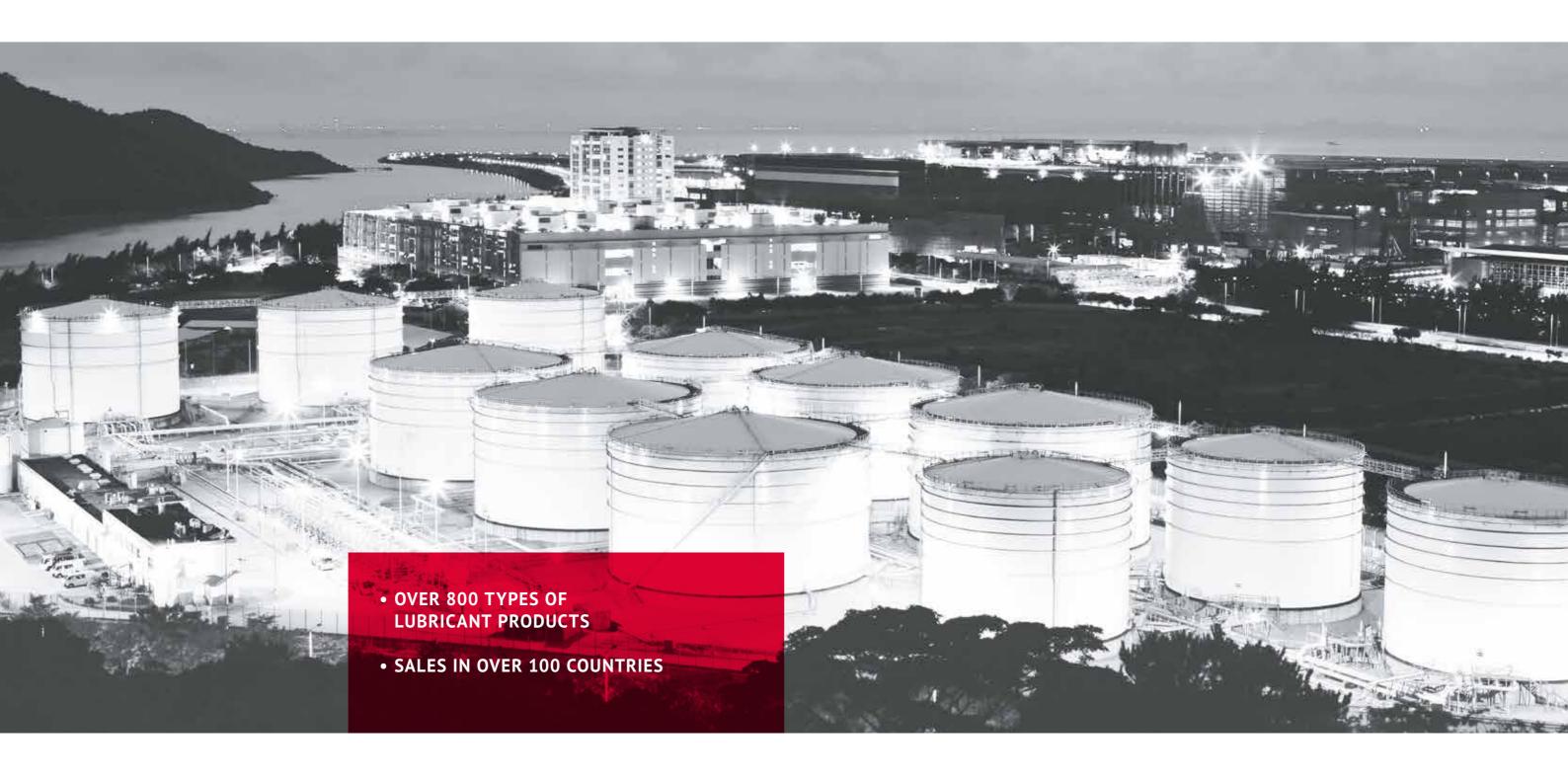




LUBRICANTS AND TECHNICAL FLUIDS





LUKOIL GROUP

LUKOIL IS THE LARGEST RUSSIAN VERTICALLY INTEGRATED OIL COMPANY WITH 30 YEARS HISTORY OF CONTINUOUS GROWTH AND ONE OF THE LARGEST PRIVATE OIL COMPANIES IN THE WORLD.







01

Retail engine oils for passenger cars

07

Automatic transmission and power steering fluids for passenger cars

13

Turbine oils

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Heat transfer oils

02

Engine oils for service maintenance of passenger cars

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Universal oils for agricultural and other mobile equipment

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Circulating oils

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Automatic transmission and power steering fluids for commercial vehicles

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Gear and axle oils for passenger cars

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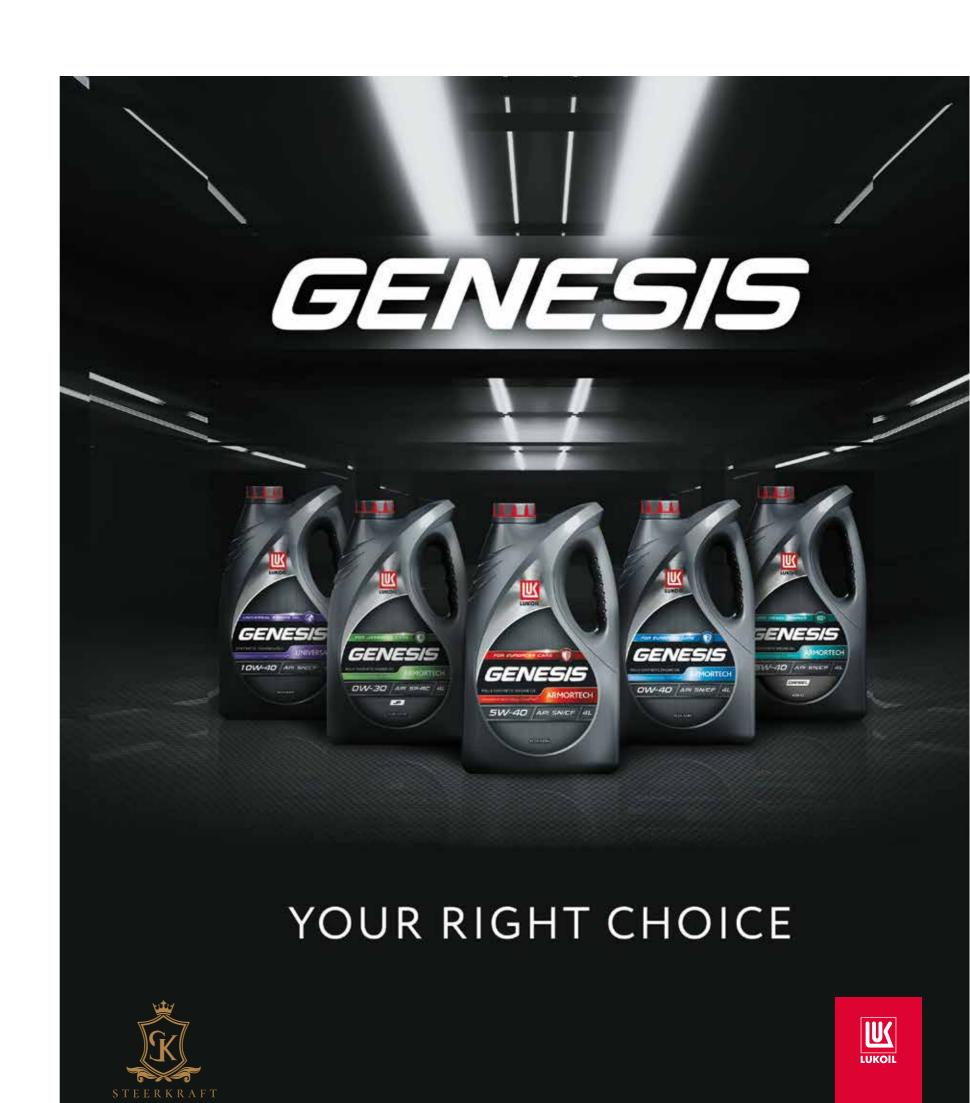
Industrial gear oils

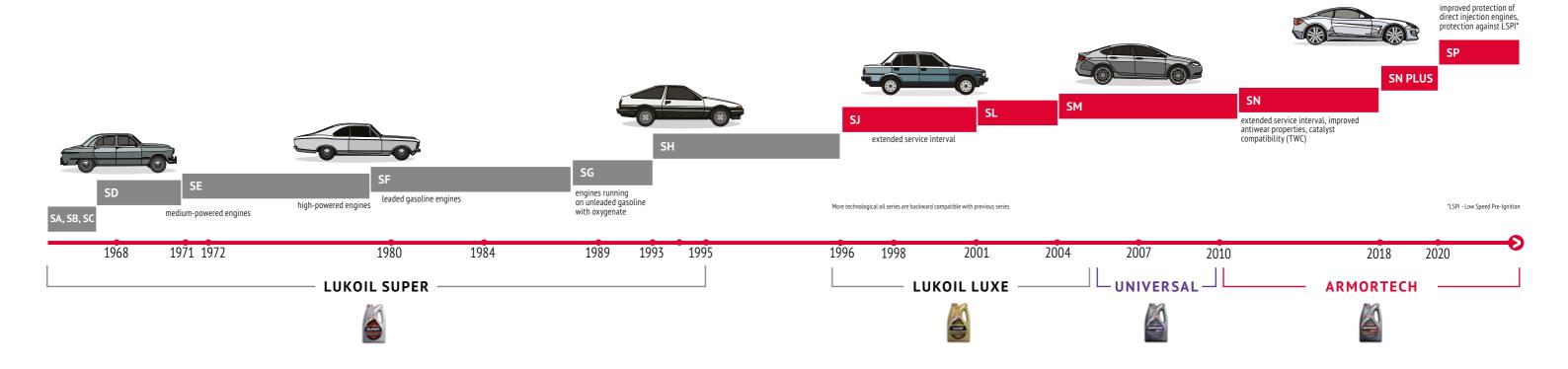
18

Slideway oils



RETAIL
ENGINE OILS
FOR PASSENGER
CARS





LUKOIL unique technologies exceed industry and OEM specifications, guaranteeing unsurpassed engine protection throughout the entire drain interval.

High-quality base oils are produced at modern technological units of LUKOIL refineries using hydrocatalytic processes.

Dura Max®



LUKOIL base oil (API III+ Group) has exceptional properties. Excellent low temperature performance and high viscosity index allow it to exceed even the most stringent requirements of car manufacturers.

Many years of testing experience proves that in combination with a balanced additive package specifically developed for LUKOIL base oil, unique synergetic properties are observed.

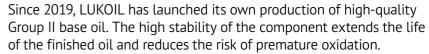
Synthactive®



Modern process units at LUKOIL refineries make it possible to produce high-quality base oils. **The Synthactive®** technology is a combination of highly refined base oils of our own production with a specially selected technology of the additive package.











Retail engine oils for passenger cars

	ACEA					ILSAC			API		
	A3,	A3/B4 A5/B5 C3		C5	GF-6		SP	SL	SG		
	European cars	Korean cars	Ford cars	Diesel Engines		man Irs	Japanese cars	GM cars	Chinese cars		
	LUKOIL GENESIS ARMORTECH warranty and pos				st-warranty s	ervice					
Warrantee	LUKOIL GENESIS ARMORTECH 5W-40 0W-40	LUKOIL GENESIS ARMORTECH HK 5W-30	LUKOIL GENESIS ARMORTECH FD 5W-30	LUKOIL GENESIS ARMORTECH DIESEL 5W-30 5W-40	LUKOIL GENESIS ARMORTECH GC 5W-30	LUKOIL GENESIS ARMORTECH GC 0W-20 ** ** ** ** ** ** ** ** **	LUKOIL GENESIS ARMORTECH JP 5W-30 0W-30 0W-20	LUKOIL GENESIS ARMORTECH DX1 5W-30	LUKOIL GENESIS ARMORTECH CN 5W-40		
	LUKOIL GENESIS UNIVERSAL Cars up to 15 years old and older					UIAII	CIAIT	LUKOIL LUXE Cars over 15 years old	LUKOIL SUPER Cars over 25 years old		
Post warrantee	LUKOIL GENESIS UNIVERSAL 10W-40 5W-40		LUKOIL GENESIS UNIVERSAL 5W-30	LUKOIL GENESIS UNIVERSAL DIESEL 5W-30						LUKOIL LUXE 5W-40 10W-40 15W-40 20W-50	LUKOIL SUPER 5W-40 10W-40 15W-40 20W-50



Extended drain interval





Improved fuel economy



Protection at high loads



For extremely low temperatures



†API Highest level of API properties

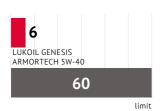


LUKOIL GENESIS ARMORTECH

For European cars

Type: synthetic ACEA category: A3/B4 API property level: SN

API TEST | SEQUENCE IIIG, μm



10 times better than industry standards for cam and tappet

OEM specifications:

5W-40

MB 229.5 / 226.5 / 229.3 VW 502 00 / 505 00 Renault RN 0700 / 0710 Porsche A40 BMW LL-01 Fiat 9.55535-N2 PSA B71 2296 Opel GM-LL-B-025

0W-40

MB 229.5 / 226.5 / 229.3 VW 502 00 / 505 00 Renault RN 0700 / 0710 Porsche A40 BMW LL-01 Ford WSS-M2C-937-A







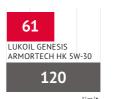
LUKOIL GENESIS ARMORTECH HK

For Korean cars

Type: synthetic ACEA category: A3/B4 API property level: SL

5W-30

ACEA TEST | OM 646 LA, µm



2 times better camshaft exhaust cam protection



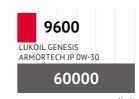


LUKOIL GENESIS ARMORTECH JP

For Japanese cars

Type: synthetic ILSAC category: GF-6 API property level: SP, SP-RC 5W-30 / 0W-30 / 0W-20

SAE J300 | MRV, mPa.s



Almost 7 times better oil pumpability index at -40°C



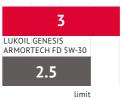


LUKOIL GENESIS ARMORTECH FD

For Ford engines

Type: synthetic ACEA category: A5/B5 API property level: SL

M111E FUEL ECONOMY, %



Ford WSS-M2C-913-A/B/C/D Jaguar Land Rover ST JLR.03.5003 Renault RN 0700 IVECO 18-1811 Classe S1

OEM specifications:

5W-30











LUKOIL GENESIS ARMORTECH GC

For German cars

Type: synthetic

ACEA category: C3 (5W-30), C5 (0W-20)

API property level: SN (5W-30), SN PLUS (0W-20)

VW RNT DIESEL WEAR TEST,



2.5 times better camshaft wear protection index

OEM specifications:

BMW LL-04

5W-30





VW 508 00/509 00



0W-20

Porsche C20





LUKOIL GENESIS ARMORTECH DX1

For GM engines

Type: synthetic ILSAC category: GF-6A API property level: SP, SP-RC

API TEST | SEQUENCE IIIG, %

76.6 LUKOIL GENESIS ARMORTECH DX1 5W-30 150

2 times better oxidation resistance

OEM specifications:

