demonstrate high gear teeth antiwear and antimicropitting protection capabilities extending life cycle of equipment.

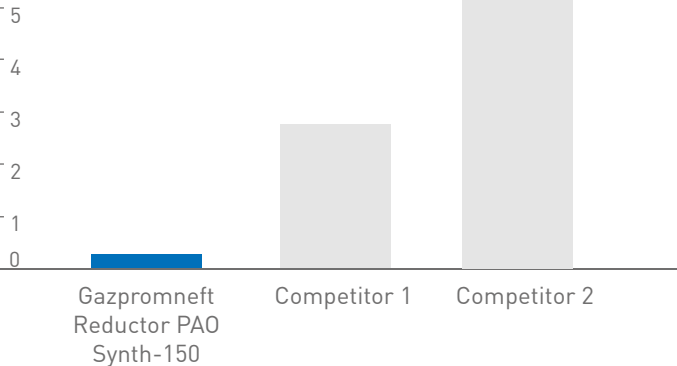
Oxidation stability**

The Gazpromneft Reductor PAO Synth oil series has excellent oxidation resistance, ensuring uninterrupted operation over long replacement intervals.

Welding load, N



Relative change in kinematic viscosity at 100 °C, %



* GOST 9490. ** DKA Oxidation test (312 h, 120C)

Product range of Gazpromneft oils



Gazpromneft Reductor F Synth

Series of synthetic gear oils for modern industrial reduction gears (e.g. Flender) operating in harsh conditions. Synthetic base provides maintenance of oils properties at high and low ambient temperatures. Oils of Gazpromneft Reductor F Synth series, compared to mineral based lubricants, are applicable for extended drain intervals.

ISO Viscosity Grades: 150, 220, 320, 460.

SPECIFICATIONS:

DIN 51517 Part 3; AGMA 9005-E02; AIST 224; ISO 12925-1 (CKD); Flender; Hansen Industrial Transmissions NV; IEC 61400-4.



Gazpromneft Reductor CLP

Series of gear oils for industrial reduction gears operating in harsh conditions. Suitable also for transmissions lubricated by circulation system or by splashing. It is not recommended for reduction gears made by Flender.

ISO Viscosity Grades: 68, 100, 150, 220, 320, 460, 680.

SPECIFICATIONS:

DIN 51517 Part 3 (CLP); AGMA 9005-E02, AIST 224; David Brown S1.53.101(E); Danieli (except ISO VG 68 and 100); Fives Cincinnati P-77 (for ISO 150 viscosity grade); Fives Cincinnati P-74 (for ISO 220 viscosity grade). ISO 12925-1 (CKC); ISO 6743-6 (L-CKC/CKD).

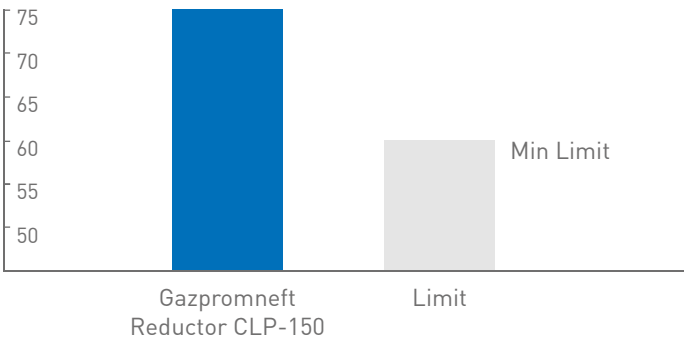
	High load carrying capacity	Oil is capable to operate under extreme loads and to protect teeth surface against micropitting.
	Formation of protective layers	Consistent separation of friction surfaces reduces the probability of surface fatigue and prolongs the life cycle of the equipment.
	Great resistance against thermal degradation	Prevents insufficient lubrication due to sludge formation. High operating capacity achieved.
	Resistance to emulsification with water	Oil easily separates water and maintains reliable oil film thickness, thereby provides safe operation at a presence of water.
	Anticorrosion protection	Minimized corrosion risk at a presence of moisture cuts maintenance and costs.

Gear oils

Load capacity*

Gazpromneft Reductor CLP series of oils demonstrate high gear teeth antiwear and antimicropitting protection capabilities, extending the life cycle of the equipment.

Load, lbs

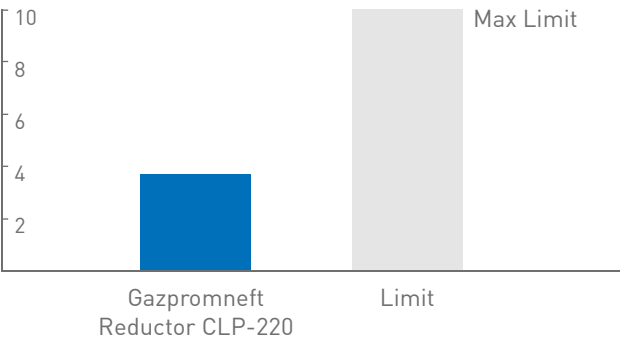


* ASTM D2782. ** DIN ISO 1817.

Seal compatibility**

Gazpromneft Reductor CLP series of oils are delicate to elastomers and reduce unplanned maintenance costs.

Relative swelling of elastomer, %



Gazpromneft Reductor WS

Series of special gear oils for heavily loaded industrial reduction gears operating at wide range of ambient temperatures, e.g., unheated industrial facilities. Combination of met DIN 51517 requirements and enhanced low temperature properties provide an adequate operational capacity of equipment throughout the year.

ISO Viscosity Grades: 100, 150, 220.

SPECIFICATIONS:

DIN 51517 Part 3.



Gazpromneft Reductor ITD

Series of gear oils containing modern additive package providing conformity to DIN 51517 Part 3 requirements. Excellent alternative to the monograde oils (ITD, ISP, etc.).

ISO Viscosity Grades: 68, 100, 150, 220, 320, 460, 680.

SPECIFICATIONS:

DIN 51517 Part 3.



Compressor oils

Besides electric and hydraulic power, the mining industry has another source of power generation pneumatics are involved in significant part of mineral extraction and processing. Pneumatics are used for rock drills, mining scalars, pneumatic conveying of extracted minerals, sprinkling of fluids, air supply for enrichment processes, etc. Air compressors are operated everywhere – underground, in quarries, and enrichment plants. Mining conditions are harsh: high air humidity and dense dust pose corrosion and premature wear risk on compressors. In addition, high power output combined with compact dimensions of the compressors generate extreme operating temperatures. This is why the mining industry sets severe requirements on sludge and deposit control, oxidation stability, water separation, and antiwear properties.



