

# Delo 400 XSP-SD SAE 5W-30

## High performance synthetic heavy-duty diesel engine oil

### Product description

Delo® 400 XSP-SD SAE 5W-30 is a high performance synthetic heavy duty engine oil designed for fuel economy and meets the performance requirements of a wide range of naturally aspirated and turbocharged diesel engines in on-highway, off-highway and construction service.

Delo 400 XSP-SD SAE 5W-30 is based on ISOSYN® technology with low SAPS performance and dispersant, detergent, oxidation, anti-wear, corrosion, viscosity improver and de-foaming additives and meets Euro VI emissions requirements, while offering extended drain intervals.

### Customer benefits

- Designed for improved fuel economy performance while helping maintain robust component wear protection and engine service life
- Formulated for good performance in a wide range of engines, and helps reduce inventories, costs, and the risk of misapplication
- Low viscosity synthetic base oils offer rapid circulation in cold and sub-zero engine start-ups
- Extended drain formulation combines synthetic base stocks and additives to promote wear, oxidation, sludge and thickening control
- Offers reliable Diesel Particulate Filter (DPF) clogging protection and helps reduce cleaning while improving DPF service life



### Product highlights

- **Designed for fuel economy and engine service life**
- **Helps reduce inventories and misapplication**
- **Offers protection in sub-zero engine starts**
- **Extended drain formulation**
- **Promotes DPF protection and service life**

**Selected specification standards include:**

ACEA	API
Caterpillar	Cummins
DAF	Detroit Diesel
Deutz	Ford
JASO	Mack
MAN	Mercedes Benz
MTU	Renault Trucks
Scania	Volvo

## Applications

- Delo 400 XSP-SD SAE 5W-30 is a high performance engine oil recommended for four-stroke naturally aspirated and turbocharged diesel engines.
- Delo 400 XSP-SD SAE 5W-30 is recommended for diesel engines meeting Euro I - Euro V and the latest Euro VI emissions requirements where allowed by the OEMs and is suitable for use in engines with global after treatment systems.
- Delo 400 XSP-SD SAE 5W-30 is recommended for use in older engines as well as today's most modern low emission designs. It is formulated for high performance with many fuels including low sulphur and ultra-low sulphur diesel fuels, and many biofuel formulations.

## Approvals, performance and recommendations

### Approvals

- Cummins CES 20086
- Detroit Diesel DFS 93K222
- Deutz DQC IV-18 LA  
DQC TTCD°
- Mack EOS-4.5
- MAN M3677  
M3691 (approval request submitted)
- Mercedes Benz MB-Approval 228.51  
MB-Approval MB 228.52
- MTU Oil Category 3.1
- Renault Trucks RLD-3
- Scania LDF-4
- Volvo VDS-4.5

### Performance

- ACEA E6, E7, E9
- API CK-4, CJ-4, CI-4 Plus, CI-4, CH-4  
SN, SM, SL, SJ
- JASO DH-2
- Caterpillar ECF-3
- DAF Extended drain (Euro IV to VI)\*
- Ford WSS-M2C213-A1
- Mack EO-O Premium Plus, EO-N,  
EO-M Plus, EO-M
- MAN M3477\*\*, M3271-1\*\*
- Mercedes Benz MB 228.31
- Renault Trucks RLD-2, RLD, RXD, RGD
- Volvo VDS-4, VDS-3
- Scania Low Ash

### Suitable for use

Delo 400 XSP-SD SAE 5W-30 is suitable for use in applications requiring:

- Iveco 18-1804 TLS E6\*\*\*
- Liebherr LH-00-ENG LA
- Renault Trucks RD-2, RD
- Volvo VDS-2, VDS

° Product approved for DQC IV-18 LA are also approved for use in Deutz TTCD engines

\* Can be used in Euro IV & Euro V MX engines and in Euro VI MX & PX engines for DAF

\*\* These product claims are obsolete by MAN and no approvals can be obtained, applications that require these claims can be fulfilled by MAN M3677 approved products