†API

5W-30

GM dexos1 Gen 2



LUKOIL GENESIS ARMORTECH DIESEL

For diesel engines

Type: synthetic

ACEA category: C3 (5W-40), C2/C3 (5W-30)

API property level: SN

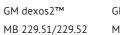
API TEST | SEQUENCE VG, point

OEM specifications:



17% better engine protection against deposit formation









Ford WSS-M2C-917-A



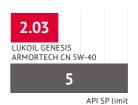
LUKOIL GENESIS ARMORTECH CN 5W-40

For Chinese cars

Type: synthetic

API property level: SP/CF

AVERAGE NUMBER OF LSPI **EVENTS PER 4 CYCLES**



2.5 times better protection against LSPI





LUKOIL GENESIS UNIVERSAL

For post-warranty vehicles up to 15 years

Type: synthetic technologies

5W-40 / 10W-40

ACEA category: A3/B4 API property level: SN

5W-30

ACEA category: A5/B5 API property level: SL

DIESEL 5W-30

ACEA category: C2/C3 API property level: SN

OEM specifications:

10W-40	5W-40	5W-30
VW 502 00/505 00	VW 502 00/505 00	Ford WSS-M2C-913-A/B/C/D
Renault RN 0700/0710	Renault RN 0700/0710	Renault RN 0700
MB 229.3	MB 229.3	
PSA B71 2294/2300	PSA B71 2296	
Fiat 9.55535-G2	Fiat 9.55535-H2/M2/N2	
Opel GM-LL-A/B-025		

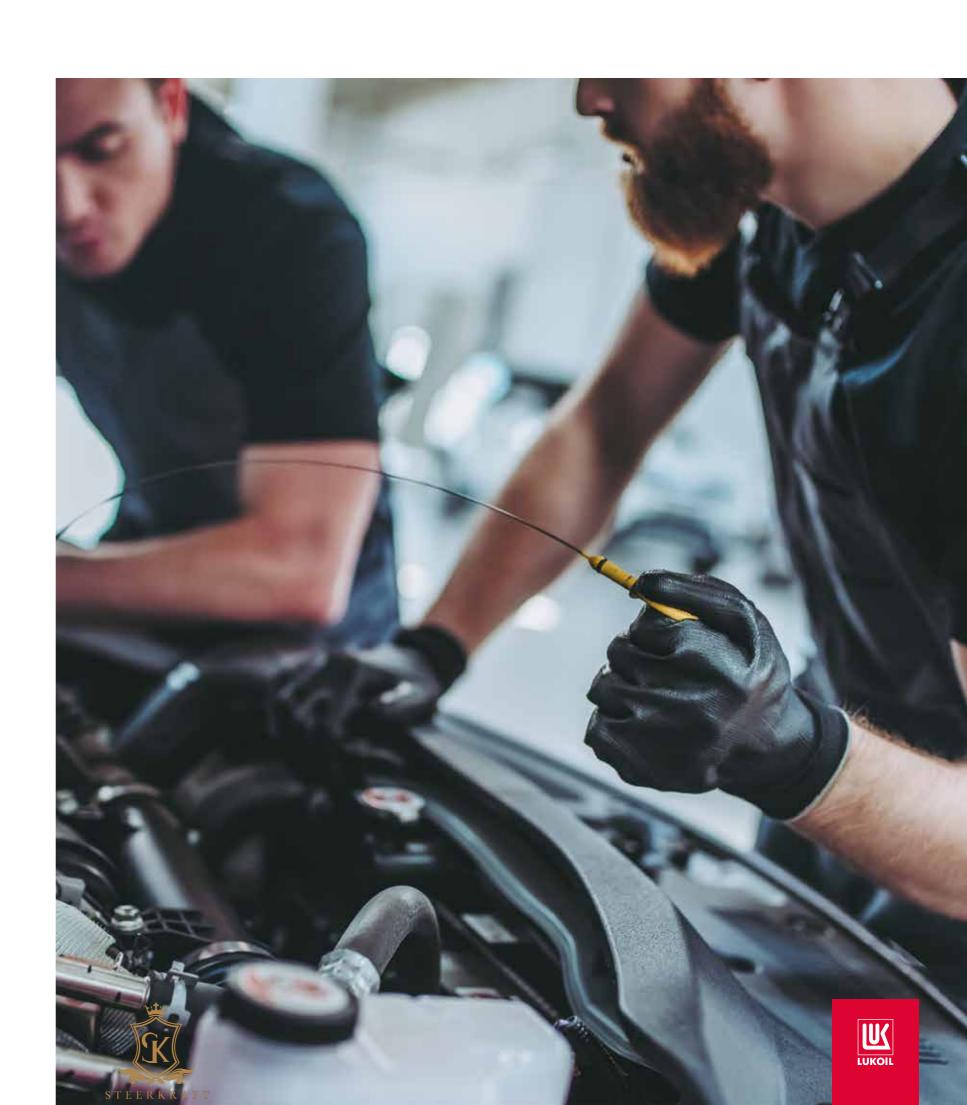




ENGINE OILS FOR SERVICE MAINTENANCE OF PASSENGER CARS

LUKOIL GENESIS SPECIAL engine oils series designed for warranty and postwarranty maintenance of vehicles at service stations.

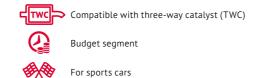
The product line includes solutions for the mass segment of the car fleet, as well as specifically developed for the most modern specifications of car manufacturers.



Engine oils for service maintenance of passenger cars

				ACEA				ILSAC
	Europe							Asia/America
	Full-	SAPS		Asia/Aillelica				
	A3/B4	A5/B5	C1	C2	C3	C4	C5	GF-5/6
ice level	LUKOIL GENESIS SPECIAL 5W-40 5W-30 0W-40 0W-30	LUKOIL GENESIS SPECIAL A5/B5 5W-30 0W-30			LUKOIL GENESIS SPECIAL VN 0W-30 5W-30			LUKOIL GENESIS SPECIAL DX1 5W-30 0W-20
performan	Ø							-{Twc} ■}
Main Line	LUKOIL GENESIS SPECIAL A3/B4 5W-40	LUKOIL GENESIS SPECIAL A5X 5W-30		LUKOIL GENESIS SPECIAL C2 5W-30	LUKOIL GENESIS SPECIAL C3 5W-30 5W-40		LUKOIL GENESIS SPECIAL C5X 0W-20	LUKOIL GENESIS SPECIAL SPX 5W-30 5W-40 5W-20 0W-30 0W-20
					□PF>		CDPF>	
performance level	LUKOIL GENESIS SPECIAL ADVANCED 10W-40 5W-40	LUKOIL GENESIS SPECIAL ADVANCED 5W-30			SPECIAL C3X 5W-30			
Ъ								
Specific	LUKOIL GENESIS SPECIAL RACING 10W-60		LUKOIL GENESIS SPECIAL C1 5W-30	LUKOIL GENESIS SPECIAL C2 0W-30 LUKOIL GENESIS SPECIAL FD 0W-30	LUKOIL GENESIS SPECIAL RN 5W-30	LUKOIL GENESIS SPECIAL C4 5W-30	LUKOIL GENESIS SPECIAL VN 0W-20 LUKOIL GENESIS SPECIAL MC 0W-20 LUKOIL GENESIS SPECIAL MD 0W-30 LUKOIL GENESIS SPECIAL JLR 0W-20 LUKOIL GENESIS SPECIAL FD 5W-20 LUKOIL GENESIS SPECIAL FD 5W-20 LUKOIL GENESIS SPECIAL RN 0W-20	
	***				□ DPF →	-{DPF}→	CDPF)	





FULL-SAPS ACEA A3/B4 OILS

Synthetic engine oils for gasoline and diesel engines without exhaust gas aftertreatment systems. The oils provide enhanced protective and neutralizing properties due to their high HTHS and total base number.

Application:

Mass models of European cars.



LUKOIL GENESIS SPECIAL 5W-40

ACEA category: A3/B4 **API property level:** SN

See TDS for a complete list of OEM specifications



VW TDI (CEC L-78-99), mg KOH/g



31% more stock of detergent properties by the end of the test



LUKOIL GENESIS SPECIAL ADVANCED 5W-40

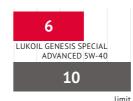
ACEA category: A3/B4 **API property level:** SN

See TDS for a complete list of OEM specifications





TU3MS-WEAR, µm



40% better gas distribution mechanism protection





FULL-SAPS ACEA A5/B5 OILS

Synthetic engine oils for gasoline and diesel engines without exhaust gas aftertreatment systems. The products provide an increased level of fuel economy and neutralizing properties due to a lower HTHS index and an increased total base number.

Application:

Ford, Jaguar, Land-Rover cars, as well as some models of Korean and Japanese cars.



LUKOIL GENESIS SPECIAL A5/B5 5W-30

ACEA category: A5/B5 **API** property level: SL

See TDS for a complete list of OEM specifications





M111E FUEL ECONOMY, %



High fuel economy



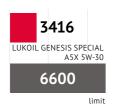
LUKOIL GENESIS SPECIAL A5X 5W-30

ACEA category: A5/B5 **API property level:** SL

See TDS for a complete list of OEM specifications



SAE J300 | CCS, mPa·s



2 times exceeds the SAE J300 requirements for low temperature properties

REDUCED-SAPS ACEA C3 OILS

Synthetic engine oils for gasoline and diesel engines equipped with exhaust gas aftertreatment devices (DPF, TWC, SCR). Balanced HTHS provides optimum engine protection combined with high levels of fuel economy.

Application:

Cars equipped with exhaust gas aftertreatment systems.



LUKOIL GENESIS SPECIAL VN 5W-30

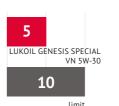
ACEA category: C3 **API property level:** SN

See TDS for a complete list of OEM specifications





TU3MS-WEAR, μm



2 times better camshaft



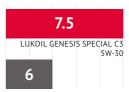
LUKOIL GENESIS SPECIAL C3 5W-30

ACEA category: C2/C3 **API** property level: SN

See TDS for a complete list of OEM specifications



ACEA TEST | EP6CDT, points



20% higher turbocharger deposit protection





OILS WITH A REDUCED PHOSPHORUS CONTENT: ILSAC GF-5/6

Synthetic engine oils for gasoline engines equipped with exhaust gas aftertreatment systems (TWC). The oils provide improved fuel economy.

Application:

Asian and American cars.



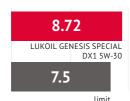
LUKOIL GENESIS SPECIAL DX1 5W-30

ACEA category: GF-6A **API** property level: SP

See TDS for a complete list of OEM specifications



API TEST | SEQUENCE VG, points



High deposit protection

SPECIFIC

This group includes products designed to specific OEM specifications that can not be met using the technologies of the other four groups.



LUKOIL GENESIS SPECIAL RACING 10W-60

ACEA category: A3/B4
API property level: SN
See TDS for a complete list of OEM specifications





0 5

ENGINE OILS FOR COMMERCIAL VEHICLES



Full-SAPS

General

LUKOIL AVANTGARDE

LUKOIL AVANTGARDE

PROFESSIONAL M6

PROFESSIONAL

5W-30

10W-40

20 10W-30

30 10W-40

40 15W-40 50 20W-50

60 10W

API CF-4

Extended drain interval

Particulate filter (DPF)

SCR System

EGR System

	10W-40	API CI-4	10W-40	API CJ-4	5W-5U	API CJ-4
	LUKOIL AVANTGARDE PROFESSIONAL M5 5W-30 10W-40	API CI-4	LUKOIL AVANTGARDE PROFESSIONAL LSS 10W-40	API CI-4		
					5	
	LUKOIL AVANTGARDE ULTRA M3 10W-30 15W-40	API CI-4	PROFESSIONAL XLA 10W-30 15W-40	API CK-4		
	LUKOIL AVANTGARDE ULTRA 5W-40 10W-30 10W-40 15W-40 20W-50	API CI-4	LUKOIL AVANTGARDE PROFESSIONAL LA 5W-30 5W-40 10W-30 10W-40 15W-40	API CK-4		
LUKOIL AVANTGARDE EXTRA 10W-30 10W-40 15W-40 20W-50	·					
LUKOIL AVANTGARDE						



Reduced-SAPS

API CK-4

Specific

LUKOIL AVANTGARDE

PROFESSIONAL MLE

General

LUKOIL AVANTGARDE

LUKOIL AVANTGARDE

PROFESSIONAL LE

PROFESSIONAL XLE

5W-30

10W-40



LUKOIL AVANTGARDE PROFESSIONAL XLE

Fully synthetic Low-SAPS oils for modern trucks and buses with environmentally friendly engines. The high performance of additives in combination with synthetic base oils allows the use of oils in engines equipped with exhaust gas recirculation, selective catalytic reduction systems as well as in conditions when extended drain intervals are required.

Application: modern heavy-duty diesel engines of Euro 5 and Euro 6 enviromental standarts.

ACEA category: E4, E6, E7, E9

Property level: API CK-4, Deutz DQC IV-18 LA, MB 228.52/228.51, MAN M 3477, MTU Oil Category 3.1, Cummins CES 20081, Caterpillar ECF-3







LUKOIL AVANTGARDE PROFESSIONAL

Synthetic engine oils for modern engines operating under severe conditions. The carefully selected additive package in combination with synthetic base oils allows the use in modern engines that require an increased level of performance when extended drain intervals are required.

Application: modern heavy-duty diesel engines of emission standard Euro-4 and Euro-5 without DPF.

ACEA category: E4

Property level: API CF, Scania LDF-3, MB 228.5, MAN M 3277, Deutz DQC III-10, MTU Oil Category 3, VOLVO VDS-3, Mack EO-N









RELATIVE INCREASE IN VISCOSITY AFTER 168 HOURS OF OXIDATION, %







LUKOIL AVANTGARDE PROFESSIONAL XLA

Mid-SAPS engine oils for modern trucks and buses with environmentally friendly engines. High performance of additives in combination with base oils based on synthetic technologies allow for long-term use of oils in engines equipped exhaust gas recirculation, selective catalytic reduction systems.

Application: modern high-speed, heavy-duty diesel engines meeting the modern emission requirements (EPA Tier-4).

ACEA category: E9

Property level: API CK-4, MB 228.31, Deutz DQC III-18 LA, MTU Oil Category 2.1, Cummins CES 20086, Caterpillar ECF-3









RESISTANCE TO DEPOSIT FORMATION, UNITS



LUKOIL AVANTGARDE ULTRA M3 15W-40

Multigrade universal semi-synthetic engine oil for heavy duty engines of construction and mining equipment. The unique combination of synthetic and mineral base stocks with high efficient additive package provide high anti-oxidation and thermal stability resulting in extended drain interval in comparison with ordinary API CI-4 oils.

Application: diesel engines in mining, construction, off-road and special vehicles operating in severe conditions and requiring extended drain intervals.