Gazpromneft compressor oils

Name, SAE Viscosity Grade	Sludge control	High temperature stability	Rotary compressor application	Piston compressor application	Low temperature properties
Gazpromneft Compressor F Synth					
46, 68	■■■	■■■	✓		■■■
Gazpromneft Compressor S Synth					
46, 68	■■■	■■■	✓		■■■
100, 150	■■■	■■■		✓	■■■
Gazpromneft Compressor Oil					
46, 68	■■■	■■■	✓		■■■
100, 150, 220, 460	■■■	■■■		✓	■■■

Product range of Gazpromneft compressor oils



Gazpromneft Compressor F Synth

Series of synthetic compressor oils for modern screw and vane compressors operating in harsh conditions (discharge temperature up to 220 °C). Synthetic base stock provides excellent protection against sludge and deposit formation. Compared to mineral and semisynthetic oils, it has extended drain intervals. Quick water separation provides good inhibition of corrosion.

ISO Viscosity Grades: 46, 68.

SPECIFICATIONS:
DIN 51506 VDL;
ISO 6743 DAJ;
ROTORCOMP
VERDICHTER GmbH.



Gazpromneft Compressor S Synth

Series of semi-synthetic compressor oils for modern positive displacement and dynamic type air compressors (piston, screw, vane) operating in harsh conditions (discharge temperature up to 220 °C). Synthetic base stock provides excellent protection against sludge and deposit formation. Compared to mineral based oils has extended drain intervals. Quick water separation provides good inhibition of corrosion.

ISO Viscosity Grades: 46, 68, 100, 150.

SPECIFICATIONS:
DIN 51506 VDL;
Compressor Plant
"Borets" (ISO VG
100 and 150 only);
ROTORCOMP
VERDICHTER GmbH.



Gazpromneft Compressor Oil

Series of compressor oils for modern positive displacement and dynamic type air compressors (piston, screw, vane) operating in harsh conditions (discharge temperature in mobile systems up to 220 °C, in stationary up to 160 °C). Careful selection of high quality base oils and additives provides protection of compressor components against sludge formation and corrosion.

ISO Viscosity Grades: 46, 68, 100, 150, 220, 460.

SPECIFICATIONS:
JSC UKZ; DIN51506
VCL (except ISO 460);
JSC Sumy NPO;
ROTORCOMP
VERDICHTER GmbH.

Oils for
pneumatic tools



Gazpromneft Pneumo

Series of oils designed for pneumatic tools of the breaker type, including equipment for drilling rocks. Gazpromneft Pneumo has excellent adhesive properties, which allow for a stable oil film even under impact loads. The composition contains special emulsifiers that retain moisture, protecting equipment from corrosion and wear.

ISO Viscosity Grades: 32, 46, 100.



Monograde oils

Even up to this day there are many machines and a lot of equipment of 80's operating in the mining industry. Regardless of the age, this equipment requires specific but still high quality lubricants. The product range of these lubricants isn` t narrow at all. In general,s monograde oils or corresponding substitutes made of modern components are intended for the application.

Accurate maintenance and use of high quality lubricants often prolongs a life cycle of such machinery for many years. For instance, maximized equipment life cycle can be achieved by replacement of monograde oils with improved and more universal products.

Engine oils

Substituting monograde oils

Name	Sludge control	Oxidation stability	Ambient temperature range	Antiwear protection	Soot control	All season application
Gazpromneft Turbo Universal*						✓
Oils M-8DM, M-10DM						

* Detailed product information in section [Engine oils](#).

Product range of engine oils

Diesel Turbo SAE 20 (M-8DM)

Engine oil for highly loaded cargo vehicles, special and off-road machinery operating during winter period.

SPECIFICATIONS:
API CD.

Gazpromneft M-10DM

Engine oil designed for the summer operation of high-force turbocharged diesel engines for long-haul tractors, timber trucks, heavy-duty dump trucks, and industrial tractors operating under severe conditions. It can be used in non-supercharged diesel engines with significantly increased mileage between oil changes.

SPECIFICATIONS:
API CD, JSC Avtodizel (YAMZ), JSC TMZ.

Specifications valid through 2024. See gazpromneft-oil.ru for actual specifications/approvals and detailed information.

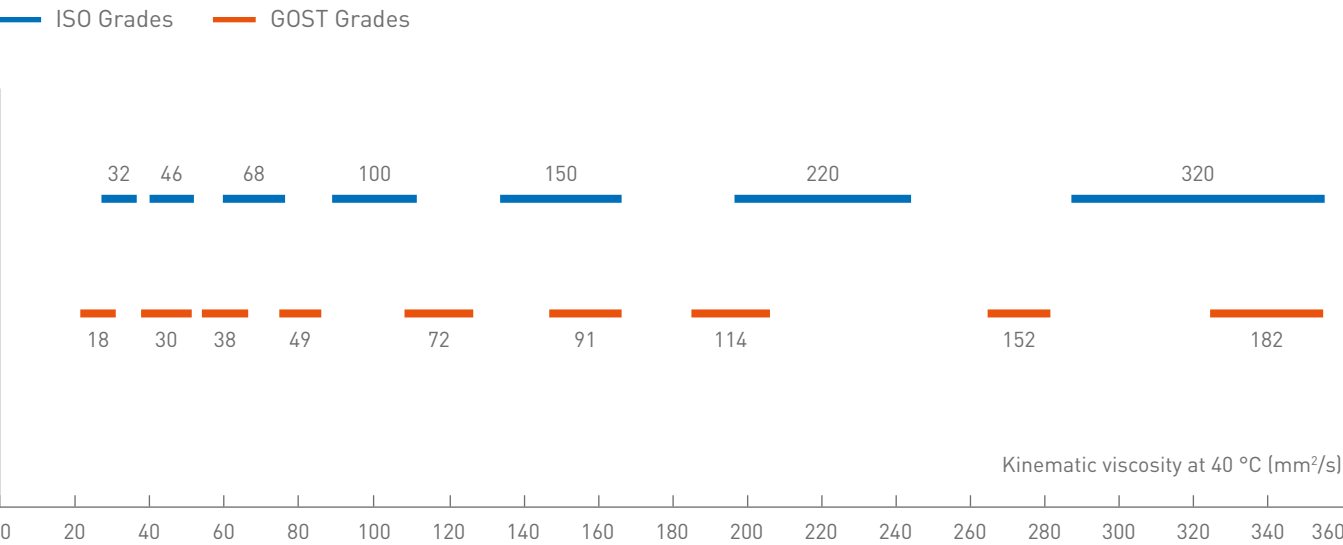
Monograde oils

Hydraulic oils

Substituting monograde oils

Name	Antiwear properties	Oxidation stability	Antifoaming properties	Water separation	Cleanliness class	Compliance to DIN 51524 Part 2 requirements
Gazpromneft Hydraulic*						✓
IGP series oils						

* Detailed product information in section [Hydraulic oils](#).



Specifications valid through 2024. See gazpromneft-oil.ru for actual specifications/approvals and detailed information.