\*\*\* Check equipment/vehicle manual to ensure that the drain interval of oil is aligned with S content in the fuel used in the engine

Typical test data		
Test	Test Methods	Results
Viscosity Grade		5W-30
<b>Shelf Life: 60 months from date of filling indicated on the product label</b>		
Density at 15°C, kg/l	ASTM D4052	0.858
Kinematic viscosity at 40°C, mm <sup>2</sup> /s	ASTM D445	73
Kinematic viscosity at 100°C, mm <sup>2</sup> /s	ASTM D445	12.2
Viscosity Index	ASTM D2270	164
Pour point, °C	ASTM D97	-42
Flash point COC, °C	ASTM D92	231
Total Base Number, mg KOH/g	ASTM D2896	9.5
Sulphated Ash, %wt	ASTM D874	0.9

The typical test data set out above does not constitute a specification. It is indicative only and can be affected by allowable production tolerances. Chevron may modify this test data. Modified data will supersede all previous data, so please ensure you refer to the latest version of this Product Data Sheet (PDS).

**Disclaimer: Data provided in this Product Data Sheet (PDS) is based on standard tests under laboratory conditions and is indicative only. This product should not be used for any purpose other than those expressly set out in this PDS. The user has sole responsibility for verifying that this product is suitable for the user's intended application. Neither Chevron nor its subsidiaries (i) make any warranty or representation as to the accuracy or completeness of this PDS; and/or (ii) accept liability for any loss or damage suffered as a result of the use of this product other than in accordance with the terms of this PDS.**

When disposing of used product, take care to protect the environment and follow local legislation.

Safety Data Sheets (SDS's) are available for all Chevron products. If you require a SDS or any further information regarding a Chevron product, please contact your local sales office or see [www.texacolubricants.com](http://www.texacolubricants.com).

Always confirm that the product selected is consistent with the original equipment manufacturer's recommendation for the equipment operating conditions and customer's maintenance practices.

A Chevron company product

**MOGUL OIL® Super Traffic 10W40**

CI-4/SL;

**ULEI PENTRU MOTOARE DIESEL SURAALIMENTATE**

**Descriere:**

**MOGUL OIL® Super Traffic 10W40** este fabricat din uleiuri de baza minerale și sintetice de foarte bună calitate și un pachet de aditivi moderni cu continut de inhibitori de coroziune, aditivi detergent-dispersanți.

**Utilizare:**

**MOGUL OIL® Super Traffic 10W40** este destinat folosirii in motoarele diesel turbo-supraalimentate care functioneaza in conditii severe, cu intervale prelungite intre schimburile de ulei, in conformitate cu recomandarile producatorului. Este adecvat pentru majoritatea motoarelor moderne echipate cu sisteme de poluare EGR (recircularea gazelor de evacuare) si SCR NOx (sisteme de reducere catalitica selectiva a noxelor). Este recomandat pentru motoarele diesel de clasa superioara, care respecta normele de emisii Euro-3, 4, 5.

**Clasificare, specificații:**

ACEA E7/B4/A3 ACEA E5/E3 API CI-4/CH-4; VOLVO VDS-3; MAN M3275-1; MB 228.3; Scania LDF-2; Renault Truck RLD-2; Cummins CES 20076/77/78; MTU Type 2; MACK EO-N; DEUTZ DQC III-10; GLOBAL DHD-1; JASO DH-1.

**Proprietăți caracteristice:**

- protectie maxima a motorului impotriva uzurii, coroziunii si formarii depunerilor la temperaturi ridicate;
- pornire usoara la temperaturi joase;
- curatenia pistonului;
- economie de carburant.