ACEA category: E4

Property level: API CI-4, MB 228.3, MTU Oil Category 3, JASO DH-1, Detroit Diesel DFS 93K215, Cummins CES 20078, Caterpillar ECF-2/1-a









MB 228.3 limi

ENGINE CLEANLINESS,



GEAR AND
AXLE OILS
FOR COMMERCIAL
VEHICLES



GL-4 ₩	GL-5 🎞	GL-4/5 ∰ 📜
LUKOIL TRANSMISSION LDI 75W-80	Ō	LUKOIL TRANSMISSION MN 75W-90
		LUKOIL TRANSMISSION UNI 80W-90
	LUKOIL TRANSMISSION LS 80W-90 85W-90	
LUKOIL TRANSMISSION TM-4 75W-90 80W-90	LUKOIL TRANSMISSION TM-5 75W-90 80W-90 85W-90 80W-140 85W-140	LUKOIL TRANSMISSION TM-4/5 75W-90
	Manual transmission	Extended drain interval

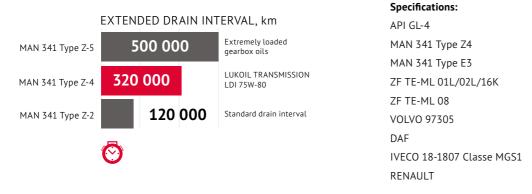


LUKOIL TRANSMISSION LDI 75W-80

Axles, differentials, etc.

Synthetic transmission oil for manual gearboxes, manufactured by ZF and VOLVO, installed on trucks.

Limited slip differential





LUKOIL TRANSMISSION TM-4

Transmission gearbox oils with a base performance level for manual transmissions requiring API GL-4 grade oils.



LUKOIL TRANSMISSION TM-5

Transmission oils with a base level of properties for manual transmissions with all types of gears, including hypoid ones.

SPECIAL PURPOSE OILS FOR MANUAL TRANSMISSIONS



LUKOIL TRANSMISSION SYNTH MPX

EU

Specially designed for transmissions developed by Daimler. The product has an extended drain interval.

Specifications:

75W-90 75W-80 API GL-4 API GL-4 MB 235.29 MB 235.4/235.11



LUKOIL TRANSMISSION MN Z5 75W-80

EU

Extremely long drain oil designed for use in modern commercial vehicle manual transmissions operating at high loads.

Specifications:

VOLVO 97307 API GL-4 MAN 341 TYPE Z5 MB 235.28 ZF TE-ML 01E/02E/16P VOITH CLASS C



LUKOIL TRANSMISSION LD 80W-90

EU

Extended drain oil specifically developed for Mercedes-Benz axles.

Specifications:

API GL-5/MT-1 MIL-PRF-2105 E SAE J2360 MAN 341 Type GA1

MAN 342 Type M3 ZF TE-ML 05A/07A/12L/12M MB 235.20 ZF TE-ML 16B/17B/19B/21A

Scania STO 1:0



LUKOIL TRANSMISSION SYNTH BSX 75W-90

EU

Fully synthetic oil for heavy duty transmissions and rear axles, developed in accordance with the latest Mercedes-Benz requirements.

ZF TE-ML 17B/19C/21A

Specifications:

MB 235.8

API GL-4/5 VOLVO 97312 ZF TE-ML 02B/05A/12L/12N/16F

MIL-PRF-2105E

MAN 342 Type S1 MAN 342 Type Z2 Scania STO 2:0 A FS Scania STO 1:1G





0 5

AUTOMATIC
TRANSMISSION
AND POWER
STEERING FLUIDS
FOR COMMERCIAL
VEHICLES



General purpose ATF	Special products	
PAO-based Dexron IIIH for extremely long drain intervals	LUKOIL ATF SYNTH Synthetic PAO-based fluid for power steering	
LUKOIL ATF SYNTH MULTI Longlife Dexron IIIH synthetic fluid		
LUKOIL ATF IIIH Dexron IIIH with basic properties		
LUKOIL ATF Dexron IIIG with OEM approvals		

w

Step automatic transmission



Power steering

SPECIAL FLUIDS



LUKOIL ATF SYNTH

EU

Fully synthetic steering fluid for Robert Bosch Automotive Steering.

Application:

It can also be used in automatic transmissions ZF Ecomat, Voith-Diwa, MB in trucks and buses, except for automatic transmissions W4B035 and MB without a controlled torque converter lock-up clutch in passenger cars.

Specifications:

GM Dexron IIE ZF TE-ML 04D/14B
MAN 339 Type V2/Z2 Allison C-4
MAN 339 Type L1 Ford Mercon
MB 236.8 VOLVO 97335
RBAS Lubricant Class TE-ML 09X ZF TE-ML 11A/21L
VOITH H55.6336.xx



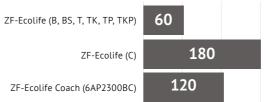
GENERAL PURPOSE FLUIDS



LUKOIL ATF SYNTH MULTI

Fully synthetic automatic transmission fluid developed in accordance to the requirements of MAN, VOITH and ZF, allowing the use of fluid with an extended drain interval in the warranty and post warranty period.

RECOMMENDATIONS FOR OIL CHANGE INTERVAL ZF TE-ML 20B, thousand km



Specifications:

GM DEXRON IIIH	VOLVO 97341
MAN 339 Type V2/Z2	Allison C-4
MAN 339 Type L1/Z11	Allison TES 295/389
MB 236.6/236.9	Ford Mercon
VOITH H55.6336.XX	Ford Mercon V
ZF TE-ML 04D/14B	VOLVO 97340
ZF TE-ML 20B/25B	JASO M315 1A



LUKOIL ATF SYNTH MN Z3

Fully synthetic PAO-based transmission oil. Provides exceptional oxidation stability and extremely long drain intervals.

RECOMMENDATIONS FOR OIL CHANGE INTERVAL ZF TE-ML 20C, thousand km

ZF-Ecolife (B, BS, T, TK, TP, TKP)	120
ZF-Ecolife (C)	240
ZF-Ecolife Coach (6AP2300BC)	180

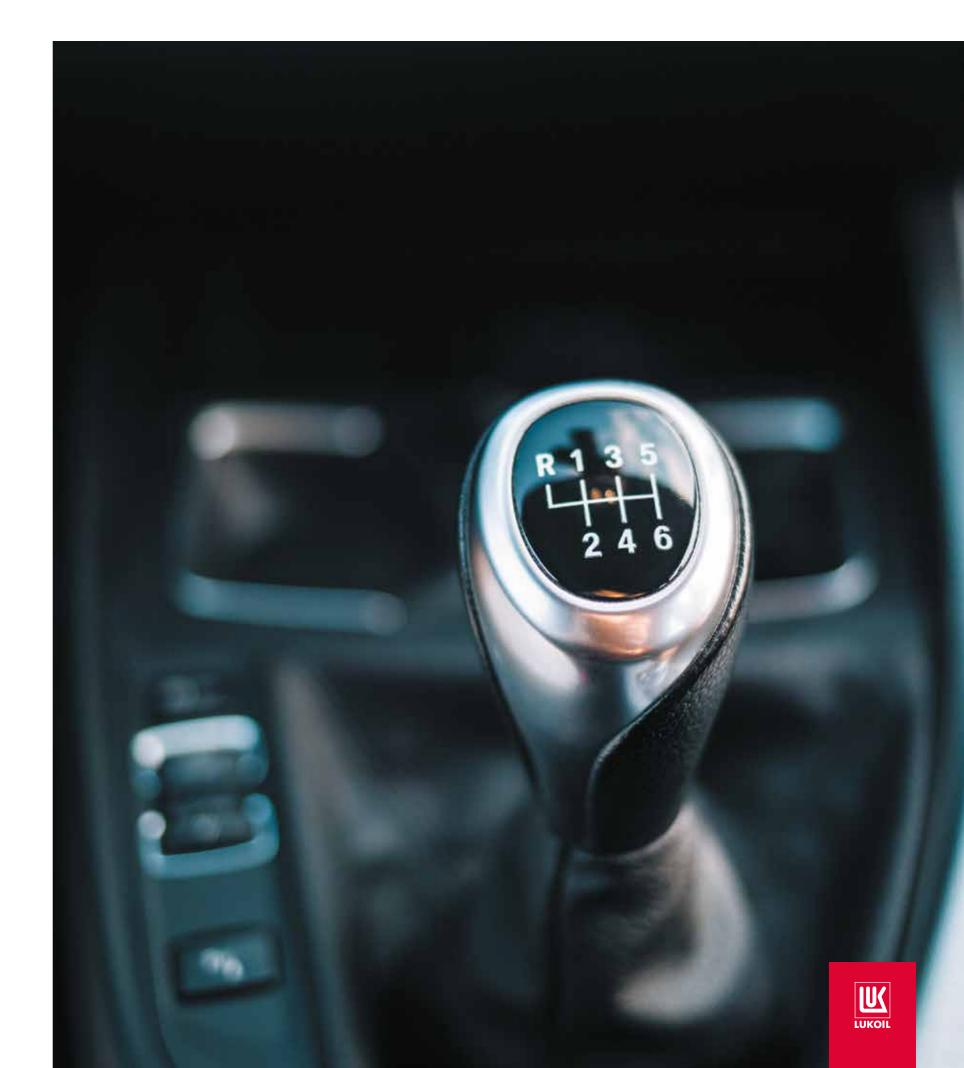
Specifications:

GM DEXRON IIIH	MAN 339 Type L1/Z12
MAN 339 Type V2/Z3	MB 236.6
VOITH H55.6336.XX	RBAS TE-ML 09
ZF TE-ML 04D/14C	JASO M315 1A
ZF TE-ML 16M/16S	ZF TE-ML 11A/11B/21
ZF TE-ML 20C/25C	Allison C-4
Ford Mercon/Mercon V	Allison TES 295/389
VOLVO 97341	





GEAR AND
AXLE OILS
FOR PASSENGER
CARS





GL-4 ₩	GL-5 🎞		GL-4/5 ∰ 📜
LUKOIL TRANSMISSION SYNTH TM-4 75W-85			
LUKOIL TRANSMISSION MP 75W-80			
	LUKOIL TRANSMISSION LS 80W-90 85W-90	Ca	
LUKOIL TRANSMISSION TM-4 75W-90 80W-90	LUKOIL TRANSMISSION TM-5 75W-90 80W-90 85W-90		LUKOIL TRANSMISSION TM-4/5 75W-90
			Manual transmission
			Axles, differentials, etc.
			Limited slip differentials

API GL-4 PRODUCTS WITH IMPROVED LEVEL OF PROPERTIES:

Fully synthetic transmission oils for manual transmissions of passenger cars and light commercial vehicles with extended drain intervals.



LUKOIL TRANSMISSION MP 75W-80

EU

Specifications:

API GL-4+ Fiat 9.5555.0 - MZ1

Special Gear Oil MTF 94 GM 1940182/1940764/1940768
Special Honda MTF & MTF-II Honda MTF/MTF-II/MTF-III
Volvo 97308/97309 Nissan MT-XZ/MT-XZ TL (JR Type)

PSA B71 2330 VW G 009 317/ G 50/G 052 171/ G 052 178/G 052 512/ BMW MTF LT-2/ LT-3/ LT-4 G 052 726/ G 052 527 A2/G 060 726/G 070 726 A2



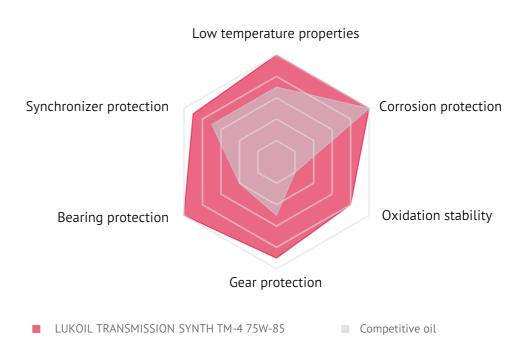
LUKOIL TRANSMISSION SYNTH TM-4 75W-85

Specifications:

API GL-4+



LUKOIL TRANSMISSION SYNTH TM-4 75W-85 and **LUKOIL TRASMISSION MP 75W-80** oils provide excellent protection of bearings and gears from wear and corrosion, as well as have excellent compatibility with brass, carbon, bronze and molybdenum synchronizers.



TRANSMISSION OILS FOR LIMITED SLIP DIFFERENTIALS



LUKOIL TRANSMISSION LS

High performance transmission oils for all-season use in limited slip differentials in passenger cars (e.g. Toyota Land Cruiser, Mitsubishi Outlander, Citroen C-Crosser, etc.), as well as in conventional differentials, gearboxes and axles requiring API GL-5 lubricants with Limited Slip Properties.

Specifications:

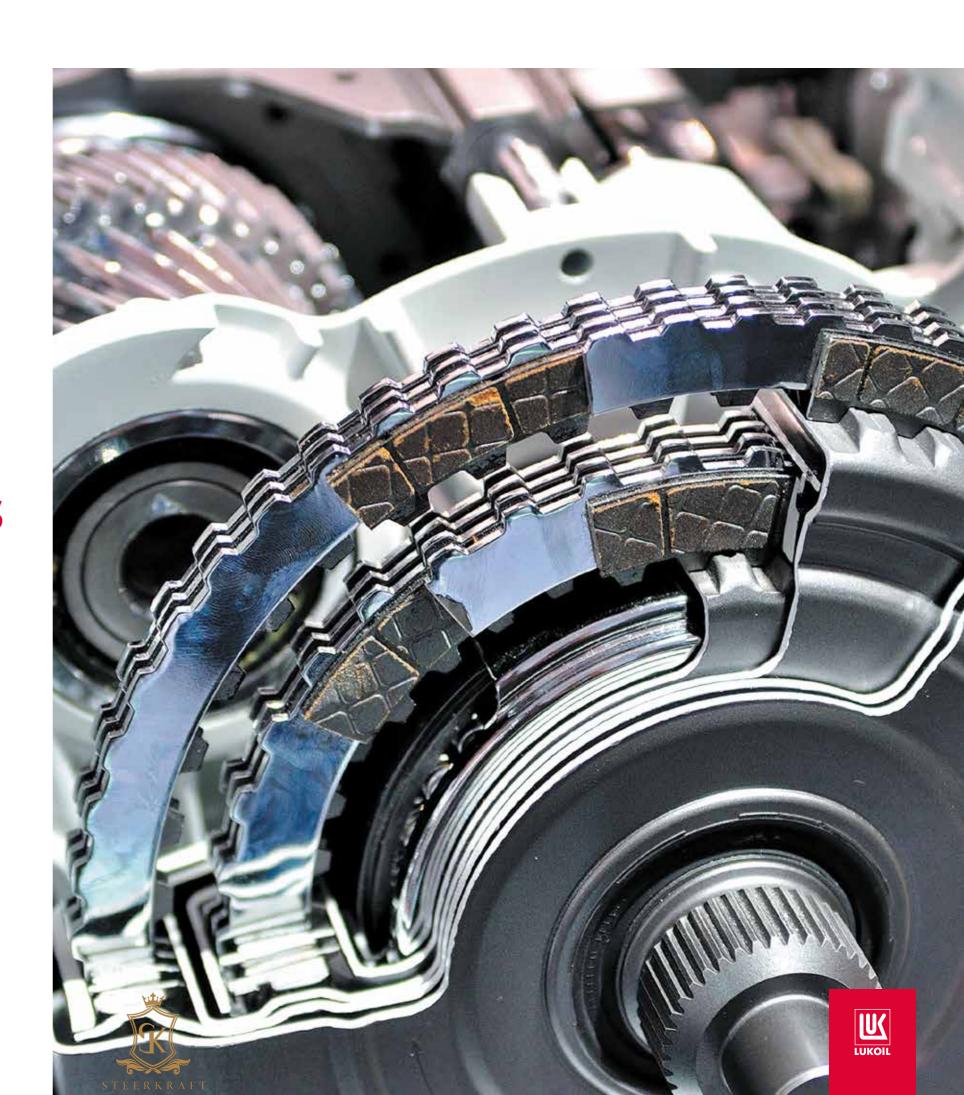
80W-90 / 85W-90

API GL-5

ZF TE-ML 05C/12C/16E/21C



AUTOMATIC
TRANSMISSION
AND POWER
STEERING FLUIDS
FOR PASSENGER
CARS



General purpose ATF			Specia	al products	
LUKOIL ATF SYNTH VI Dexron VI					
LUKOIL ATF SYNTH ASIA Dexron IIIH for Asian cars		LUKOIL CVTF For cars with CVT		LUKOIL DCTF For dual clutch transmissions	
			*		
LUKOIL ATF IIIH Dexron IIIH with basic properties					
	Step auto	omatic transmission		Power steering	
	CVT auto	matic transmission		Dual-clutch robotic aut	omatic transmission
	[] Improved	fuel economy			



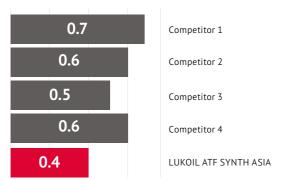
LUKOIL ATF SYNTH ASIA

Fully synthetic automatic transmission fluid specifically formulated to meet the requirements of Asian manufacturers (Jatco, Aisin Warner, etc.).