Product range for hydraulic systems

Gazpromneft Mark "A"

Hydraulic-transmission fluid intended for torque converters, automatic transmissions, and hydrostatic drives of cargo trucks, passenger vehicles, and special equipment.

Gazpromneft Mark "R"

Special oil for application in power steering systems and hydrostatic drives of cargo trucks, passenger vehicles, and special machinery.

Gazpromneft VMGZ

Gazpromneft VMGZ-60

Series of hydraulic oils intended for application in hydraulic and hydraulic steering systems of construction, road building, logging, lifting, and other machinery operating outdoors in a wide range of ambient temperature.

MGE-46V

Hydraulic oil intended for hydraulic and hydrostatic drive systems of special machinery operating in a wide range of ambient temperature.

Gazpromneft MG-68V

Oil designed for hydraulic systems and transmissions of tractors and other agricultural machinery operating at pressures not exceeding 25 MPa. It is produced based on mineral oils and contains an effective additive complex that improves antioxidant, anti-wear, depressor, and antifoaming properties.

Gazpromneft Industrial 30, 40

Series of industrial oils intended for application in lightly loaded units of industrial equipment. Compared to I-30A and I-40A demonstrates much higher performance. Thereby is perfect choice to replace monograde oils.

SPECIFICATIONS:
DIN 51524 Part 2.

I-12A, I-20A, I-30A, I-40A, I-50A product line

Product line of industrial equipment oils without additives.

IGP-18, 30, 38, 49, 72, 91, 114, 152, 182

Product line of industrial hydraulic oils containing additives for machine tools, presses, automatic industrial conveyors if oils providing enhanced oxidation stability and antiwear properties are required. IGP-152 is applied for lubrication of highly loaded cogwheels and worm gears of industrial transmissions.

SPECIFICATIONS:
Srednevolzhsky Research
Institute for Oil Refining
(IGP-18 and IGP-38)

Monograde oils

Gear oils

Substituting monograde oils

Name	Extreme pressure and antiwear properties	Oxidation stability	Antifoaming properties	Water separation	Anticorrosion properties	Compliance to DIN 51524 Part 3 requirements
Gazpromneft Gear ITD*						
Regular oils series ITD, ISP, ISPi, IPp, ITP						

* Detailed product information in section [Gear Oils](#).

Product range of gear oils

Gazpromneft Reductor ITD

Product line of gear oils containing modern additive package that makes product complying with DIN 51517 Part 3 requirements. Perfect substitute for corresponding monograde oils (ITD, ISP, etc.)

SPECIFICATIONS:
DIN 51517 Part 3.

Other monograde oils

Compressor oils

Kp-8S – enhanced stability

Compressor oil containing additives for lubrication of centrifugal and turbo compressors, including "turbine – gearbox" systems. Applicable for some ammonia pump-out compressors.

KS-19p A

Compressor oils containing additives for application in piston compressors operated under moderate and high pressure. Applicable for rotary compressors if the equipment manufacturer requires the viscosity grade of this product. Suitable for single or multistage compressors operating in various industries compressing air or other insoluble gases.

Transmission oils

TSp-15K

Transmission oil for manual gearboxes, transfer boxes, power take-off units, and final drives without hypoid gears operated on heavy-duty cargo, special and off-road machinery. Applicable if oil according to API GL-3 or lower EP grade is required.

SPECIFICATIONS:
API GL-3; JSC Kamaz;
JSC Avtodizel (YAMZ).

Greases

Litol-24

Gazpromneft Litol

Multipurpose antifriction grease based on mineral oil. Thickened by lithium soap and contains effective additive package. Providing good lubrication of rolling and sliding bearings, swivels, cogwheel, and other gearings, sliding surfaces of mobile or stationary equipment and industrial equipment.

SPECIFICATIONS:
DIN 51502 K 3 K -40.

Coolants

Gazpromneft TOSOL

Concentrated and premixed coolant based on ethylene glycol. Additive package contains traditional inhibitors of corrosion. Properties precisely comply to GOST 28084-89, GOST 33591-2015 requirements.

Diverse options:

Gazpromneft TOSOL — coolant concentrate for dilution.

Gazpromneft TOSOL 40 — coolant with anti-freezing temperature -40 °C..

Gazpromneft TOSOL 65 — coolant with anti-freezing temperature -65 °C.

Oil recommendations for Mining Industry

This section provides recommendations for the use of lubricants in the most common models of equipment used in the mining industry.

Quarrying dump trucks

		BELAZ		Caterpillar	Komatsu	
		7555	7513	777 G	HD785-5	
Engine	Model	KTTA 19C / QSK19-C	MTU12V 4000 / KTA 50 / KTA 38 / QSK 45C	C32 Acert	Komatsu SA12V140	
	Sump volume, L	54/70	253/195/156/195	109	130	
	Product	G-Profi MSI Plus 15W-40		G-Profi MSK 10W-30 / G-Profi MSI Plus 15W-40	G-Profi MSI Plus 15W-40	
	Service interval	250 mh	500 mh (MTU) 250 mh (Cummins)	500 mh / 3 months	500 mh	
Hydraulic system	Product	G-Special Hydraulic Nord-32 (>7500 mh) G-Special Power HVLP Gazpromneft Hydraulic HVLP (viscosity choice depends on ambient temperature)		G-Special TO-4 Arctic 0W-20 G-Special TO-4 10W	G-Special TO-4 10W	
	Sump volume, L	300	510	461	248	
	Service interval	4000 mh		1000 mh / 6 months	2000 mh	
Transmission units	Hubs	Product	G-Truck GL-5 85W-140		—	
		Sump volume, L	—	92 (46*2)		
		Service interval	2500 mh			
	Final drive cases, wheel gears	Product	G-Truck GL-5 80W-90		G-Special TO-4 30 G-Special TO-4 50	
		Sump volume, L	108	—		132/59
		Service interval				
	Differential, final drive				G-Special FD-1 60	2000 mh
			Service twice a year			
	Differential, wheel gears, wheel bearings					
	Front suspension, rear suspension, brake system, brake cooling	Product	G-Box ATF DX II, G-Box ATF DX III	—	G-Special TO-4 10W G-Special TO-4 30	G-Special TO-4 10W G-Special TO-4 30
		Sump volume, L	146	—	166	125
		Service interval	1000 mh		500 mh	1000 mh
Front suspension, rear suspension, brake system, brake cooling	Product				G-Special TO-4 10W	
	Sump volume, Ls		—		20/18/2/366	
	Service interval				2000 mh	
Coolant	Product	Engine Cummins – Gazpromneft ANTIFREEZE Engine MTU – G-Energy Antifreeze SNF		G-Energy Antifreeze HD, Gazpromneft ANTIFREEZE	G-Energy Antifreeze SNF	
Greases	Load on one unit	up to 5508 N	Gazpromneft Grease Premium HD. Application: highly loaded units.			
		up to 4136 N	Gazpromneft Grease LTS Moly EP 2. Application: highly loaded units.			
		up to 4000 N	Gazpromneft Grease Nord Moly. Application: Central lubrication of highly loaded units.			
		up to 3000 N	Gazpromneft Grease LX EP 2 (up to -30 °C) / Gazpromneft Premium Grease EP (up to -40 °C) Application: universal grease if solid additives are not required.			
		up to 2800 N	Gazpromneft Grease Synth LX EP 2. Application: universal grease if solid additives are not required (up to -50 °C).			