**Caracteristici:**

Parametri	Unitatea de masura	Valori tipice	Metoda de analiza
Densitate la 15 °C	g/m3	0.875	EN ISO 3675
Viscozitate cinematica la 100°C	cSt	15	SR EN ISO 3104
Indice de viscozitate		155	ISO 2909
Punct de inflamabilitate COC	°C	225	SR EN ISO 2592
Punct de curgere	°C	-35	ISO3016

**Ambalare:** 20L, 200L si 1000L.

**Termen de garantie:** 5 ani in depozitare.

MOGUL OIL® Super Traffic 15W40

CI-4/SL;

ULEI PENTRU MOTOARE DIESEL SUPRAALIMENTATE

**Descriere:**

**MOGUL OIL® Super Traffic 15W40** este fabricat din uleiuri de baza minerale și sintetice de foarte bună calitate și un pachet de aditivi moderni cu continut de inhibitori de coroziune, aditivi detergent-dispersanți.

**Utilizare:**

**MOGUL OIL® Super Traffic 15W40** este un ulei de motor de tip heavy duty special dezvoltat pentru utilizare în motoare diesel de ultima generație, conform cerințelor Euro I, II, III și IV (fără filtru DPF), inclusiv cu turbocompresor, care funcționează în condiții extrem de severe și cu un interval de schimb extins.

**Clasificare, specificații:**

ACEA E7/B4/A3 ACEA E5/E3 API CI-4/CH-4; VOLVO VDS-3; MAN M3275-1; MB 228.3; Scania LDF-2; Renault Truck RLD-2; Cummins CES 20076/77/78; MTU Type 2; MACK EO-N; DEUTZ DQC III-10; GLOBAL DHD-1; JASO DH-1.

**Proprietăți caracteristice:**

- protecție maximă a motorului împotriva uzurii, coroziunii și formării depunerilor la temperaturi ridicate;
- pornire ușoară la temperaturi joase;
- curățenia pistonului;
- economie de carburant.

**Caracteristici:**

Parametri	Unitatea de masura	Valori tipice	Metoda de analiza
Densitate la 15 °C	g/m <sup>3</sup>	0.888	EN ISO 3675
Viscozitate cinematica la 100°C	cSt	15	SR EN ISO 3104
Indice de viscozitate		135	ISO 2909
Punct de inflamabilitate COC	°C	231	SR EN ISO 2592
Punct de curgere	°C	-30	ISO3016

**Ambalare:** 20L, 200L și 1000L.

**Termen de garanție:** 5 ani în depozitare.

**MOGUL OIL®**

**Super Gear 80W90 GL5, 85W140 GL5**

80W90, API GL-5

**ULEI DE TRANSMISIE MULTIGRAD CU PROPIETATI EP**

**Descriere:**

**MOGUL OIL® Super Gear 80W90 GL5, 85W140 GL5** este obtinut din uleiuri de baza rafinate și un pachet de aditivi foarte performant, cu caracteristici îmbunătățite pentru utilizare la presiuni ridicate.

**Utilizare:**

**MOGUL OIL® Super Gear 80W90 GL5, 85W140 GL5** este destinat folosirii in transmisiile autovehiculelor si a vehiculelor grele precum si a utilajelor industriale hipoidale, melcate, in special pentru condiții de exploatare extreme. Se poate utiliza pe tot cursul anului, avantajoasă fiind utilizarea acestuia la temperaturi scăzute, dar și la temperaturi obișnuite sau ridicate, unde garantează fiabilitatea cutiei de viteze. Utilizarea produsului în aplicații industriale (de exemplu, cutii de viteze industriale extrem de sollicitate care lucrează într-o gamă de temperatură foarte largă) este, de asemenea, posibilă.

**Clasificare, specificații:**

API GL-5; MAN 342 type M1; MIL-L-2105D

**Proprietăți caracteristice:**

- asigură o funcționarea impecabilă a angrenajelor chiar și în cele mai grele condiții de funcționare și la oscilații mari de temperatură;
- strat de lubrifiere stabil;
- oferă o protecție la uzură optimă;
- reduce zgomotul de rulare;
- nu atacă materialele de etanșare obișnuite.