Application:

Recommended for use in 4-, 5- and some 6-speed automatic transmissions of passenger cars of Japanese and Korean manufacturers (Toyota, Mitsubishi, Nissan, Honda and many others). Designed for use as an alternative to original fluids of standard viscosity (~ 7-8 cSt at 100°C).

WEAR SPOT DIAMETER, mm







LUKOIL ATF SYNTH VI

Fully synthetic low viscosity fluid for step-type automatic transmissions.

Application:

Designed for use in all modern automatic transmissions with 6 or more steps, where a low-viscosity fluid is required (with a viscosity of ~6 cSt at 100°C). It can be used as an alternative to most low-viscosity fluids (GM Dexron VI, Toyota WS, Nissan Matic S, Honda DW-1, etc.).

TOTAL LOSS OF WEIGHT OF FRICTIONS, mg





LUKOIL CVTF

Fully synthetic CVT type automatic transmission fluid, compatible with most original CVT fluids.

Application:

It is recommended for use in variable-speed chain and belt transmissions of passenger cars. It can be used as an alternative to original fluids under the brand of most of the world's car manufacturers.



LUKOIL DCTF

Synthetic fluid for dual-clutch automatic transmissions installed on VW, Seat, Audi and others.

Application:

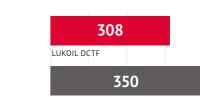
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LUKOIL DCTF

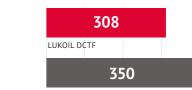
It is recommended for use in the most modern VAG wet clutch robotic gearboxes (DSG), as well as in some DCT robotic gearboxes of BMW, Ford, Mercedes-Benz, Mitsubishi, Peugeout and Citroen vehicles.

LOSS OF WEIGHT OF RINGS, mg

10



LOSS OF WEIGHT OF BEARINGS, mg







UNIVERSAL OILS
FOR AGRICULTURAL
AND OTHER
MOBILE
EQUIPMENT



Universal oils for agricultural and other mobile equipment

A	итто		% ##	STOU) iii		
ERTIES LEVEL	LUKOIL VERSO L 10W-30	vx							
OF PROPE	LUKOIL VERSO 5W-30			LUKOIL V	ERSO MO	TOR			Internal combustion engines
E MEN H	10W-30			10W-40 15W-40					Hydraulic systems
IMPROVER									Friction systems
Σ								Щ	Transmission systems





LUKOIL VERSO

Universal tractor transmission oils (UTTO) with a base level of properties.

Specifications:

10W-30

Massey Ferguson CMS M1145 Ford ESN-M2C134-D

Allison C-4 FORD NEW HOLLAND FNHA-2-C-201.00

CASE MS 1206, MS 1207, MS 1209 John Deere JDM J20C

Caterpillar TO-2 Massey Ferguson CMS M1135, CMS M1143

CLAAS Volvo WB101

CNH MAT 3505, MAT 3525



LUKOIL VERSO LVX

Universal Tractor Transmission Oil (UTTO) with reduced viscosity for the lubrication of combined systems of hydraulic-transmissions-wet brakes of agricultural and mobile equipment.

Specifications:

Massey Ferguson CMS M1145 John Deere JDM J20C/D

ZF TE-ML 03E, 05F, 17E, 21F KUBOTA UDT
Allison C-4 Landini MACROS/C

API GL-4 Massey Ferguson CMS M1135, M1141, M1143

CASE MS 1207, MS 1210 NH 410B

Caterpillar TO-2 Valtra G2-08

CNH MAT 3505, MAT 3509, MAT 3525 Volvo WB101

Ford ESN-M2C134-D, ESN-M2C86-B, ESN-M2C86-C ZF TE-ML 06K

FORD NEW HOLLAND FNHA-2-C-200.00, 201.00



LUKOIL VERSO MOTOR

Universal tractor oils developed for year-round use in all systems of agricultural equipment, including in engines.

Specifications:

15W-40

Massey Ferguson CMS M1145 John Deere J27

AFNOR NF E 68603 (E) Massey Ferguson CMS M1144

Allison C-4 NH 024C, 82009203

API CE, CF-4, CG-4, GL-4, CD, CF, SE, SF Sauer Sunstrand/Danfoss Hydro Static

Eaton Vickers E-FDGN-TB002-E ZF TE-ML 07D, 06B, 07B

Fiat AF 87; Ford M2C 159B/C







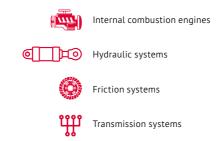
UNIVERSAL OILS FOR MINING EQUIPMENT



LUKOIL GEYSER MM SYNTH 5W-30

LUKOIL GEYSER MM

30 50



DEDICATED PRODUCTS

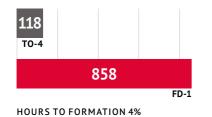


LUKOIL GEYSER MM 60

Transmission oil for use in differentials in earthmoving and mining equipment.

The product is intended for bearing assemblies of the front wheels of off-road dump trucks, differentials and final drives of heavy vehicles where the use of oils meeting the FD-1 specification is required. It is designed for use in high load and high temperature environments. It is the lubricant of choice for final drives and drive axle differentials that are free of friction materials and previously used with TO-4 oils.

Specifications: Caterpillar FD-1

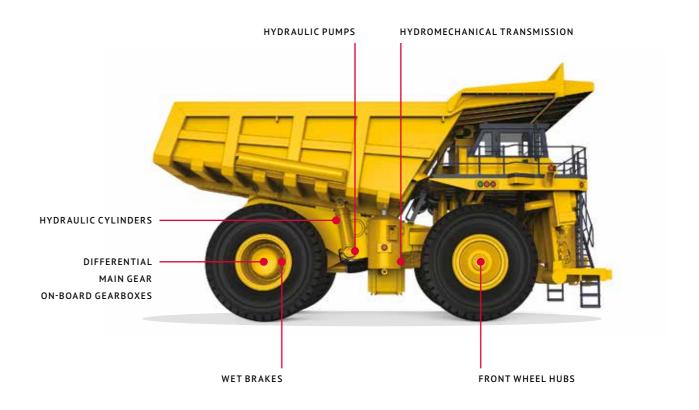


OF MACROPITTING SURFACE

TEST RESULTS FOR FD-1 COMPLIANT OIL EXCEEDS RESULTS FOR TO-4 OIL

STEERKRAET

APPLICATION OF GEYSER MM AND GEYSER MM SYNTH

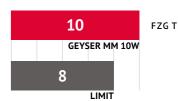




LUKOIL GEYSER MM

Universal seasonal oil for heavy duty quarry and mining equipment recommended for use in units where CAT TO-4 and Komatsu KES 07.868.1 oils are required.

Specifications:
Caterpillar TO-4
Allison C-4
API CF, MT-1
Komatsu KES 07.868-1
ZF TE-ML 03C (only for SAE 10W, 30)
ZF TE-ML 07F (only for SAE 30)



FZG TEST CYCLES

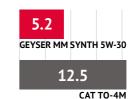


LUKOIL GEYSER MM SYNTH 5W-30

All-season synthetic oil for heavy quarry and mining equipment complying with Cat TO-4M specification.

Specifications:

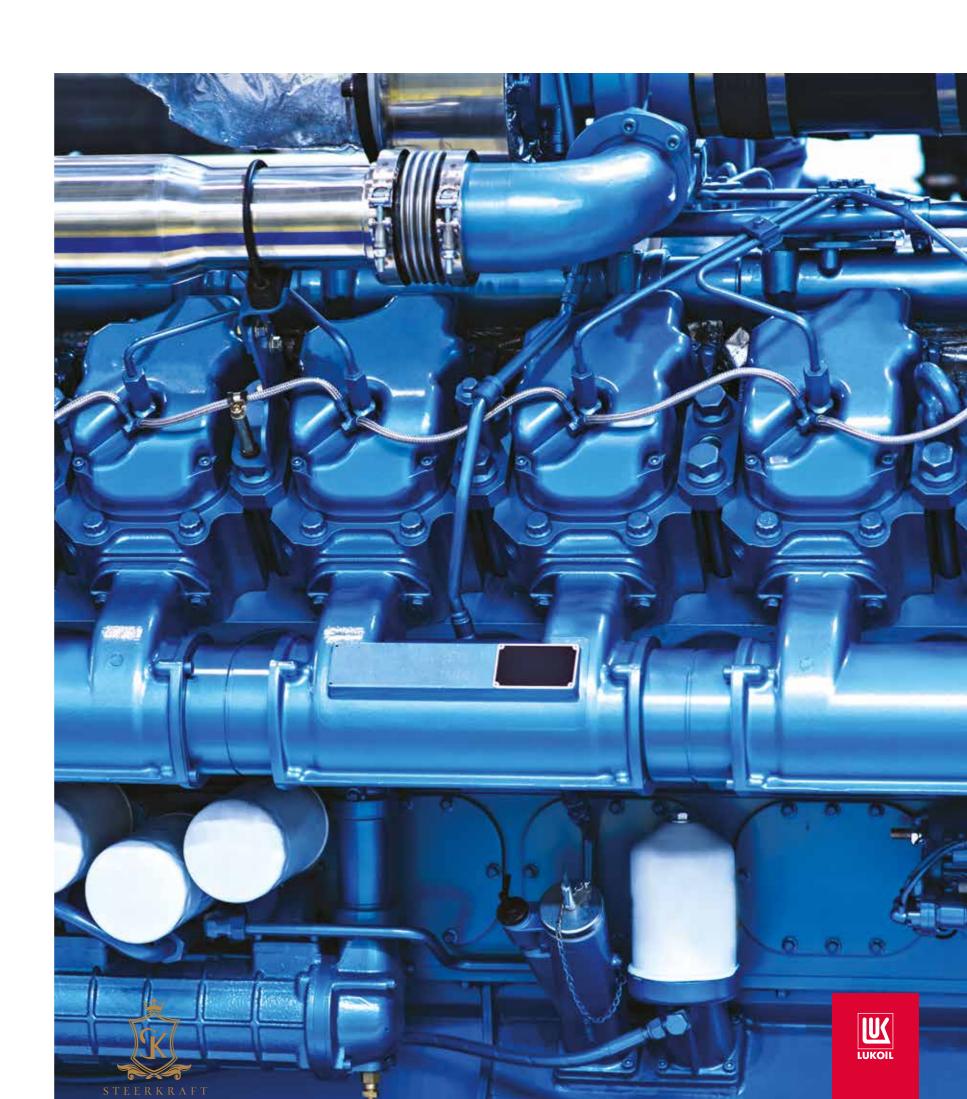
Caterpillar TO-4M Allison C-4 API MT-1 Komatsu KES 07.868-1 ZF TE-ML 03C, 07F



CHANGE OF KINEMATIC VISCOSITY AT 100°C AFTER 20 HOURS OF KRL TESTS, %



OILS FOR STATIONARY GAS ENGINES



Oils for stationary gas engines

	Ash-free (<0.1% SAPS)	Low ash content (<0.5% SAPS)	Medium ash content (<1.0% SAPS)
Extended drain interval		LUKOIL EFFORCE XDI 4004	
Basic properties level	LUKOIL EFFORCE 15W-40	LUKOIL EFFORCE 4004	LUKOIL EFFORCE HD 4009



Extended drain interval



For engines running with biogas and landfill gas

LOW-ASH OILS



LUKOIL EFFORCE XDI 4004

Low-ash oil developed on synthetic technology base oils with an extended drain interval for four-stroke engines running on stoichiometric and depleted gas mixtures as well as low-sulphur organic gases.

Specifications:

INNIO Jenbacher TA 1000-1109, Type 2 and 3 Caterpillar 3500 INNIO Jenbacher TA 1000-1109, Type 4 (version A&B) Caterpillar 3600 INNIO Jenbacher TA 1000-1109, Type 6 (version C&E) Cummins QSV 81G MWM TR 0199-99-02105-19 Cummins QSV 91G MWM TR 0199-99-12105-19 Waukesha Wartsila







LUKOIL EFFORCE 4004

Low-ash mineral oil designed for lubrication of high-performance atmospheric and turbocharged stationary engines running on natural, associated petroleum and other types of gas.

Specifications:

INNIO Jenbacher TA 1000-1109, Type 2 and 3 $\,$ Caterpillar 3300/3400/3500/3600 INNIO Jenbacher TA 1000-1109, Type 4 (A&B) Cummins QSK 60G Cummins QSV 81G/91G INNIO Jenbacher TA 1000-1109, Type 6 (C&E) INNIO Jenbacher TA 1000-1109, Type 6 (F&J) Guascor FGLD, SFGLD MAN Diesel & Turbo MAN M 3271-2 MWM TR 0199-99-2105 Mitsubishi HIET Rolls-Royce Perkins engine series 4000 Waukesha

Wartsila 25SG/28SG/32DF/34SG/50DF/175SG/220SG

Volga diesel named after Mamyn OJSC

OILS WITH MEDIUM ASH CONTENT



LUKOIL EFFORCE HD 4009

Mineral oil with medium ash content designed for use in 4-stroke stationary gas-piston engines running on acid gases (biogas, landfill gas), for which engine manufacturers recommend the use of oils with an ash content of less than 1%.

Specifications:

INNIO Jenbacher TA 1000-1109, Type 2 and 3 MAN M 3271-1 MTU BR 400 MDE 57 AP 2008



ASH-FREE OILS



LUKOIL EFFORCE 15W-40

Ash-free mineral oil designed for 2- and 4-stroke gas-piston engines with a catalytic converter system and engines that are subject to strict emission requirements.