Excavators

		Hitachi	Komatsu	
		EX 2500	PC 3000	
Engine	Model	Cummins KTA 50C	Komatsu SSA12V159	
	Sump volume, L	163	190	
	Product	G-Profi MSI Plus 15W-40	G-Profi MSI Plus 15W-40	
	Service interval	250 mh / 6 months	—	
Hydraulic system	Oil (arctic/moderate winter/moderate summer)	G-Special Power HVLP Gazpromneft Hydraulic HVZF Gazpromneft Hydraulic HLP Gazpromneft Hydraulic HVLP (viscosity choice depends on ambient temperature of operating) G-Special Hydraulic Nord-32		
	Sump volume, L	2950	4400	
	Service interval	2000 mh	2000 mh / 12 months	
Transmission units	Swing gearbox	Product	G-Truck GL-4 80W-90 Gazpromneft Hydraulic HLP-32 Gazpromneft Reductor PAO Synth-220 Gazpromneft Reductor F Synth-220 Gazpromneft Reductor CLP-220	
		Sump volume, L	100 L (x2) 42	
		Service interval	1000 mh 3000 mh / 12 months	
	Gear unit	Product	G-Truck GL-4 80W-90 Gazpromneft Reductor PAO Synth-220 Gazpromneft Reductor F Synth-220 Gazpromneft Reductor CLP-220	
		Sump volume, L	137 L (x2) 60	
		Service interval	2000 mh 3000 mh / 12 months	
	Track rollers & idlers	Product		
		Sump volume, L	—	—
		Service interval		
	Power take-off	Product		Gazpromneft Reductor PAO Synth-220 Gazpromneft Reductor F Synth-220 Gazpromneft Reductor CLP-220
Sump volume, L		—	hasta 87 (depending on model)	
Service interval			3000 mh / 12 months	
Pump transmission	Product	G-Special TO-4 30		
	Sump volume, L	26	—	
	Service interval	500 mh		
Coolant	Product	G-Energy Antifreeze SNF		
Greases	Load on one unit	up to 5500 N	Gazpromneft Grease Premium HD. Application: highly loaded units.	
		up to 4136 N	Gazpromneft Grease LTS Moly EP 2. Application: highly loaded units.	
		up to 4000 N	Gazpromneft Grease Nord Moly. Application: Central lubrication of highly loaded units.	
		up to 3000 N	Gazpromneft Grease LX EP 2 (up to -30 °C) / Gazpromneft Premium Grease EP (up to -40 °C). Application: universal grease if solid additives are not required.	
		up to 2600 N	Gazpromneft Grease Synth LX EP 2. Application: universal grease if solid additives are not required. (up to -50 °C).	

Information supplied for reference only. Before selecting lubricants and technical fluids, it is recommended to refer to the operating manual or contact Gazpromneft-Lubricants Ltd. specialists at Techservice@gazprom-neft.ru.

Excavators

Caterpillar	Komatsu	Liebherr	Hitachi
340D2 L	PC 1250	R966	ex 1200
C9 Acert	Komatsu SAA6D170E-3/5	Liebherr D9508	Cummins QSX-23
35.5	68/97	60	118
less than 0,1% Sulphur in fuel: G-Profi MSK 5W-30 G-Profi MSK 10W-30 more than 0,1% Sulphur in fuel: G-Profi MSI 5W-40 G-Profi MSI Plus 15W-40	G-Profi MSI Plus 15W-40	G-Profi GT LA 10W-40	G-Profi MSI Plus 15W-40
	250 mh / 6 months	125 to 500 mh (depending on Sulphur content in fuel, operating temperature and conditions)	250 mh (or according to OEM recommendations, see instruction manual)
G-Special TO-4 Arctic 0W-20 G-Special TO-4 5W-30 G-Special TO-4 10W G-Special TO-4 30	G-Special TO-4 10W	See instruction manual	G-Special Power HVLP Gazpromneft Hydraulic HVZF Gazpromneft Hydraulic HLP Gazpromneft Hydraulic HVLP (viscosity choice depends on ambient temperature) G-Special Hydraulic Nord-32
410	1180		1350
2000 mh / 12 months	2000 mh		2000 mh
G-Special TO-4 5W-30 G-Special TO-4 10W G-Special TO-4 30 G-Special TO-4 50	G-Special TO-4 5W-30 G-Special TO-4 10W G-Special TO-4 30	G-Truck LS 85W-90	G-Truck GL-4 80W-90 G-Box GL-4/GL-5 75W-90
19	24	1000 mh	See instruction manual
2000 mh / 12 months	1000 mh		
G-Special TO-4 5W-30 G-Special TO-4 10W G-Special TO-4 30 G-Special TO-4 50	G-Special TO-4 5W-30 G-Special TO-4 30	G-Truck GL-5 80W-90	G-Truck GL-4 80W-90 G-Box GL-4/GL-5 75W-90
8 L each	22		43 (x2)
2000 mh / 12 months	2000 mh	2000 mh	2000 mh
G-Special TO-4 5W-30 G-Special TO-4 30	—	—	—
See instruction manual			
—	G-Special TO-4 5W-30 G-Special TO-4 10W G-Special TO-4 30	—	—
	14		
	1000 mh		
—	—	—	—
G-Energy Antifreeze HD, Gazpromneft ANTIFREEZE	G-Energy Antifreeze SNF	G-Energy Antifreeze NF, G-Energy Antifreeze Si-OAT	G-Energy Antifreeze HD, Gazpromneft ANTIFREEZE

Information supplied for reference only. Before selecting lubricants and technical fluids, it is recommended to refer to the operating manual or contact Gazpromneft-Lubricants Ltd. specialists at Techservice@gazprom-neft.ru.