**Caracteristici:**

<b>Parametri Super Gear 80W90 GL5</b>	<b>Unitatea de masura</b>	<b>Valori tipice</b>	<b>Metoda de analiza</b>
Densitate la 20 °C	g/m3	0.880	EN ISO 3675
Viscozitate cinematica la 40°C	cSt	158	SR EN ISO 3104
Viscozitate cinematica la 100°C	cSt	16	SR EN ISO 3104
Indice de viscozitate		105	ISO 2909
Punct de inflamabilitate COC	°C	205	SR EN ISO 2592
Punct de curgere	°C	-33	ISO3016

**MOGUL OIL®**  
**Super Gear 80W90 GL5, 85W140 GL5**

**INFORMATII TEHNICE**

<b>Parametri Super Gear 85W140 GL5</b>	<b>Unitatea de masura</b>	<b>Valori tipice</b>	<b>Metoda de analiza</b>
Densitate la 20 °C	g/m <sup>3</sup>	0.903	EN ISO 3675
Viscozitate cinematica la 40°C	cSt	358	SR EN ISO 3104
Viscozitate cinematica la 100°C	cSt	24.5	SR EN ISO 3104
Indice de viscozitate		95	ISO 2909
Punct de inflamabilitate COC	°C	215	SR EN ISO 2592
Punct de curgere	°C	-24	ISO3016

**Ambalare:** 20L, 200L.

**Termen de garantie:** 5 ani in depozitare.

DO NOT COPY

**CERTIFICATE OF ANALYSIS № 534**

**Motor oil M-10G2K**

GOST 8581-78 zm.1-10



Batch № 534

Manufacturing date: 13.07.23 Batch net weight: 15 t

**Product Characteristics**

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 100oC, cSt, in range	10,5-11,5	11,18	DSTU GOST 33
2	Viscosity Index, not lower than	85	135	DSTU GOST 25371
3	Total base number, mg KOH per 1 g, not lower than	6	6,65	GOST 11362
4	Sulfated ash, %, not lower than	1,15	0,9	GOST 12417
5	Flash point (COC), °C, not lower than	210	240	DSTU GOST 4333
6	Pour point, °C, not more than	-15	-23	GOST 20287 method B
7	Density at 20 °C, kg/m3, not more than	905	875	GOST 3900
8	Meehanical impurities content, %, not more than	0,015	0,011	GOST 6370
9	Water content, %, not more than	0,03	nil	GOST 2477
10	Calcium weight, %, not lower than	0,19	0,255	GOST 13538
11	Zinc weight, %, not lower than	0,05	0,065	GOST 13538
12	Phosphorus weight, %, not lower than	0,05	0,054	GOST 9827
13	Purity mg per 100 g of oil, not more than	500	380	GOST 12275
14	The power to establish PZV,point,not more than	0,5	0,5	GOST 5726
11	Colour on colorimeter (15:85), not more than	4,0	1,5	GOST 20284
12	Corrosion on plumbum plates (DK-NAMI), g/m2, not more than	nil	nil	GOST 20502
13	Stabilization by inductive period of sedimentation (IPS), 50 hours	Pass	Pass	GOST 11063

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Motor oil M-10G2K sample satisfies the requirement of GOST 8581-78 zm.1-10 standard based on characteristics analyzed.

Shelf life - 5 years from date of manufacture



Date of issue: 17.07.23

## CERTIFICATE OF ANALYSIS № 596

Transmission Oil PROTEC Nigrol L

TU U 19.2-37838186-003:2012 zm.1



Batch № 596

Manufacturing date: 07.08.23

Batch net weight: 8,25 t

### Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 100oC, cSt, in range	27,0 - 34,0	29,81	DSTU GOST 33 or ASTM D445
2	Flash point, °C, not lower than	180	189	DSTU GOST 4333 or ASTM D92
3	Pour point, °C, not more than	-5	-12	GOST 20287 method B or ASTM D97
4	Water content, %, not more than	1,0	1,0	GOST 2477 or ASTM D95
5	Density at 20 °C, kg/m3, not more than	970	863	GOST 3900 or ASTM D1298
6	Corrosion test during 3 hr at 100°C on steel and copper plates	pass	pass	GOST 2917 and p.7.4 or ASTM D130
7*	Rubber compatibility (volume change) for UIM-1, %, in range	+1,0 - +6,0	+4,0	GOST 9.030 and p.7.5

Manufactured by KSM PROTEC LLC

Conclusion: transmission oil PROTEC Nigrol L sample satisfies the requirement of TU U 19.2-37838186-003:2012 zm.1 standard based on characteristics analyzed.