Specifications:

AJAX

Colt-Fairbanks Morse

Cooper-Bessemer (2T)



HYDRAULIC OILS



Hydraulic oils

	Zinc-containing		Zinc-f	ree	With detergent and dispersing properties
HVLP	LUKOIL GEYSER LT VG 10, 15, 22, 62, 46, 68, 100		LUKOIL GEYSER LT ZF VG 32, 46, 68		LUKOIL GEYSER LTD VG 46
I		⊘ ∜		♥ ₩ ₩	♡ : ₩ ₩ ₩
	LUKOIL GEYSER ST PLUS VG 32, 46, 68				
HLP		3			
	LUKOIL GEYSER ST VG 22, 32, 46, 68, 100		LUKOIL GEYSER ZF VG 32, 46, 68		LUKOIL GEYSER STD VG 68
		$\overline{\Diamond}$		♥	♡ <u>\$</u>



Extended drain interval



Use under low temperatures conditions





For operation under high water exposure



For operation in conditions of increased contamination



LUKOIL GEYSER ST PLUS

Hydraulic HLP-class oils produced with high-index base oils and a specialized additive package. Characterised by more antioxidant stability and increased viscosity index compared to conventional mineral oils thus providing increased drain interval and reliable protection of equipment in the conditions of high temperatures and loads.

ANTIOXIDANT STABILITY ASTM D 943, 4



Recommended for hydraulic systems of equipment operated in the conditions of high temperatures. Allows for extended drain intervals and reduces maintenance costs.





LUKOIL GEYSER LT

All-season hydraulic oils meet DIN 51524-3 (HVLP) requirements. Developed in accordance to the requirements of global leading hydraulic equipment manufacturers.

Recommended for use in hydraulic systems of mobile equipment as well as stationary equipment which operates in unheated rooms.

Pour point, °C, not more than

	ISO VG 10	ISO VG 15	ISO VG 22	ISO VG 32	ISO VG 46	ISO VG 68	ISO VG 100
DIN 51524-3	-39	-39	-39	-30	-27	-24	-21
LUKOIL	-55	-50	-45	-40	-40	-35	-35



LUKOIL GEYSER LT ZF

All-season hydraulic oils manufactured with a multifunctional zinc-free additive package. Meet DIN 51524-3 (HVLP) requirements. They are recommended for use in hydraulic systems of mobile and stationary equipment operating in conditions of increased watering and low temperatures.

Pour point, °C, not more than

	ISO VG 32	ISO VG 46	ISO VG 68
DIN 51524-3	-30	-27	-24
LUKOIL	-45	-40	-35

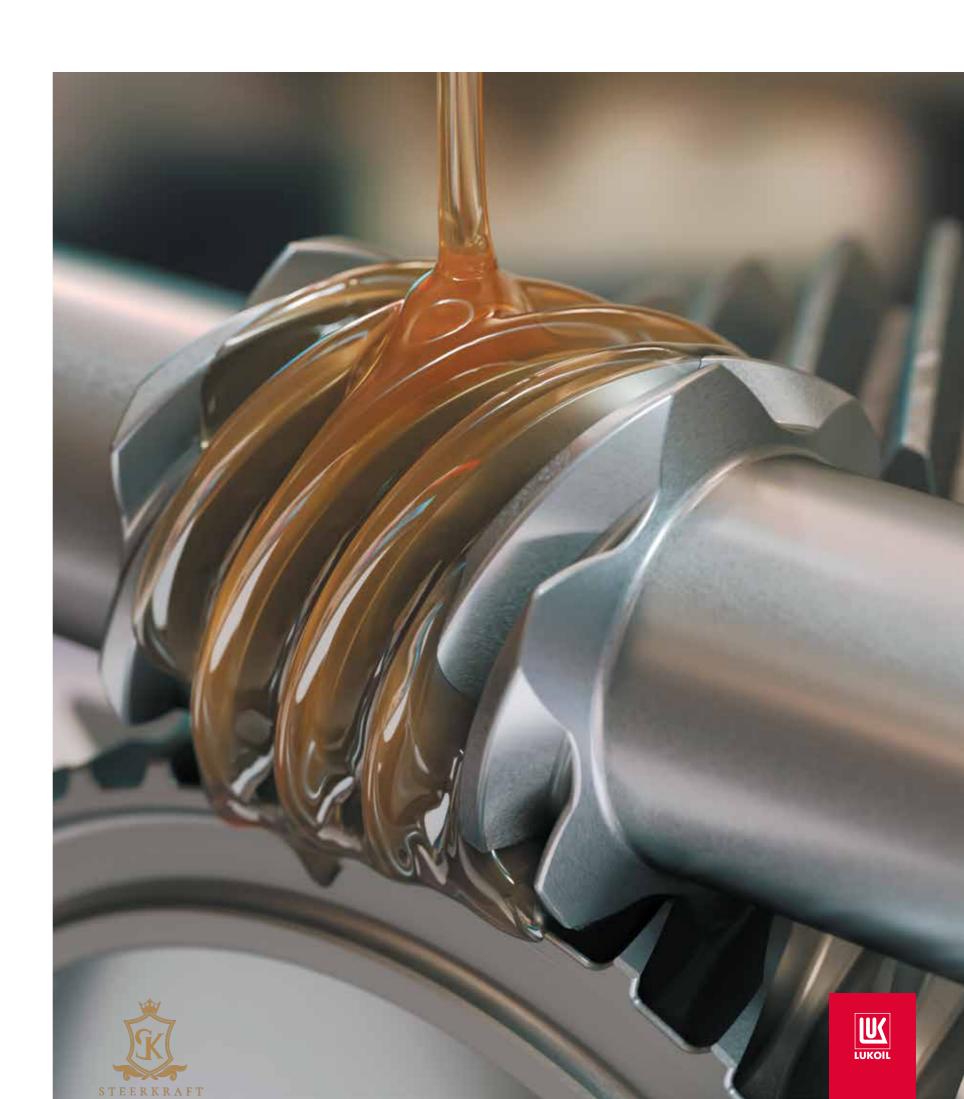


LUKOIL GEYSER LTD 46

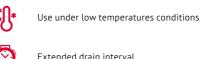
Hydraulic oil with improved detergent and dispersing, emulsifying and low-temperature properties. Meets DIN 51524-3 (HVLP) requirements, except its demulsifying properties. Intended for use in hydraulic systems of stationary and mobile machines operated in low temperatures and under conditions of increased contamination.

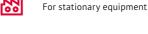


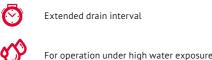
INDUSTRIAL GEAR OILS



General purpos	e	Special	purpose
LUKOIL STEELO SYNTH VG 68, 100, 150, 220, 320, 460, 680	세 👨 🖥	LUKOIL STEELO XLT	∜ 🖈 👨 🗑
LUKOIL STEELO PLUS VG 150, 220, 320, 460	₩ 🔓	LUKOIL STEELO LT 10	∜ 🖈
LUKOIL STEELO VG 68, 100, 150, 220, 320, 460, 680	23	LUKOIL STEELO RS VG 100, 220, 460	ගු කු











For oil and gas industry



LUKOIL STEELO XLT

Special low pour point gear oil for use in the Far North at temperatures down to -50 °C. Designed specifically for use in pumping unit gearboxes with extended drain intervals.











LUKOIL STEELO SYNTH

Industrial gear oils based on polyalphaolefins (PAO) and an advanced additives package.

Designed for application in enclosed gearboxes operating at high loads and temperatures. Provide stable equipment operation at temperatures from -45 to +130°C.







	DIN 51517-3	LUKOIL
Viscosity index	90	150
FZG load carrying test, failure load stage	12	>14



LUKOIL STEELO PLUS

Premium mineral industrial gear oils. A specialized additives package with friction modifiers provides high protection against micropitting, compatibility with elastomers, excellent protection against wear and corrosion.





	DIN 51517-3	LUKOIL
Roller wear by FE-8, FAG, mg	<30	2
FZG load carrying test, failure load stage	12	>14



LUKOIL STEELO

High quality mineral industrial gear oils. Recommended for lubrication of bearings, gears, worm gears and screw gears of various industrial equipment. Suitable for use in circulation systems, oil mist and oil spray lubrication systems.





LUKOIL STEELO LT 10

Special low pour point gear oil designed for all-season use in gearboxes of pumping units and other industrial transmissions operating at ambient temperatures above -35°C.







LUKOIL STEELO RS

A series of mineral industrial gear oils specifically designed for use in high water conditions. These products are intended for use in gears of industrial transmissions and provide excellent protection against wear and corrosion, and perfectly separate water when it enters the oil system.



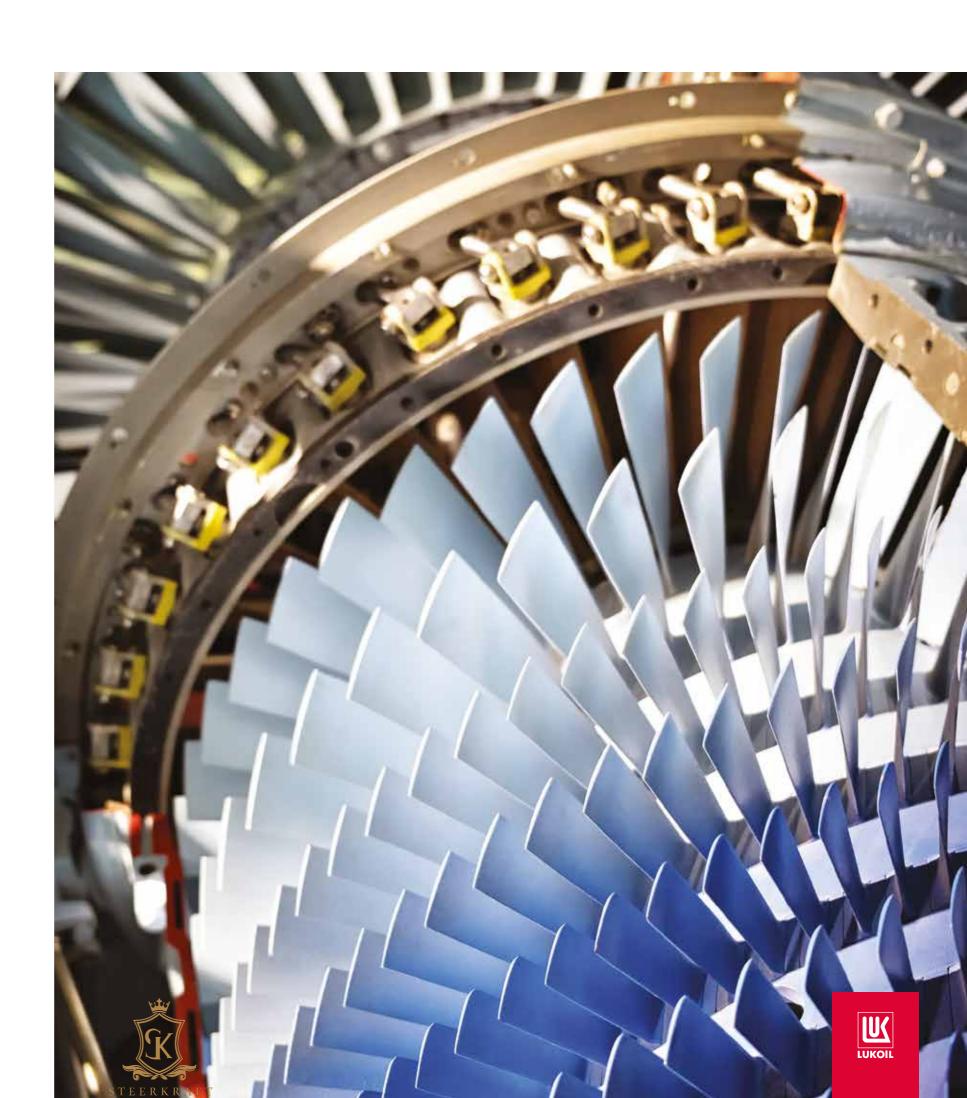






15

TURBINE OILS



General	Special gurgaes		
For gearless turbines	For geared	turbines	Special purpose
LUKOIL TORNADO S ISO VG 32	LUKOIL TORNADO T ISO VG 32, 46		LUKOIL TORNADO GT
3 (0)		ॐ EP ⊚	∜ ॐ 🖈
	LUKOIL TORNADO M ISO VG 32, 46		LUKOIL TORNADO SNH ISO VG 32, 46
		EP 🕲	ЕРД ፟፟፟



LUKOIL TORNADO SNH

Operated in aggressive environments

Excellent demulsifying properties

Special-purpose turbine oils for turbine compressors used in chemical industries. Designed to operate in aggressive environments.

Use under low temperatures conditions

For oil and gas industry

Extended lifetime

Intended for lubrication of circulation systems in centrifugal turbine compressors in chemical and petrochemical industries.





Use of EP-additives





LUKOIL TORNADO S 32

High-quality turbine oil produced with synthetic base oils and modern additives package, which provides protection from wear, extended lifetime, low foam formation capability and excellent demulsifying properties.

Intended for lubrication of high-speed gearless steam and gas turbines.







LUKOIL TORNADO T

High-quality synthetic turbine oils with EP-additives. The products have high antioxidation, anti-wear and anti-corrosion properties, a low capability to form deposits and excellent seal compatibility.

Intended for lubrication of high-capacity turbine units, both geared and gearless.







	LUKOIL TORNADO S	LUKOIL TORNADO T	LUKOIL TORNADOO M
Induction oxidation period RPVOT, min	1450	1500	1100
Oxidation stability (Life TOST), hrs	>8000	>9000	>5000



LUKOIL TORNADO M

Turbine oils produced with ultra-purified base oils and high-efficiency package of ash-free additives.

Recommended for new-generation of Russian or imported steam and combined cycle turbines, including those with gears and torque multipliers.







LUKOIL TORNADO GT

Special-purpose turbine oil intended for use in lubrication systems of gas-pumping units drives.

It offers extended lifetime, lower oil consumption as compared to conventional products for this application, and excellent lowtemperature properties.