Bulldozers

		Caterpillar		Komatsu	Liebherr
		D9R/D9T	D10T	D375	PR 744
Engine	Model	3408C / C18 ACERT	C27 Acert	SA6D170E-3	D936L A6 (w/out DPF)
	Sump volume, L	—	68	68	43
	Product	G-Profi MSI Plus 15W-40	G-Profi MSI Plus 15W-40	G-Profi MSI Plus 15W-40	G-Profi GTS 5W-30 G-Profi GT 10W-40
	Service interval	Depending on model, see instruction manual	500 mh / 3 months	500 mh	500 mh / 12 months (Sulphur content in fuel <0,5%, operating temperature above -10 °C)
Hydraulic system	Product	G-Special TO-4 10W G-Special TO-4 30		G-Special TO-4 10W G-Special TO-4 30	See instruction manual
	Sump volume, L		144	270	
	Service interval	2000 mh	2000 mh / 12 months	2000 mh	
Gearbox	Product	G-Special TO-4 Arctic 0W-20 G-Special TO-4 5W-30 G-Special TO-4 10W G-Special TO-4 30, G-Special TO-4 50		G-Special TO-4 5W-30 G-Special TO-4 10W G-Special TO-4 30	G-Box GL-5 75W-90 G-Truck GL-5 85W-140
	Sump volume, L	—	193	275	6,5
	Service interval	1000 mh	1000 mh / 6 months	1000 mh	500 mh / 24 months
Transmission units	Product	G-Special TO-4 30 G-Special TO-4 50 G-Special FD-1 60	G-Special TO-4 30 G-Special TO-4 50 G-Special FD-1 60	G-Special TO-4 30	—
	Sump volume, L	—	23	65 (x2)	
	Service interval	2000 mh / 12 months	2000 mh / 12 months	2000 mh	
Pivot shaft bearings/Track roller frame recoil spring	Product	G-Special TO-4 5W-30 G-Special TO-4 10W G-Special TO-4 30 G-Special TO-4 50		—	
	Sump volume, L				
		Depending on model, see instruction manual			
	Service interval				

Information supplied for reference only. Before selecting lubricants and technical fluids, it is recommended to refer to the operating manual or contact Gazpromneft-Lubricants Ltd. specialists at Techservice@gazprom-neft.ru.

Bulldozers

Bulldozers		Caterpillar		Komatsu	Liebherr
		D9R/D9T	D10T	D375	PR 744
Transmission units	Track drives	Product	—		G-Box GL-5 75W-90 G-Truck GL-5 85W-140
		Sump volume, L			18
		Service interval			1000 mh / 48 months
	Track rollers & idlers	Product	Depending on a model: G-Special TO-4 5W-30 G-Special TO-4 30	—	G-Special TO-4 30
		Sump volume, L	—		
		Service interval	—		
	Pivot shaft bearings	Product	G-Special TO-4 5W-30 G-Special TO-4 30 G-Special TO-4 50		
Sump volume, L		Depending on model, see instruction manual			
Service interval					
Coolant	Product	G-Energy Antifreeze HD, Gazpromneft ANTIFREEZE		G-Energy Antifreeze SNF	G-Energy Antifreeze NF, G-Energy Antifreeze Si-OAT
Greases	Load on one unit	up to 5500 N	Gazpromneft Grease Premium HD. Application: highly loaded units.		
		up to 4136 N	Gazpromneft Grease LTS Moly EP 2. Application: highly loaded units.		
		up to 4000 N	Gazpromneft Grease Nord Moly. Application: Central lubrication of highly loaded units.		
		up to 3000 N	Gazpromneft Grease LX EP 2 (up to -30 °C) / Gazpromneft Premium Grease EP (up to -40 °C). Application: universal grease if solid additives are not required.		
		up to 2600 N	Gazpromneft Grease Synth LX EP 2. Application: universal grease if solid additives are not required (up to -50 °C).		

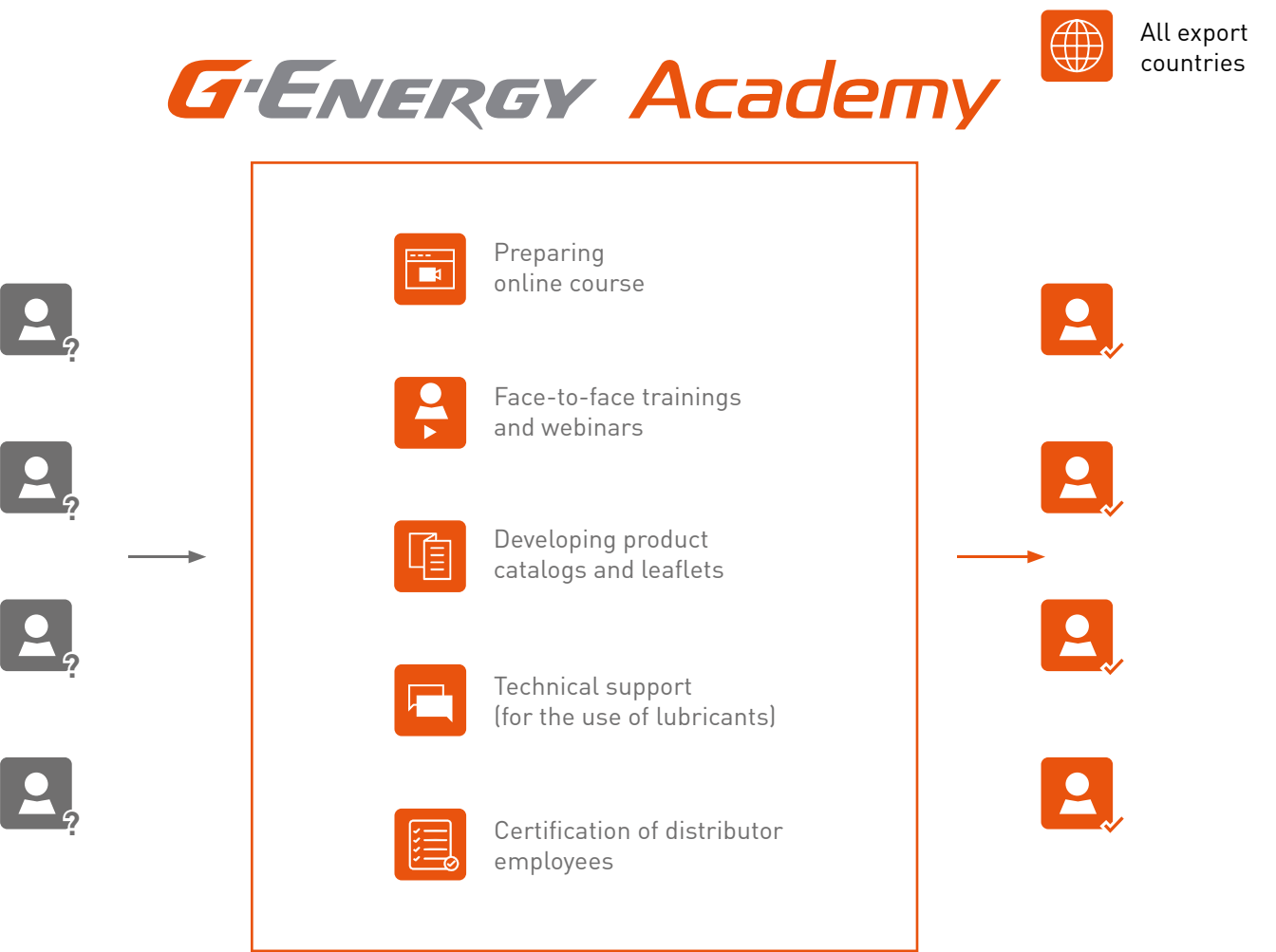
Information supplied for reference only. Before selecting lubricants and technical fluids, it is recommended to refer to the operating manual or contact Gazpromneft-Lubricants Ltd. specialists at Techservice@gazprom-neft.ru.