Laboratory technician

Laboratory head

Date of issue: 07.08.23



**CERTIFICATE OF ANALYSIS № 31**

**Hydraulic oil PROTEC HYDROIL HV 46**

TU U 19.2-37838186-005:2012 zm.1,2

Batch № 31

ISO 11158 HV

DIN 51524 HVLP

ISO VG 46

Manufacturing date: 20.01.26

Batch net weight: 1,089 t

**Product Characteristics**

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 40oC, cSt, in range	41,4-50,6	48,75	DSTU GOST 33 or ASTM D445
2	Viscosity Index, not lower than	140	159	DSTU GOST 25371 or ASTM D2270
3	Total acid number, mg KOH per 1 g, not more than	1,5	0,22	GOST 11362 and P.7.6
4	Flash point, °C, not lower than	185	214	DSTU GOST 4333 or ASTM D92
5	Pour point, °C, not more than	-32	-38	GOST 20287 method B or ASTM D97
6	Mechanical impurities content, %, not more than	nil	nil	GOST 6370 or ASTM D2273
7	Water content, %, not more than	nil	nil	GOST 2477 or ASTM D95
8	Density at 20 °C, kg/m3, not more than	900	875	GOST 3900 or ASTM D1298
9	Ash content, %, not more than	0,3	0,005	GOST 1461 or ASTM D 482
10	Corrosion test on steel plates	Pass	Pass	GOST 2917 and P.7.4
11	Rubber compatibility (72 h, 130 oC) mass change for UIM-1, %, not more than	7,5	3,0	GOST 9.030 method A
12	Sequence I, not more than	150/0	0/0	DSTU 8420 or ASTM D 892
13	Sequence II, not more than	100/0	30/0	DSTU 8420 or ASTM D 892
14	Sequence III, not more than	150/0	0/0	DSTU 8420 or ASTM D 892
15	Four ball Wear test machine (20±5°C), 196N, scar mm, not more than	0,45	0,34	GOST 9490 or ASTM D2783
16	Colour on colorimeter, not more than	4,0	1,0	GOST 20284 or ASTM D1500

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Hydraulic oil PROTEC HYDROIL HV 46 sample satisfies the requirement of TU U 19.2-37838186-005:2012 zm.1,2 standard based on characteristics analyzed.

Shelf life - 5 years from date of manufacture.

Laboratory technician

Laboratory head

Date of issue: 21.01.26



**PROTEC****HYDRAULIC OILS FOR LOW START-UP  
AND HIGH OPERATING TEMPERATURES****PROTEC™ HYDROIL HV (HVLP)****DIN 51524-III HVLP, ISO 11158 HV**

The **PROTEC Hydroil HV (HVLP)** hydraulic oils are high-performance hydraulic oils with the improved anti-wear, anticorrosion characteristics and high viscosity index, intended for operation in the contemporary hydraulic systems with the pumps of high pressure (to 400 bar) of the stationary and mobile machinery over a wide operating temperature range.

The **PROTEC Hydroil HV (HVLP)** are premium hydraulic oils based on high quality zinc-free (Zn free) and ashless anti-wear additives for the improved corrosion protection of the copper alloy parts of the plate, gear and piston pumps.