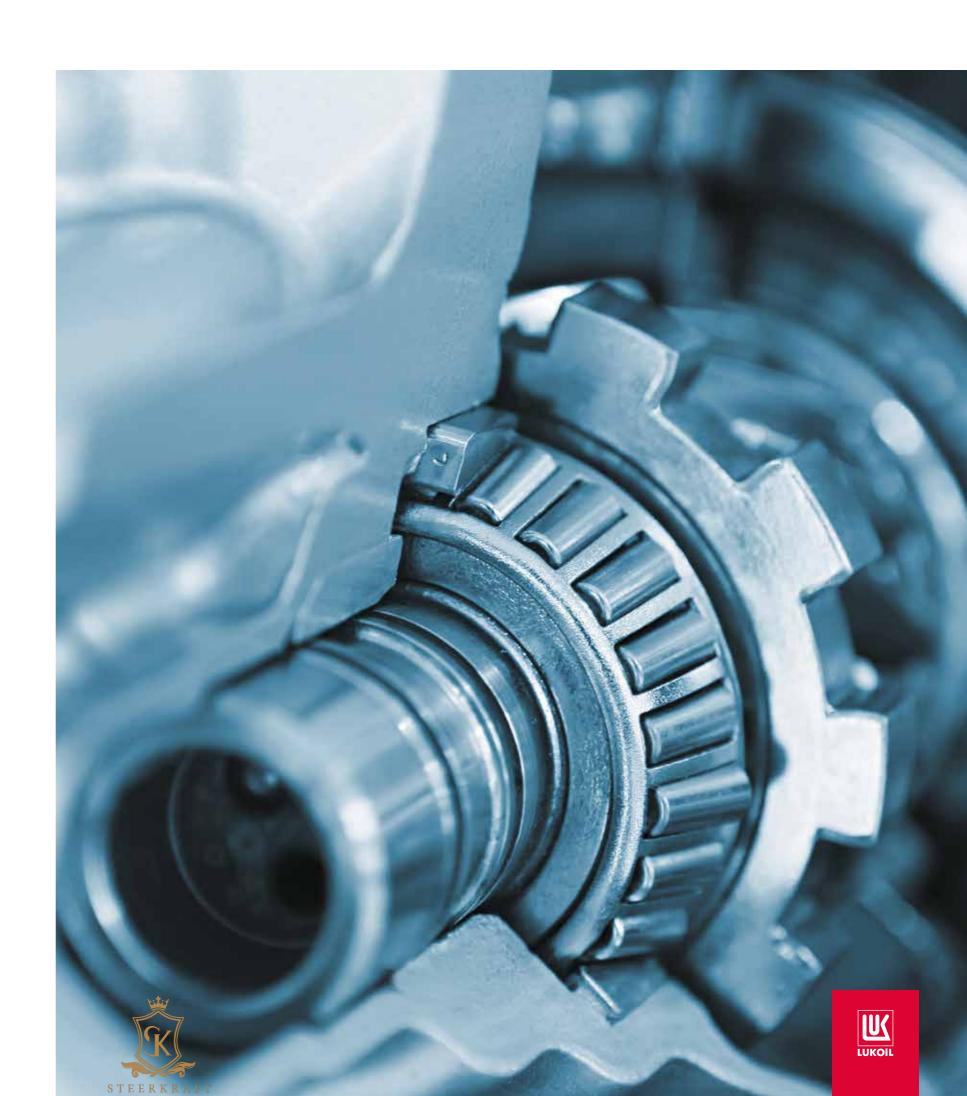








CIRCULATING OILS



Circulating oils

For oil flooded bearings	For general purpose	Spindle oils	For paper-making machines
LUKOIL INTEGO PREMIUM VG 100, 150, 220			
③ 🕲 🗑 🖫			
LUKOIL INTEGO VG 46, 220, 320, 460	LUKOIL ROUND VG 68, 100, 150, 220, 320, 460	ISO VG 5, 7, 10	ISO VG 150, 220
<u> </u>	Ø #I	C	\$ ₪



For metallurgy



Excellent demulsifying properties



For stationary equipmen



For paper-making machines



For machining equipment



Operation under increased loads conditions



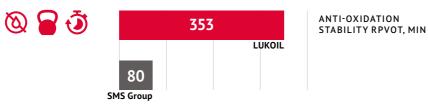
Extended lifetime



LUKOIL INTEGO PREMIUM

Premium circulating oils for oil flooded bearings, developed in accordance with the requirements of such OEMs as SMS Group, Danieli, SKET.

Intended for lubrication of oil flooded bearings of rolling mills operated under high loads and water exposure conditions.





LUKOIL INTEGO

High-quality circulating oils for oil flooded bearings. Intended as a eplacement for previously produced I-PV, P-28, T-30 and other series of domestic products.







LUKOIL ROUND

High-efficiency circulation oils series with a wide range of applications for different industrial equipment. Intended as a replacement for oils of the IGP, IGS and I-T-D series with respective viscosity classes. Their applications include various circulation systems of industrial equipment, and lubrication of gears operated under low and medium loads, bearing assemblies and hydraulic drives.







LUKOIL ADVANTO

Special circulation oils for high-capacity paper-making machines. Designed to ensure reliable operation of machinery under high temperatures, steam and water exposure.

Intended for the lubrication of rolling and sliding bearings, as well as paper-making machines gears.







WATER SEPARABILITY AT 82°C, MIN



LUKOIL SUPPORTO

Modern mineral industrial low-viscosity oils series for industrial equipment. They protect components and parts from wear and corrosion, keep equipment components and parts clean and free of mud, and provide for extended drain intervals as compared with additive-free industrial oils.

Designed for the lubrication of high-speed mechanisms operated under low loads, such as spindle assemblies with sliding bearings, spindles of spinning and twisting machines, sewing and knitting machines, other machines, as well as precision mechanisms, instruments and laboratory equipment.







15

COMPRESSOR OILS



Compressor oils

	General purpose	Special purpose		
1	LUKOIL STABIO SYNTH VG 32, 46, 68, 100, 150	LUKOIL STABIO PG VG 68, 100, 150		
긢	₽ Д ॐ ∜ ()+	₫률;0+	Д	Operated in aggressive environments
PROPERTIES LEVEI	LUKOIL STABIO PLUS VG 46, 68	LUKOIL STABIO DGC KV40 68, 100, 150, 190, 220	<u>Û</u> +	For compressors with high temperatures at the last stage
P.	ॐ ∜ ()+	₫ು%.0+	*[]*	Use under low temperatures conditions
IMPROVEMENT	LUKOIL STABIO VG 46, 68, 100, 150, 220, 320, 460, 680			Operation under increased loads conditions
	①+		9	Extended lifetime



LUKOIL STABIO PLUS

Compressor oil blended with synthetic base stock and highperformance additive package. The oil provides easy start-up at low temperatures and ensures excellent protection against oxidation, wear and corrosion.

Recommended for use in high capacity screw compressors.



LOW FOAMING TENDENCY ALLOWS TO PROVIDE RELIABLE OPERATION IN SCREW COMPRESSORS

Foaming tendency and foam stability	ISO 6521-2 DAJ	LUKOIL STABIO PLUS 46
At 24 °C	150/0	0/0
At 93 °C	50/0	10/0
At 24 °C after test at 93 °C	150/0	0/0



LUKOIL STABIO DGC

High quality synthetic gas compressor oil based on PAG (polyalkylene glycol). The oil offers low hydrocarbon gas solubility which helps to reduce oil consumption and ensures a low level of lubricant ingress into the compressed gas.

Designed for use in enclosed pattern gas compressors handling methane, ethane, propane, butane, ethylene, propylene, butylene, ammonia, vinyl chloride and butadiene.





LUKOIL STABIO SYNTH

Premium high-efficiency synthetic compressor oils produced on the basis of polyalphaolefins and with a specialized ash-free additive package. These oils have unparalleled anti-oxidation stability, low tendency for foaming and deposit formation, high compatibility with sealing materials and ultimately low pour point.

Intended for use in screw-type compressors, turbocompressors operated under high loads and low ambient temperatures.





LUKOIL STABIO

Mineral compressor oils have high level of anti-wear, anti-oxidation and anti-foam properties, minimize carbon deposition and have no negative impact on sealing materials.

Their performance properties do not concede to known foreign analogues and significantly exceed GOST requirements.

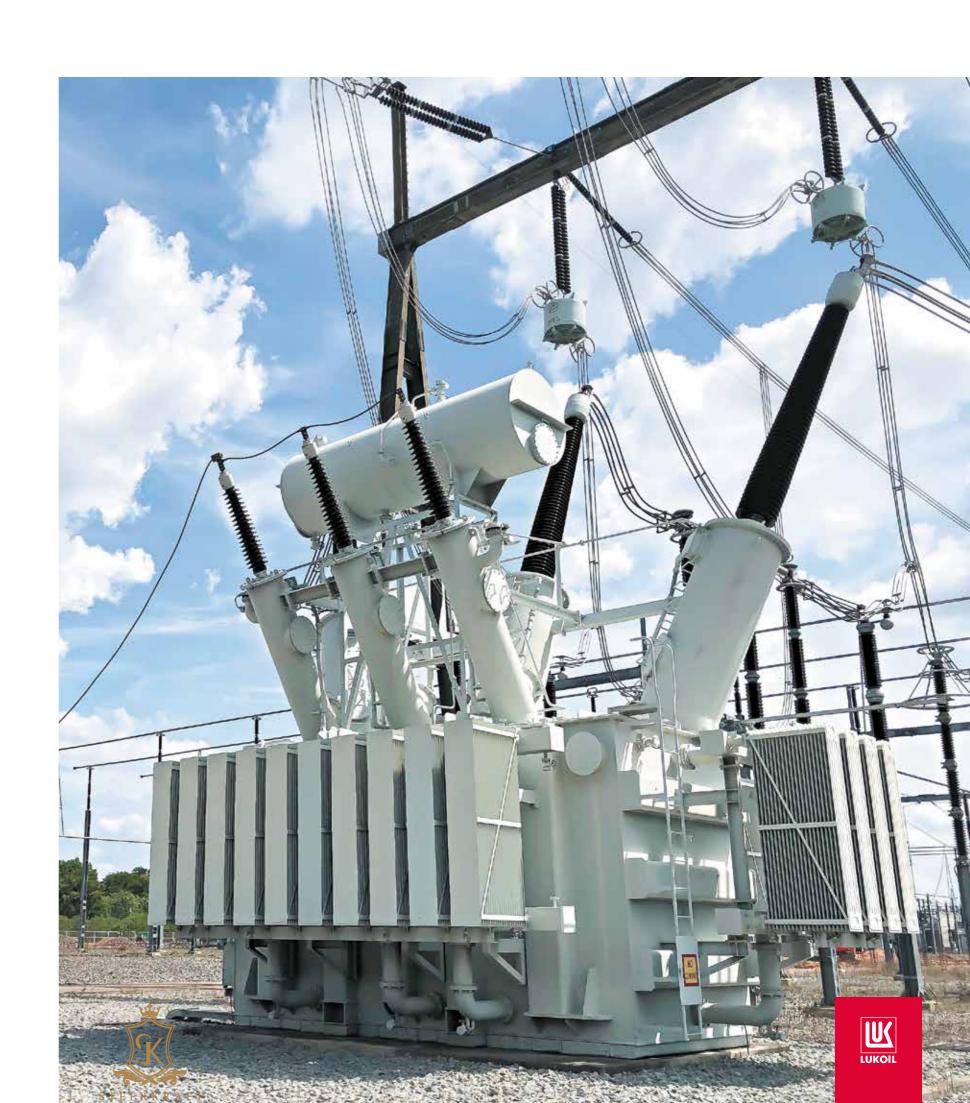
Intended for lubricating air and gas compressors operated under high loads.







ELECTRICAL INSULATING OILS



	Transformer oils		Oils for submersible pumps	For cable impregnation compounds
	LUKOIL TRANSFORMER OIL P-IIIX			
PER HES LEV	*0	* 1		
IMPROVEMENT OF PROPERTIES LEVEL	LUKOIL VG		LUKOIL INDUCTO ESP	KM-22
		(A)	∄ ★ 1	(A)



Excellent electrical insulating properties



Use under low temperatures conditions



For oil and gas industry



LUKOIL INDUCTO ESP

Electrical insulating oil for submersible pumps. Formulated with highly-purified base oils obtained using hydrocracking technologies and a specialized additive package.

Recommended for all-season use as electric insulating fluid in electric submersible pumps operated in oil and gas industry.





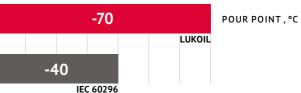






LUKOIL TRANSFORMER OIL P-IIIX

Inhibited transformer oil specially designed for use in Arctic regions. According to its performance parameters, it meets the highest requirements for transformer oils.



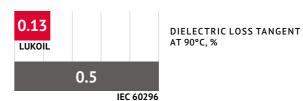




LUKOIL VG

High quality electircal insulating oil with effective oxidation inhibitor, intended to ensure stable and safe operation of high-voltage equipment.

Intended for use in transformers, converters, inductors, condensers and in current distribution equipment up to 1,150 kV incl.







KM-22

Special cable medium-viscosity oil designed for manufacturing of power cables with paper insulation used at operating voltages 1-35 kV. The oil is a mineral-based product.





QUENCHING OILS



LUKOIL ASSISTO T

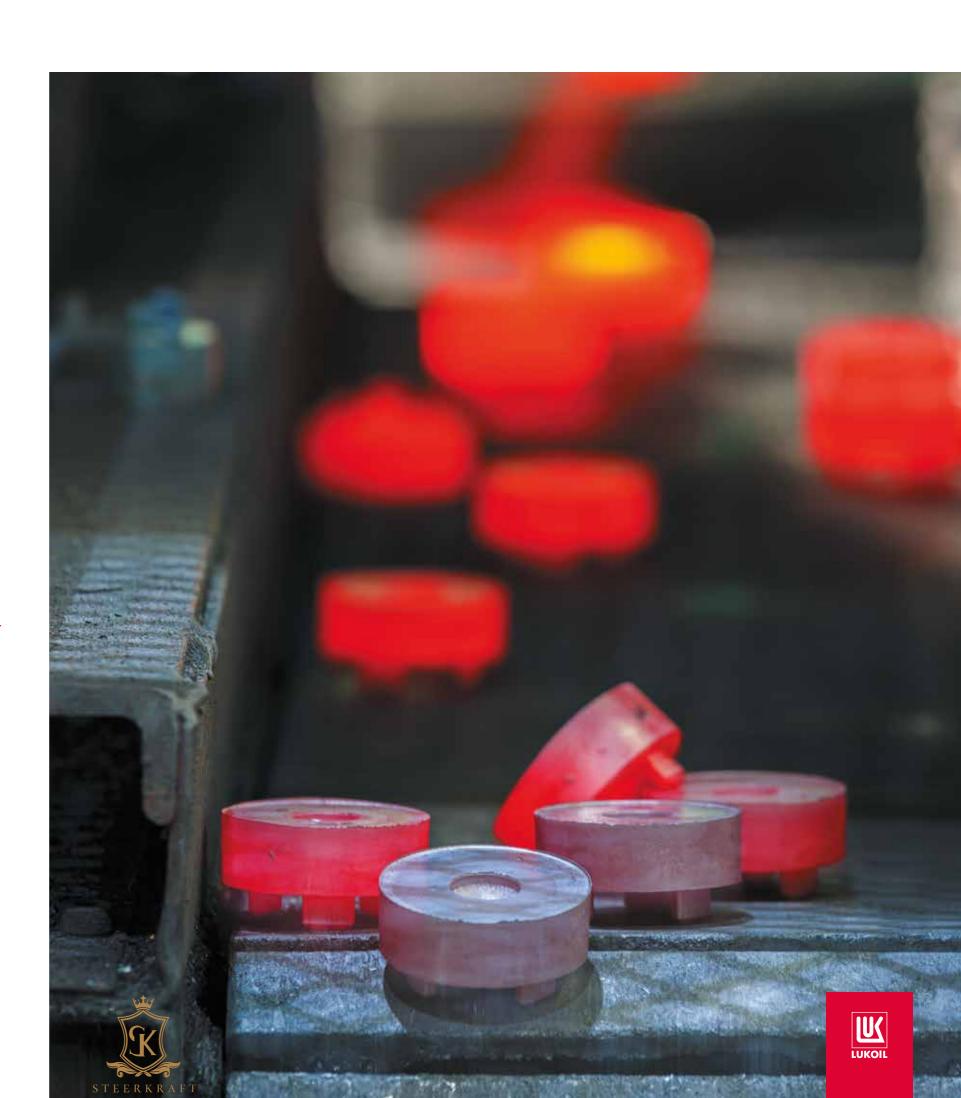
Grades 12, 16, 26

High-quality quenching oils recommended for use as working fluid in metal heat treatment processes where the technology prescribes to use oils with high properties.