Technical support and services

15.1. G-Energy Academy

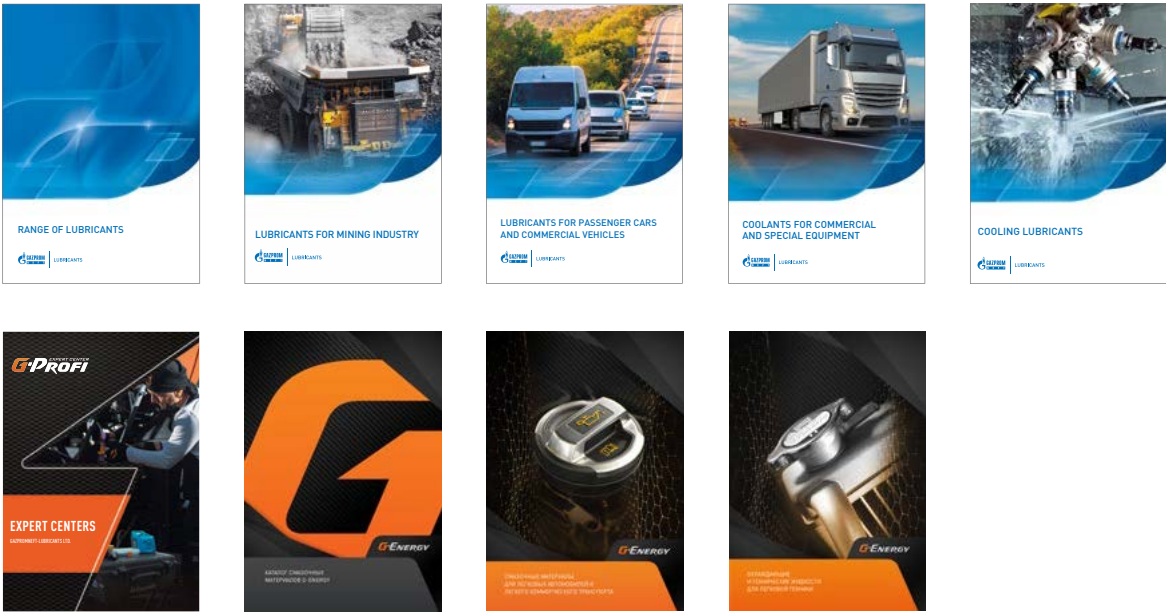
G-Energy Academy is a unique system for training qualified personnel using the latest digital technologies, including virtual and augmented reality.

Work directions



Information materials

>30 publications in various areas



G-Energy Academy technical tools



PLAS — full product information (for internal users only)



GEA links — information and training platform for distributors (remote certification, online training, and informational materials)



VR: 360° videos, virtual factory tour and VR-training sessions

3000 analogues

4500 product items

40+ video courses

1000+ users

22 countries

13 simulations and videos

10 languages of adaptation

Contact information

 Techservice@gazprom-neft.ru

15.2. Technical services

Gazpromneft – Lubricants Ltd. technical services is a system providing reliability of equipment. These services help customer to establish optimal lubrication schedules and procurement routines as well as optimize equipment maintenance according to condition based maintenance rules.

The services aim to reveal the advantages of Gazpromneft—Lubricants Ltd. products when combined with our engineers' knowledge and available tools.

Practically technical services carried out by our experts contain set of unique mobile diagnostic appliances for instant real-time evaluation of lubricant and condition of equipment. IR spectrometer, XRF-Spectrometer and MiniViscometer can be operated right at a customer's production site.

IR-spectrometer



XRF-spectrometer

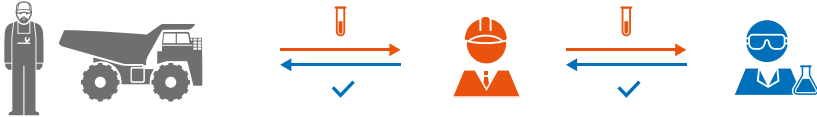


Mini-viscometer



OTS — OIL TESTING SERVICE

Testing and evaluation of lubricants.

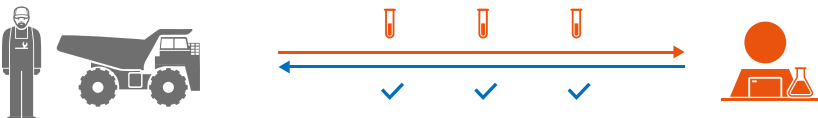


PURPOSE OF SERVICE Intended for confirmation of lubricating properties of the products made by Gazpromneft – Lubricants Ltd. in real operating conditions of machinery. Changes of lubricant properties, additive package depletion and contaminations are measured.	COMPANY'S TECHNIITIANS PERFORM Temporal monitoring of Gazpromneft – Lubricants Ltd. applications (1-3 oil drain intervals). 4–6 units out of whole fleet are chosen for testing lubricants operated in the systems. Research of samples is performed by an independent laboratory.	SERVICE MAKES POSSIBLE Easy product choice and oil drain interval optimization for specific customer and his unique operating conditions.
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Technical support and services

OTS-SCREEN

Express-audit of lube applications at customers production site.



PURPOSE OF SERVICE Evaluation of lubricant application effectiveness at customers production site by means of mobile diagnostic equipment.	COMPANY'S TECHNIITIANS PERFORM Evaluation of storage conditions, distribution and application of lubricants, as well as evaluation of actual condition of equipment operated by specific lubricant. Samples of used oil are taken during a working day from units of different age. Analysis of the samples is done by mobile diagnostic tools during maintenance service at production site.	SERVICE MAKES POSSIBLE Evaluation of lubrication routines, actual equipment condition and adequacy of stated drain intervals to the conditions of operation.
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OTS-MONITORING

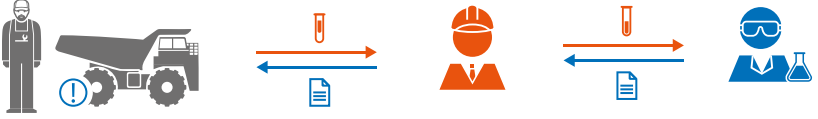
Performance monitoring of the products manufactured by Gazpromneft – Lubricants Ltd.