Typical characteristics of <b>PROTEC HYDROIL HV (HVLP)</b>	<b>ISO VG 32</b>	<b>ISO VG 46</b>	<b>ISO VG 68</b>
Kinematic viscosity, at 40 °C, cSt	33.5	47.0	63.5
Viscosity index	150	150	165
Ash content, %	Absence		
Pour point, °C	-40	-40	-35
Flash point, °C	215	220	220

**BENEFITS OF THE PROTEC™  
HYDROIL HV (HVLP)  
HYDRAULIC OILS**

- increase the total energy efficiency of hydraulic systems compared to traditional mineral hydraulic oils;
- high oxidation stability makes it possible to increase the oil replacement intervals and reduce its disposal expenses;
- excellent stability to the sediment and deposit formation for the improved filtration and reduced downtime;
- better wear and corrosion protection providing the maximum service life of the equipment;
- excellent compatibility with sealing materials;
- excellent hydrolysis stability, especially for copper alloy part protection.

**The PROTEC HYDROIL HV (HVLP) hydraulic oils exceed the next requirements**

DIN 51524-III (HVLP), ISO 11158 (HV), ash-free (Zn-free), Denison HF-0/1/2, Eaton 35VQ25, Cincinnati Machine P-68/69/70, SAE MS 1004, GM LS-2, Bosch Rexroth RE 90220

**Packaging****20 L****205 L**

**CERTIFICATE OF ANALYSIS № 514**

**Hydraulic oil PROTEC HYDROIL HM 32**

TU U 19.2-37838186-005:2012 zm.1,2



Batch № 514

ISO 11158 HM

DIN 51524 HLP

ISO VG 32

Manufacturing date: 10.07.23

Batch net weight: 2,52 t

**Product Characteristics**

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 40oC, cSt, in range	28,8-35,2	30,05	DSTU GOST 33 or ASTM D445
2	Viscosity Index, not lower than	95	107	DSTU GOST 25371 or ASTM D2270
3	Total acid number, mg KOH per 1 g, not more than	2,0	0,58	GOST 11362 and P.7.6
4	Flash point, °C, not lower than	195	210	DSTU GOST 4333 or ASTM D92
5	Pour point, °C, not more than	-30	-33	GOST 20287 method B or ASTM D97
6	Mechanical impurities content, %, not more than	nil	nil	GOST 6370 or ASTM
7	Water content, %, not more than	nil	nil	GOST 2477 or ASTM D95
8	Density at 20 °C, kg/m3, not more than	910	866	GOST 3900 or ASTM D1298
9	Ash content, %, not more than	0,3	0,14	GOST 4161 or ASTM D 482
10	Corrosion test on steel plates	Pass	Pass	GOST 2917 and P.7.4
11	Rubber compatibility (72 h, 130 oC) mass change for UIM-1, %, not more than	7,5	3,0	GOST 9.030 method A
12	Sequence I, not more than	150/0	0/0	DSTU 8420 or ASTM D 892
13	Sequence II, not more than	100/0	40/0	DSTU 8420 or ASTM D 892
14	Sequence III, not more than	150/0	0/0	DSTU 8420 or ASTM D 892
15	Four ball Wear test machine (20±5°C), 196N, scar mm, not more than	0,50	0,3	GOST 9490 or ASTM
16	Colour on colorimeter, not more than	3,5	1,0	GOST 20284 or ASTM D1500

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Hydraulic oil PROTEC HYDROIL HM 32 sample satisfies the requirement of TU U 19 2-37838186-005 2012