Using these oils instead of I-20 and I-40 additive-free industrial oils allows to reduce the share of rejected items among the finished products, ensures surface cleanliness and stable performance properties throughout the extended lifetime of the product.



For metallurgy



SLIDEWAY OILS



LUKOIL SLIDO

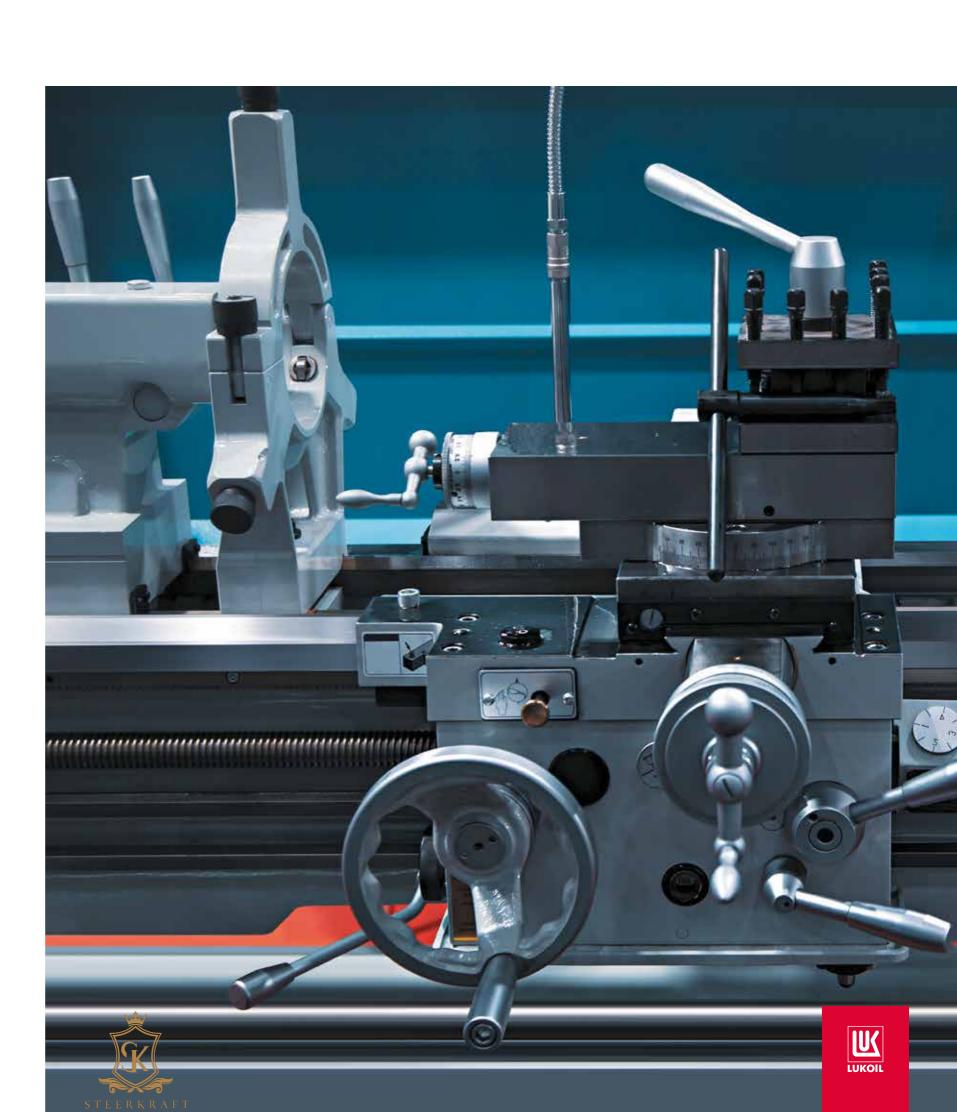
ISO VG 32, 68, 150, 220

Slideway oils of machining equipment are characterized by lower friction factor, higher adhesion to metal surfaces and excellent anticorrosion and anti-foam properties.

Special additives in the composition of these oils provide smooth motion of the machine components.



For machining equipment





HEAT TRANSFER OILS





LUKOIL THERMO LT

Heat transfer oil designed for use in closed systems with forced circulation, operated under low temperature conditions.

Recommended for use in thermal oil boilers, air heaters, thermostats, steam generators, heat exchangers and other industrial and household installations operating under low temperatures conditions.



Use under low temperatures conditions



Extended lifetime



LUKOIL THERMO OIL

Heat transfer oil is produced on the basis of mineral and synthetic base oils and a package of additives to ensure high value of specific heat capacity and thermal-oxidative stability, low tendency to deposit formation and compatibility with structural materials.

Highest recommended temperatures for operation: 310 °C in the bulk oil, 336 °C on the surface of the heat exchangers.



EVAPORATING CAPACITY NOACK, ASTM D 5800, %





SEPARATION OILS FOR CONTINUOUS CASTING MACHINES





LUKOIL INSO CMF

Grades 1, 2, 3

Specialized oils for lubrication of crystallizer moulds. They have excellent lubrication properties, feature low tendency to smoke formation, and coke and lacquer deposits formation. Provide reliable and uninterrupted operation of the CCM and the quality of the workpieces.



For metallurgy

	LUKOIL	LUKOIL	LUKOIL
	INSO CMF 1	INSO CMF 2	INSO CMF 3
Kinematic viscosity at 40 °C, mm2/s	35.7	46.5	45.9
Kinematic viscosity at 100 °C, mm2/s	8.1	7.9	10.2
Flash point, °C	316	269	315
Saponification number, mg KOH per 1g	209	101	209
Ash content, %	0.008	0.008	0.009
Pour point, °C	-19	-17	-25
Total acid number, mg KOH per 1g	0.040	0.011	0.055





METALWORKING FLUIDS



WATER-SOLUBLE METALWORKING FLUIDS

	Synt	hetic	Semi-sy	Mineral		
General S		Special	General	Special	General	
	LUKOIL FREO GP 3030		LUKOIL FREO GP 3020	LUKOIL FREO SP 3020 EP	LUKOIL FREO GP 3010	
	☑ EP ③		E 3	Œ EP ₫	E 3	
				LUKOIL FREO SP 3020 LF		
				E 3		
				LUKOIL FREO SP 3020 AERO		
				© ⋉		
	LUKOIL FREO GP 2030	LUKOIL FREO SP 2030 HT	LUKOIL FREO GP 2020			
	E 🧿	Ľ 🕢 锅	E 3			
		LUKOIL FREO SP 2031 HT				
		Ľ 🕢 😘				
	LUKOIL FREO GP 1030	LUKOIL FREO SP 1030 HT	LUKOIL FREO GP 1020			
	C	Ľ 🕢 😘	C			



Contains EP-additives



For aerospace industry

Extended lifetime



For machining equipment



For pipe-production industry



LUKOIL FREO GP 3030

Synthetic water-soluble metalworking fluid developed for medium and heavy-duty blade metalworking. A multi-functional additive package which also includes EP-additives, allows to ensure the quality of the treated surfaces and durability of tools at the level of semi-synthetic metalworking fluids, while maintaining the unsurpassed biostability of synthetic metalworking fluids and the ability to be used with water of wide range of total hardness.







LUKOIL FREO SP 3020 EP

Semi-synthetic metalworking fluid designed for blade machining of such materials, as high-alloyed, heat-resistant steels, titanium and aluminum alloys. It is suitable for use in heavy operations. It forms stable emulsion in a wide range of hardness of the used water. Use of EP-additives provides high quality of the treated surface and extended tool life when operated under heavy load conditions.





LUKOIL FREO SP 3020 LF

Semi-synthetic metalworking fluid specially designed for use in machine tools with high fluid supply pressure. It is characterised by low tendency to foaming. The product is intended for medium and heavy-duty abrasive and blade processing. Recommended for work with alloys of ferrous and non-ferrous metals. Suitable for copper and its alloys.





LUKOIL FREO SP 3020 AERO

Special semi-synthetic metalworking fluid developed for medium and heavy duty blade processing of steel, aluminum, titanium and nickel alloys whidely used in avia industry. A specially selected package of alkaline buffers allows for maintaining the required pH level.





LUKOIL FREO GP 2020

Semi-synthetic metalworking fluid for all kinds of abrasive operations and for light and medium blade processing of ferrous metals. Characterised by high biostability and recommended for use in centralized systems of fluid supply.







OIL-BASED METALWORKING FLUIDS

5*	8*	10*	15*	22*	32*
LUKOIL INSO SP 3005 TT	LUKOIL INSO SP 3008 A	LUKOIL INSO GP 3010	LUKOIL INSO SP 3015 CU	LUKOIL INSO GP 3022	LUKOIL INSO SP 3032 CU
嘡⊚∳ Cu	Ľ⊚Cu	E 4	嘡∳ Cu	嘡∳ Cu	嘡∳ Cu
LUKOIL INSO SP 3005 F			LUKOIL INSO GP 2015		LUKOIL INSO GP 2032
Ľ ② Cu			⊑∳ EP		Œ∳EP
LUKOIL INSO SP 2005 H					
匠@Cu					



For machining equipment



CU Compatibility with copper alloys



For abrasive metal machining



For blade machining



5-32* Kinematic viscosity at 40 °C



LUKOIL INSO SP 3005 TT

Fully synthetic low-viscosity metalworking fluid intended for abrasive and blade machining operations, including sharpening of carbide-tipped tools. It has high flash point, excellent thermal oxidation stability and low foaming tendency. Its performance characteristics compare well with those of equivalent imported products.





LUKOIL INSO SP 3008 A

Oil-based metalworking fluid for abrasive machining of ferrous and nonferrous metals. Suitable for grinding operations with the use of ceramic, diamond and boron-nitride grinding wheels.

Can also be used for blade machining under light loads.





LUKOIL INSO GP 3010

Multi-purpose oil-based metalworking fluid for abrasive machining and blade machining under medium and light loads. Synthetic base oils and specialized additives allow for excellent quality of surface, low evaporability of the product, compatibility with both ferrous and nonferrous metals, and extended tool life.





LUKOIL INSO GP 2015 AND LUKOIL INSO GP 2032

Oil-based metalworking fluids recommended for blade machining of ferrous metals under medium and increased loads conditions, including deep drilling operations. Due to EP-additives these products provide excellent quality of machined surfaces and high tool durability. Not recommended for machining copper-containing alloys.





LUKOIL INSO SP 3015 CU AND LUKOIL INSO SP 3032 CU

Oil-based metalworking fluids for blade machining of ferrous and non-ferrous metals under light and medium loads. The product doesn't contain active sulphur. It is recommended for copper alloys and suitable for enterprises processing a wide range of materials.





LUKOIL INSO GP 3022

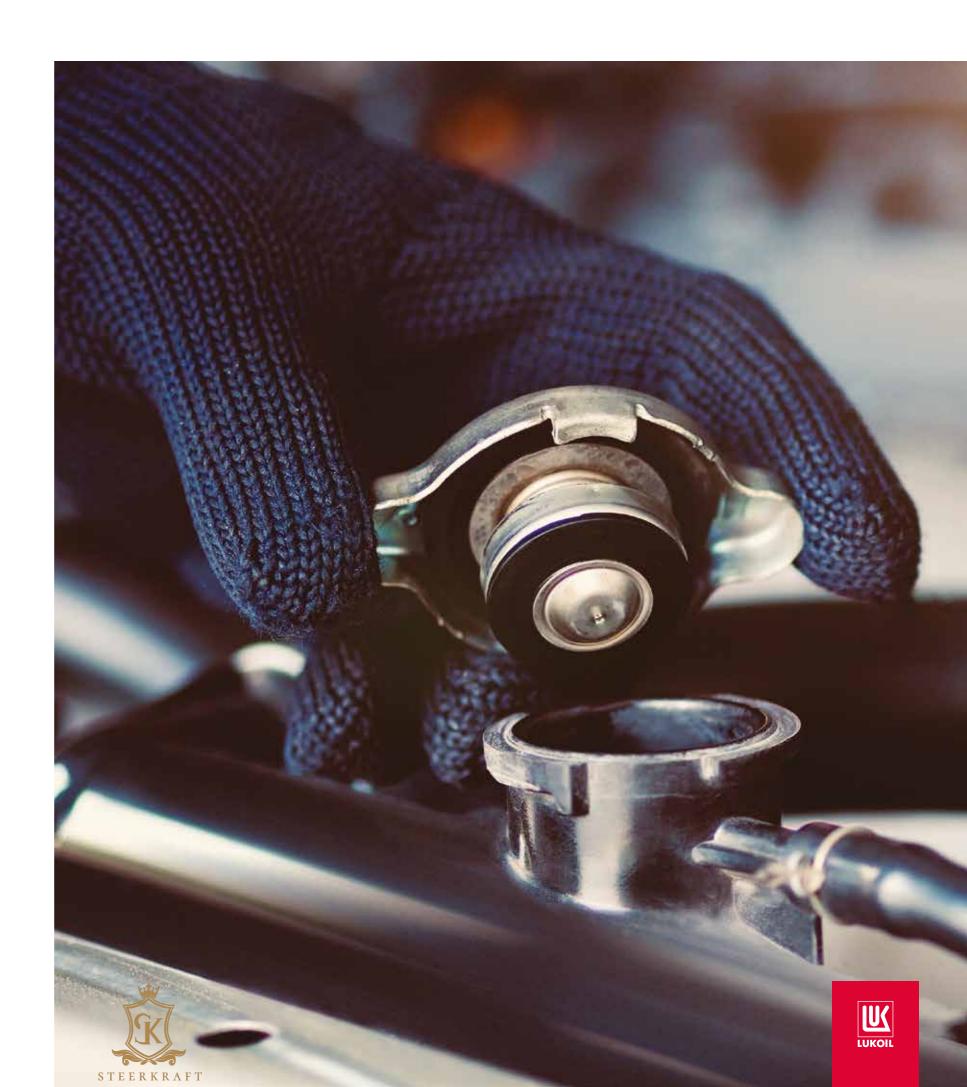
Multi-purpose metalworking fluid for blade machining. Due to the absence of active sulfur the product can be used in processing of nonferrous metals, and the synergy of anti-scouring and anti-wear additives with friction modifiers makes it possible to use the product even for heavy cutting operations. This product is high-tech long-life cutting oil.







TECHNICAL FLUIDS



COOLANTS

	Inorganic Acid Technology (IAT)	Hybrid Technology	Organic Acid Technology (OAT)	Lobrid (Si-OAT)
		LUKOIL ANTIFREEZE HD LONG LIFE LUKOIL ANTIFREEZE HD		
		LUKOIL ANTIFREEZE G11	LUKOIL ANTIFREEZE G12	LUKOIL ANTIFREEZE G12++
	LUKOIL TOSOL SUPER A40 LUKOIL TOSOL SUPER A65			
ı			Extended	drain interval



LUKOIL ANTIFREEZE G12 ++

Coolant based on ethylene glycol and lobrid technology of the additive package for modern cars. The product is also available as a concentrate.