PURPOSE OF SERVICE Additional means of controlling equipment condition. Express-analysis of used lubricant.	COMPANY'S TECHNIITIANS PERFORM Long-term monitoring of Gazpromneft – Lubricants Ltd. product applications. Samples of used oil taken from selection of many units at each fluid draining. Sample research done by mobile laboratory. Research data and analysis results of each unit uploaded onto website and accessible by individual login.	SERVICE MAKES POSSIBLE Instant control of lubricants and equipment condition, drain interval corrections, recognition of hidden problems and elimination of failures on the early development stage.
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OIL EXPERT SERVICE

Survey and analysis of operational conditions



PURPOSE OF SERVICE Resolving of controversial situations related to the application of Gazpromneft - Lubricants Ltd. products.	COMPANY'S TECHNIITIANS PERFORM Evaluation of operating lubricant and lubricant in original containers. Research of samples is done by an independent laboratory. According to analysis report customer is introduced to conclusions in regard of problem causes and recommendations on necessary steps to solve them.	SERVICE MAKES POSSIBLE Identification of root cause of the problem and it's coherence to condition of the lubricant.
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16. Product properties and technical data

Gazpromneft engine oils

Properties	Method	Gazpromneft Diesel Ultra 5W-30	Gazpromneft Diesel Ultra 10W-40	Gazpromneft Diesel Ultra 15W-40	Gazpromneft Diesel Ultra Plus 10W-40	Gazpromneft Diesel Ultra LA 10W-40	Gazpromneft Diesel Ultra CS 10W-40	Gazpromneft Diesel Premium 5W-40	Gazpromneft Diesel Premium 10W-30	Gazpromneft Diesel Premium 10W-40	Gazpromneft Diesel Premium 15W-40	Gazpromneft Diesel Prioritet 10W-30	Gazpromneft Diesel Prioritet 10W-40	Gazpromneft Diesel Prioritet 15W-40	Gazpromneft Diesel Prioritet 20W-50	Gazpromneft Diesel Extra 10W-40	Gazpromneft Diesel Extra 15W-40	Gazpromneft Diesel Extra 20W-50	Gazpromneft Diesel Extra 40	Gazpromneft Diesel Extra 50	Gazpromneft Turbo Universal 15W-40	Gazpromneft Turbo Universal 20W-50
Kin.viscosity at 100 °C, mm²/s	ASTM D445	12,3	14,9	15,2	15,0	14,3	15,25	14,5	11,5	14,8	14,8	11,5	15,0	15,0	18,9	15,1	14,9	18,5	15,5	21,2	14,9	18,9
Viscosity Index	ASTM D2270	162	155	142	156	155	155	172	146	153	138	147	151	138	125	155	138	120	94	94	140	123
Flash Point Open Cup, °C	ASTM D92	232	243	235	240	243	240	226	227	230	234	224	230	240	243	233	230	250	245	255	239	240
Pour Point, °C	GOST 20287	-44	-41	-38	-41	-39	-41	-42	-41	-36	-34	-40	-40	-36	-33	-38	-35	-29	-18	-16	-33	-32
TBN Alkalinity mg KOH/g	ASTM D2896	15,4	15,4	15,4	15,4	12,0	10,2	11,0	11,0	11,0	11,0	10,4	10,4	10,3	10,2	10,2	10,2	10,2	10,4*	10,4*	9	9

G-Profi engine oils

Properties	Method	G-Profi GTS 5W-30	G-Profi GTS 10W-40	G-Profi GT 5W-30	G-Profi GT 10W-40	G-Profi GT LA 10W-40	G-Profi MSK 5W-30	G-Profi MSK 5W-40	G-Profi MSK 10W-30	G-Profi MSK 15W-40	G-Profi FLI 15W-40	G-Profi MSI Plus 15W-40	G-Profi MSI 5W-40	G-Profi MSI 10W-30	G-Profi MSI 10W-40	G-Profi MSH 10W-40	G-Profi MSH 15W-40	G-Profi CNG LA 10W-40	G-Profi CNG LA 15W-40	G-Profi CNG 15W-40
Kin.viscosity at 40 °C, mm²/s	ASTM D445	71,4	99,3	72,9	99,3	99,3	74,6	89,1	82,8	112,7	111,5	122,4	92,7	78,2	103,8	96,4	109,9	98	107,8	107,1
Kin.viscosity at 100 °C, mm²/s	ASTM D445	12,3	14,8	12,1	14,6	14,8	12,4	14,8	12,4	14,8	14,9	16,1	15,0	11,8	15,3	14,4	14,6	14,4	14,4	14,6
Dynamic Viscosity (CCS) at -30/-25/-20 °C, mPa*s	ASTM D5293	5100 (-30 °C)	6200 (-25 °C)	6000 (-30 °C)	5900 (-25 °C)	6100 (-25 °C)	5700 (-30 °C)	5400 (-30 °C)	6500 (-25 °C)	5800 (-20 °C)	5950	6000 (-20 °C)	5700 (-30 °C)	5900 (-25 °C)	5900 (-25 °C)	6000 (-25 °C)	6100 (-20 °C)	5900 (-25 °C)	6100 (-20 °C)	6100 (-20 °C)
Viscosity Index	ASTM D2270	172	156	164	156	156	166	175	145	136	139	141	171	146	146	155	137	153	137	141
Flash Point Open Cup, °C	ASTM D92	233	238	236	238	249	233	239	240	242	239	230	229	230	232	245	237	231	235	233
Pour Point, °C	ASTM D97	-42	-39	-41	-39	-39	-44	-43	-41	-37	-40	-40	-44	-40	-40	-38	-35	-42	-35	-36
TBN Alkalinity mg KOH/g	ASTM D2896	16,5	16,5	15,4	15,5	13,6	11,3	9,0	9,0	9,0	14,6	12	12	12	12	11	11	5,5	6,0	9,0

Data stated above are typical average for the listed products but may vary insignificantly depending on product batch.
Data valid through 2024.
* According to GOST 30050.

Universal G-Special and Gazpromneft oils

Properties	Method	G-Special TO-4 10W	G-Special TO-4 30	G-Special TO-4 50	G-Special TO-4 Arctic 0W-20	G-Special FD-1 60	G-Special UTTO 10W-30	G-Special UTTO Premium 10W-30	G-Special STOU 10W-30	G-Special STOU 10W-40	Gazpromneft UTTO 10W-30
Kin.viscosity at 40 °C, mm²/s	ASTM D445	—	—	—	34,6	—	—	—	77,6	100,5	—
Kin.viscosity at 100 °C, mm²/s	ASTM D445	6,8	11,6	20,0	6,9	24,5	10	9,5	11,6	14,6	11
Viscosity index	ASTM D2270	—	—	—	165	—	—	—	143	150	—
Flash point open cup, °C	ASTM D92	226	254	252	241	280	232	238	228	236	228
Pour point, °C	ASTM D97	-36	-30	-18	-60	-16	-42	-45	-41	-40	-43
Brookfield dynamic viscosity at -55 °C/-35 °C, mPa*s	ASTM D2983	—	—	—	7900 (-40C)	40 000 (-10 °C)	46 000 (-35 °C)	30 000 (-35 °C)	26 600 (-30 °C)	32 000 (-30 °C)	55 200 (-35 °C)

Data stated above are typical average for the listed products but may vary insignificantly depending on product batch.
Data valid through 2024.