zm 1,2 standard based on characteristics analysis

Shelf life - 5 years from date of manufacture

Laboratory technician

Laboratory head

Date of issue: 11.07.23



## CERTIFICATE OF ANALYSIS № 160

### Solidol Zhirovoi Lubricating Grease

GOST 1033-79 zm. 1,2,3



Batch № 160

Manufacturing date: 06.06.23

Batch net weight: 3,44 t

### Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Appearance	Uniform grease with color between light-yellow and dark-brown	Uniform grease with brown color*	P.4.2 of GOST 1033
2	Dropping point, °C, not lower than	78	94	GOST 6793
3	Penetration at 25°C, 0,1 mm	230 - 290	240	GOST 5346, method V
4	Viscosity at 0°C and velocity gradient of 10 s-1, Pa*s, not more than	250 (2500)	235 (2350)	GOST 7163
5	Shear stability at 50°C, Pa, not lower than	196 (2,0)	196 (2,0)	GOST 7143
6	Free organic acids content, not more than	nil	nil	GOST 6707
7	Water content, %, not more than	2,5	1,8	GOST 2477
8*	Mechanical impurities insoluble in hydrochloric acid content	nil	nil	GOST 6479
9*	Calcium soaps of fatty acids conter, %, not less than	11,0	13,1	GOST 5211
10	Free alkali content NaOH, %, not more than	0,2	0,03	GOST 6707

\* As agreed by the parties

Manufactured by KSM PROTEC LLC

Conclusion: **Solidol Zhirovoi** lubricating grease sample satisfies the requirement of GOST 1033-79 zm. 1,2,3 standard based on characteristics analyzed.

Laboratory technician

Laboratory head

Date of issue: 08.06.23



**CERTIFICATE OF ANALYSIS № 625**

**Transmission oil TEMOL ATF II**

TU U 23.2-30858281-003:2004 zm.1,2,3

Batch № 625

DEXRON IID

Manufacturing date: 02.09.24 Batch net weight: 2,7 t

**Product Characteristics**

№	Characteristics and units	Standard limits	Actual	Test method
1	Appearance	Transparent red oil	Transparent red oil liquid	Visually
2	Kinematic viscosity at 100oC, cSt, in range	6,8-7,8	7,12	DSTU GOST 33 or ASTM D445
3	Viscosity Index, not lower than	130	173	DSTU GOST 25371 or ASTM D2270
4	Flash point (COC), °C, not lower than	175	207	DSTU GOST 4333 or ASTM D92
5	Pour point, °C, not more than	-40	-46	GOST 20287, method B or ASTM D97
6	Mechanical impurities content, %, not more than	nil	nil	GOST 6370 or ASTM D2273
7	Water content, %, not more than	nil	nil	GOST 2477 or ASTM D95
8	Density at 20 °C, kg/m3, not more than	880	846	GOST 3900 or ASTM D1298
9	Corrosion test during 3 hr at 100°C on steel and copper plates, point, not more than	2c	2a	GOST 2917 and p. 5.3 or ASTM D130
10	Dynamic viscosity (-40 oC), Pa*s, not more than	14	5,6	GOST 1929 method A
11	Sequence I, not more than	70/0	0/0	ASTM D892 or DSTU 8420
12	Sequence II, not more than	50/0	0/0	ASTM D892 or DSTU 8420
13	Sequence III, not more than	70/0	0/0	ASTM D892 or DSTU 8420

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Transmission oil TEMOL ATF II sample satisfies the requirements of TU U 23.2-30858281-003:2004 zm.1,2,3 standard based on characteristics analyzed.

Shelf life - 5 years from date of manufacture.