LUKOIL ANTIFREEZE HD LONG LIFE

Coolant formulated with ethylene glycol and a hybrid additive package for use in cooling systems of modern equipment. The product is also available as a concentrate.





LUKOIL ANTIFREEZE G11 (BLUE, GREEN)

Coolant based on ethylene glycol and hybrid technology of the additive package for modern cars. The product is also available as a concentrate.



LUKOIL ANTIFREEZE G12 (RED, YELLOW)

Coolant based on ethylene glycol and carboxylate technology of the additive package for modern cars. The product is also available as a concentrate.



LUKOIL ANTIFREEZE HD

Coolant based on ethylene glycol and hybrid technology of the additive package with nitrites for modern cars. The product is also available as a concentrate.





LUKOIL TOSOL SUPER A40, A65

Coolant based on ethylene glycol and an inorganic additive package for domestic cars.

Complies with standards: GOST 28084-89





BRAKE FLUIDS

A	DOT 3	DOT 4	
ES LEVEL		LUKOIL DOT 4 CLASS 6	
ROPERTI			00
IMPROVEMENT OF PROPERTIES	LUKOIL DOT 3	LUKOIL DOT 4	
IMPRO	(00



Suitable for disc braking systems



Suitable for drum braking systems





LUKOIL DOT 4 CLASS 6

High quality brake fluid with improved performance properties. It is suitable for vehicles equipped with: ABS, ESP, TCS, ASC.





Complies with standards:

FMVSS 116 DOT 4 ISO 4925 CLASS 6 SAE J1703 / J1704



LUKOIL DOT 4

High quality brake fluid with a high level of performance characteristics for modern vehicles.





Complies with standards: FMVSS 116 DOT 4

SAE J1704



LUKOIL DOT 3

High-quality brake fluid for domestic cars, as well as foreign cars with high mileage.



Complies with standards:

FMVSS 116 DOT 3 ISO 4925 CLASS 3 SAE J1703





WINDSCREEN WASHER FLUIDS

summer	–10°C	–20°C	-30°C	-50°C	
**					White Edition
	*	*			Black Edition
summer	−10°C	–20°C	−30°C	−50°C	
					Cactus Dream
					Spicy Delights
summer	-10°C	−20°C	-30°C	-50°C	
					Berries
					Bubble-gum





LUKOIL WINDSCREEN WASHER FLUID WHITE EDITION / BLACK EDITION

Premium windscreen washer fluids with unique aromas from the world's leading perfumers.

The balanced composition of liquids, combining modern surfaceactive substances (surfactants) and highly purified isopropyl alcohol, effectively removes contaminants and prevents their formation.

Modern doypack packaging is convenient to use due to its flexible shape and reduced weight.





LUKOIL WINDSCREEN WASHER FLUID SPICY DELIGHTS / CACTUS DREAM

Premium windscreen washer fluids with soft and pleasant aromas.

The balanced composition of liquids, combining modern surfaceactive substances (surfactants) and highly purified isopropyl alcohol, effectively removes contaminants and prevents their formation.





LUKOIL WINDSCREEN WASHER FLUID BUBBLE-GUM / BERRIES

Windscreen washer fluids are based on isopropyl alcohol.

Modern surface-active substances (surfactants) included in the liquids effectively clean glass from fats, dirt and organic compounds.

Neutral to body paintwork, rubber and plastic parts.

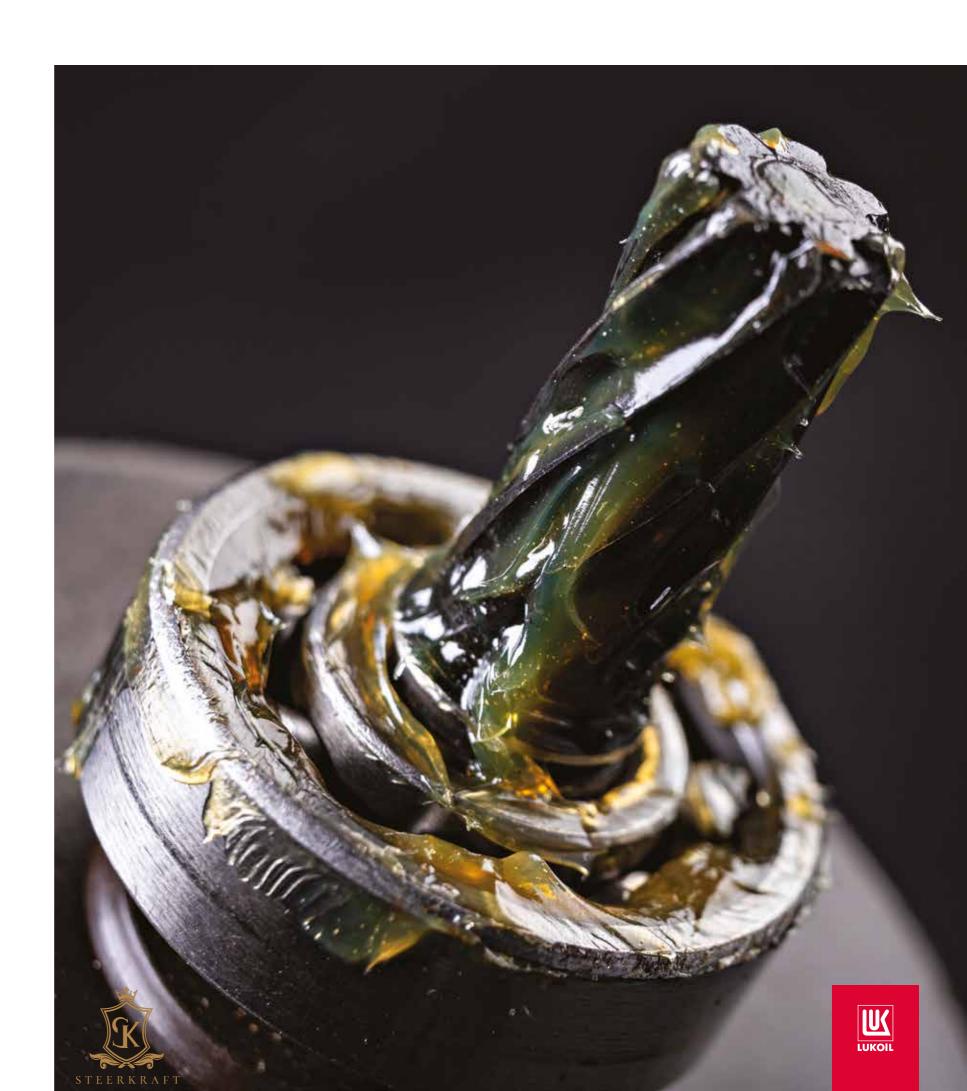






2 3

GREASES



GENERAL PURPOSE GREASES



LUKOIL THERMOFLEX EP 180

Multipurpose high temperature lithium complex greases for medium and high speed loaded bearings. Extended drain interval.

Available NLGI classes: 1; 2; 3

DIN 51502: KP1P-30, KP2P-30, KP3P-30









LUKOIL POLYFLEX EP 160

Multipurpose anti-friction lithium greases with EP-additives. Can be used in centralized lubrication systems.

Available NLGI classes: 00; 0; 1; 2; 3

DIN 51502: KP00K-30, KP0K-30, KP1K-30, KP2K-30, KP3K-30



UNI



LUKOIL POLYFLEX EP 220 LC

Multipurpose greases with lithium-calcium thikener and increased water resistance for medium-speed loaded friction units. Can be used in centralized lubrication systems.

Available NLGI classes: 1; 2; 3

DIN 51502: KP1K-30, KP2K-25, KP3K-20





SPECIAL PURPOSE GREASES



LUKOIL SYNTHOFLEX

Synthetic lithium complex greases for high-speed rolling bearings with high antioxidant stability and wide range of operating temperatures.

Available base oil viscosities: 100, 220 mm²/s at 40 °C

Available NLGI classes: 2

DIN 51502: KHC2R-50, KHC2R-40





LUKOIL SYNTHOFLEX EP 460

Synthetic lithium complex greases for high loaded industrial equipment. Characterised by high antioxidant stability and a wide range of operating temperatures. It can be used in centralized lubrication systems.

Available NLGI classes: 00; 1,5

DIN 51502: GPHC00N-50, KPHC1,5R-40









LUKOIL SYNTHOFLEX ARCTIC 1-100 HD

Synthetic all-season grease for centralized lubrication systems of mining equipment with lithium thikener and molybdenum disulfide. The product characterised by excellent pumpability at low temperatures and high tribological properties.

Available NLGI classes: 1 **DIN 51502:** KFHC1N-50













LUKOIL CARBOFLEX OG HD

Special greases with complex aluminum soap and a high content of solid lubricants for open gear drives of mining equipment (excavators, draglines), crushers, furnaces and other machinery. The products feature excellent adhesion and high load capacity.

Available base oil viscosities:

680, 1500, 2000, 4000 mm²/s at 40°C

Available NLGI classes: 000; 00; 0

DIN 51502: OGF000N-45, OGF00N-20, OGF0N-10









LUKOIL POLYFLEX EP 220 LC HD

Greases with lithium-calcium thikener and molybdenum disulfide for highly loaded units of mining and construction equipment with increased protection against water and excellent tribological properties.

Available NLGI classes: 1; 2 **DIN 51502:** KPF1K-30, KPF2K-25





LUKOIL POLYFLEX ARCTIC 0-35 HD

Special low-temperature lithium grease with solid lubricants provides excellent pumpability in centralised lubrication system at temperatures up to -50 °C and low coefficient of friction. Intended for use in mining, construction and forest equipment within extremely low temperatures.

Available NLGI classes: 0 **DIN 51502:** KPF0E-50







LUKOIL POLYFLEX PU 1,5-460

Ultra high temperature polyurea grease for metallurgy and paper machines provides high water resistance and good pumpability. This grease doesn't form carbon deposits and is suitable for use in centralized systems.

DIN 51502: KP1,5R-20











LUKOIL AQUAFLEX EP

Calcium sulfonate grease, resistant to water and steam, for high stress fequipment friction units in metallurgical, paper-making, textile and other industries exposed to high temperature, water and steam.

Available NLGI classes: 1; 1,5; 2 **DIN 51502:** KP1R-20, KP2R-20









LUKOIL STEELFLEX 240

High temperature calcium complex grease with good pumpability and increased water resistance specifically developed for centralized lubrication systems of metallurgical equipment.

Available NLGI classes: 1 **DIN 51502:** KP1P-20







LUKOIL PIPEFLEX

Pipe seal lithium grease with solid lubricants for all kinds of of threads of well casing, oil-well tubing, drill pipes and pipelines of any diameter. Provides high sealing, anti-wear and anti-corrosion protection of joints during storage and operation.

Available NLGI classes: 0; 1











LUKOIL ALUFLEX FG

Multipurpose food grade aluminum complex grease provides excellent antioxidant and mechanical stability in humid conditions and contact with water. Intended for use in medium and heavy loaded equipment of food industry.

Available base oil viscosities: 180, 350, 550 mm²/s at 40 °C Available NLGI classes: 00; 1; 2









LUKOIL AQUAFLEX FG 2-500

Special food grade calcium sulphonate complex grease provides excellent antioxidant and mechanical stability and intended for high loaded food industry equipment operated in conditions of high humidity, dusty environment and in contact with water and steam. Available NLGI classes: 2









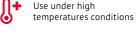
LUKOIL FTORFLEX FG 2-500

Special food grade grease made on the base of synthetic base oil (PFPE), teflon (PTFE), as well as an additives complex with excellent high temperature performance and resistance to aggressive environments. **Available NLGI classes: 2**







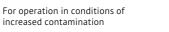




Operation under increased



increased contamination



For operation under high water

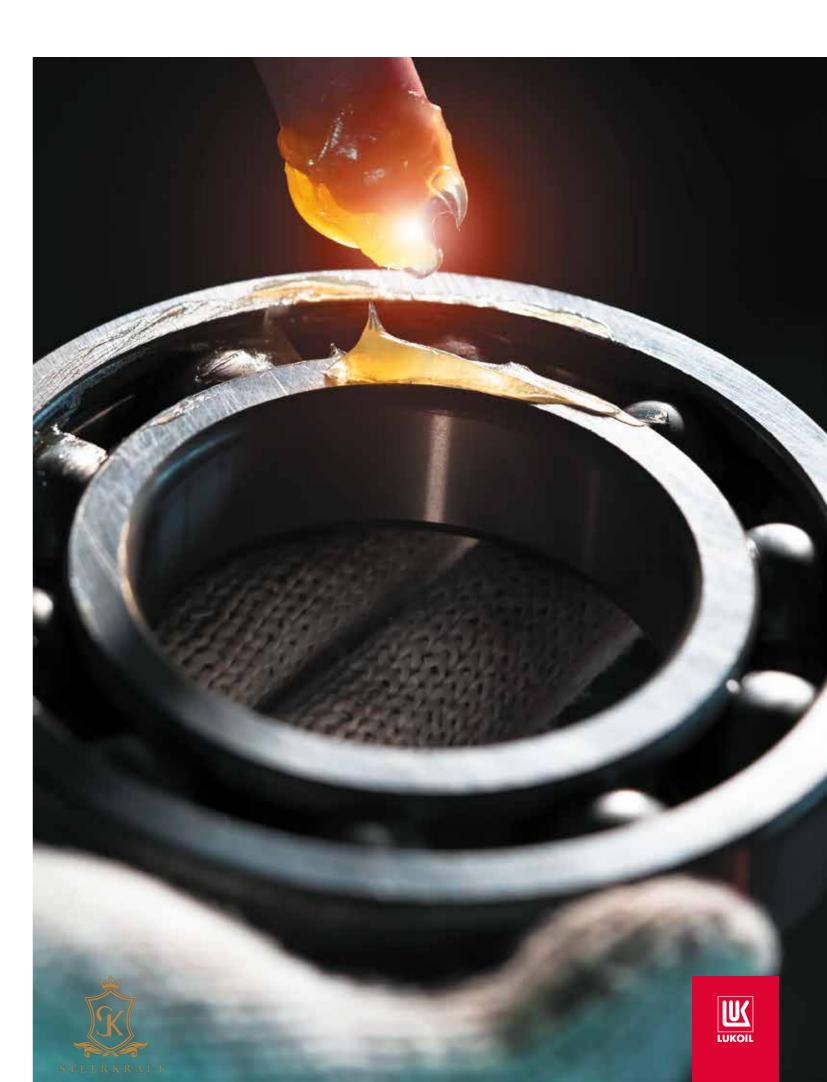


For operation under low temperatures



Food grade

Extended drain





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Contact information:

+86 (155) 2980 8330 (Wechat / WhatApp)

+1 (416) 613 8411

+7 (775) 134 5555

info-lukoil@sk-industries.uk

george@sk-industries.uk

https://www.sk-industries.uk

Headquarter Office:

Shuimogou District Hongguang Mountain Road 888, Building 6, 10th floor, Greentown Plaza, Urumqi, Xinjiang, PRC