G-Special hydraulic oils

Properties	Method	G-Special Hydraulic Nord-32	G-Special Power HVLP-32	G-Special Power HVLP-46	G-Special Hydraulic HVLP-68	G-Special Hydraulic HVLPD-46	G-Special Hydraulic HVLP-22	G-Special Hydraulic HVLP-32	G-Special Hydraulic HVLP-46
Kin.viscosity at 40 °C, mm²/s	ASTM D445	32	32	46	68	46	22	32	46
Kin. viscosity at -30/-20/-10 °C, mm²/s	ASTM D445	890 (-30 °C)	1166 (-20 °C)	836 (-10 °C)	—	—	1020 (-20 °C)	1246 (-20 °C)	1100 (-10 °C)
Viscosity index	ASTM D2270	295	174	172	147	142	153	157	143
Flash point open cup, °C	ASTM D92	146	200	221	224	218	196	196	210
Pour point, °C	ASTM D97	-56	-52	-51	-40	-44	-44	-44	-44
General purity class	GOST 17216	12	12	12	14	14	14	14	14

G-Box and G-Truck transmission oils

Properties	Method	G-Box GL-4/GL-5 75W-90	G-Box GL-4 75W-90	G-Box GL-5 75W-90	G-Box Expert GL-4 75W-90	G-Box Expert GL-5 75W-90	G-Box Expert GL-5 80W-90	G-Truck GL-4/GL-5 80W-90	G-Truck GL-4 80W-90	G-Truck Z 75W-80	G-Truck GL-5 80W-90	G-Truck GL-5 85W-90	G-Truck GL-5 85W-140	G-Truck LS 80W-90	G-Truck LS 85W-90	G-Box ATF DX III	G-Box Expert ATF DX III	G-Box ATF DX II
Kin.viscosity at 100 °C, mm²/s	ASTM D445	15,8	15,5	14,9	15,5	15,0	14,5	14,7	14,4	9,7	14,3	17,0	29,9	14,2	17,0	7,6	7,6	7,94
Flash point open cup, °C	ASTM D92	218	237	227	233	239	220	230	243	240	238	227	244	229	216	190	190	208
Pour point, °C	ASTM D97	-51	-43	-42	-42	-41	-34	-36	-35	-47	-33	-30	-18	-34	-30	-52	-52	-51
Brookfield dynamic viscosity at -40/-26/-12 °C, mPa*s	ASTM D2983	53 000 (-40 °C)	122 000 (-40 °C)	54 000 (-40 °C)	134 000 (-40 °C)	119 000 (-40 °C)	73 000 (-26 °C)	59 000 (-26 °C)	100 000 (-26 °C)	56 000 (-40 °C)	69 000 (-26 °C)	14 000 (-12 °C)	32 000 (-12 °C)	64 000 (-26 °C)	15 000 (-12 °C)	11 540 (-40 °C)	11 540 (-40 °C)	32 850 (-40 °C)
FZG A/8.3/90, load stage	DIN ISO 14635-1	>12	>12	>12	>12	>12	>12	>12	>12	>12	>12	>12	>12	>12	>12	—	—	—

Data stated above are typical average for the listed products but may vary insignificantly depending on product batch.
Data valid through 2024.

Gazpromneft transmission oils

Properties	Method	Gazpromneft GL-4/GL-5 75W-90	Gazpromneft GL-4 75W-90	Gazpromneft GL-4 75W-85	Gazpromneft GL-4 80W-85	Gazpromneft GL-4 80W-90	Gazpromneft GL-4 90	Gazpromneft GL-4 140	Gazpromneft GL-5 75W-90	Gazpromneft GL-5 80W-90	Gazpromneft GL-5 85W-140	Gazpromneft GL-5 90	Gazpromneft GL-5 140	Gazpromneft Super T-3, SAE 85W-90	Gazpromneft ATF DX III	Gazpromneft ATF DX II
Kin.viscosity at 100 °C, mm²/s	ASTM D445	17,1	15,36	12,8	12,50	14,50	16,70	25,70	15,80	14,30	25,50	17,00	25,80	17,30	7,5	7,1
Flash point open cup, °C	ASTM D92	225	232	220	240	242	238	254	217	230	250	234	258	220	219	220
Pour point, °C	GOST 20287	-42	-42	-42	-35	-33	-15	-15	-42	-32	-19	-17	-13	-28	-50	-48
Brookfield dynamic viscosity at -40/-26/-12 °C, mPa*s	ASTM D2983	107 000 (-40 °C)	128 000 (-40 °C)	105 000 (-40 °C)	72 000 (-26 °C)	93 000 (-26 °C)	—	—	113 000 (-40 °C)	90 000 (-26 °C)	69 000 (-12 °C)	—	—	16 500 (-12 °C)	16 500 (-40 °C)	35 890 (-40 °C)
4-ball scar tribologic properties at 20 °C, index, N	GOST 9490	660	575	596	560	575	570	585	662	656	666	572	670	584	—	—
4-ball scar tribologic properties at 20 °C, load, N	GOST 9490	4900	3920	4136	3 479	3920	3950	4350	4900	4900	4880	4250	5500	4350	—	—

Data stated above are typical average for the listed products but may vary insignificantly depending on product batch.
Data valid through 2024.



Arguments to choose Gazpromneft – Lubricants Ltd.



OEM approvals, recommendations on application, strong references from main mining industry players.



Optimal drain intervals



Complex range of products and services



Technical expertise



Optimized logistics,
Extensive supply chain



LUBRICANTS

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Vehicle Product Technical Support Department

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Abbreviations

SAE xxW-x

Classification of viscosity grades.

API Sx/Cx; ACEA Ex; JASO DH-x

Classification of lubricants by applications, properties and quality.

MB xxx, Cummins CES 200xx, Caterpillar ECF-x, MTU Cat. x, Deutz DQC xx and other

Specifications developed by OEMs. Usually sets higher required quality limits than API, ACEA, JASO.

EGR

Exhaust Gas Recirculation. Can be installed on diesel and gas engines. Intended to reduce toxicity of exhaust gases.

SCR

Selective Catalytic Reactor. Can be installed on diesel engines. Intended to reduce toxicity of exhaust gases.

DPF

Diesel Particle Filter. Can be installed on diesel engines. Intended to reduce toxicity of exhaust gases.

Notes