Laboratory technician \_\_\_\_\_

Laboratory head \_\_\_\_\_

Date of issue: 03.09.24



**CERTIFICATE OF ANALYSIS № 772**

**Transmission oil PROTEC ATF III**

TU U 19.2-37838186-003:2012 zm.1

Batch № 772

Dexron III G

Manufacturing date: 22.10.24 Batch net weight: 2,485 t

**Product Characteristics**

№	Characteristics and units	Standard limits	Actual	Test method
1	Appearance	Transparent red liquid	Transparent red liquid	Visually
2	Kinematic viscosity at 100oC, cSt, in range	7 - 9	7,54	DSTU GOST 33 or ASTM D445
3	Viscosity Index, not lower than	150	174	DSTU GOST 25371 or ASTM D2270
4	Flash point (COC), °C, not lower than	175	220	DSTU GOST 4333 or ASTM D92
5	Pour point, °C, not more than	-45	-48	GOST 20287, method B or ASTM D 97
6	Mechanical impurities content, %, not more than	nil	nil	GOST 6370 or ASTM D2273
7	Water content, %, not more than	nil	nil	GOST 2477 or ASTM D95
8	Density at 20 °C, kg/m3, not more than	880	845	GOST 3900 or ASTM D1298
9	Corrosion test during 3 hr at 100°C on steel and copper plates	Pass	Pass	GOST 2917 and p.5.3 or ASTM D130
10	Dynamic viscosity (-40 oC), mPa*s, not more than	12000	5250	GOST 1929 method A
11	Sequence I, not more than	50/0	0/0	DSTU 8420 or ASTM D 892
12	Sequence II, not more than	30/0	0/0	DSTU 8420 or ASTM D 892
13	Sequence III, not more than	50/0	0/0	DSTU 8420 or ASTM D 892

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Transmission oil Temol ATF III sample satisfies the requirement of TU U 19.2-37838186-003:2012 zm.1 standard based on characteristics analyzed.

Shelf life - 5 years from date of manufacture.

Laboratory technician \_\_\_\_\_

Laboratory head \_\_\_\_\_

Date of issue: 23.10.24



## CERTIFICATE OF ANALYSIS № 110

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### Litol-24 Lubricating Grease

DSTU GOST 21150:2019

Batch № 110

Manufacturing date: 04.04.24

Batch net weight: 4,175 t

### Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Appearance	Uniform grease with color between light-yellow and brown	Uniform grease with light brown color*	P. 7.2
2	Dropping point, °C, not lower than	185	200	GOST 6793
3	Penetration at 25°C, 0,1 mm, in range	220 - 250	245	GOST 5346, method V
4*	Viscosity at -20°C and velocity gradient of 10 s-1, Pa*s (P), not more than	650 (6500)	612 (6120)	GOST 7163
5*	Viscosity at 0°C and velocity gradient of 10 s-1, Pa*s (P), not more than	280 (2800)	214 (2140)	GOST 7163
6*	Viscosity at 50°C and velocity gradient of 100 s-1, Pa*s (P), not less than	8,0 (80)	10,9 (109)	GOST 7163
7	Shear stability at 20°C, Pa (gs/cm2), in range	500 (5,0) - 1 000 (10,0)	686 (6,86)	GOST 7143, method B
8	Shear stability at 80°C, Pa (gs/cm2), not lower than	200 (2,0)	255 (2,55)	GOST 7143, method B
9	Colloid stability, %, of separated oil, not more than	12,0	8,49	GOST 7142
10	Metal corrosion	Pass	Pass	GOST 9.080 and P. 7.3
11	Vaporability at 120 °C, %, not more than	6,0	1,0	GOST 9566
12	Free alkali content NaOH, %, not more than	0,1	0,07	GOST 6707
13	Water content	Absent	Absent	GOST 2477 and P. 7.4
14	Mechanical impurities content, %, not more than	0,03	Absent	GOST 6479 and P. 7.5
15	Four ball EP test machine (20±5°C): scuff index, N (kgs), not less than	274 (28)	323 (33)	GOST 9490
16	Four ball EP test machine (20±5°C): welding load, N (kgs), not less than	1381 (141)	1568 (160)	GOST 9490
17	Four ball EP test machine (20±5°C): critical load, N (kgs), not less than	617 (63)	735 (75)	GOST 9490
18*	Elastomer of grade 26-44, %: volume change	±8	-1,8	GOST 9.030 and P. 7.6
19*	Elastomer of grade 26-44, %: hardness change	±8	-3,4	GOST 9.030 and P. 7.6

\*As agreed by the parties

Manufactured by KSM PROTEC LLC

Conclusion: Litol-24 Lubricating Grease lubricating grease sample satisfies the requirement of DSTU GOST 21150:2019 standard based on characteristics analyzed.

Laboratory technician \_\_\_\_\_

Laboratory head \_\_\_\_\_

Date of issue: 05.04.24

