

Raport de incercari nr:07611; data:08/02/2026 08:34:06

Client: ROMPETROL RAFINARE SA
 Proba: PETROL REACTOR JET A1
 Data primirii: 07/02/2026 17:15:00
 Data finalizarii: 08/02/2026
 Metoda de esantionare: SR EN ISO 3170:2025*
 Rezervoare: C100/07.02.2026.17:15-LPP11344-LOT 4
 Nivel rezervor: 8.81 m
 Descriere si identificare proba: C100(NS,NM,NI)
 Prelevat de: RQC-UT1
 Contract/Comanda: Contract RR nr. 5/ 07.01.2019/ PI- rev.7 RRC.P&E
 Mostra testata: 14L
 Adresa Client: Navodari, B-dul Navodari nr. 215, Pavilion Administrativ, Constanta

acreditat pentru
 INCERCARE



SR EN ISO-IEC 17025:2018
 CERTIFICAT DE ACREDITARE
 LI 333

Nr.	Caracteristica	Metoda de incercare	UM	Valoare Prevazuta	Valoare Determinata	Incertitudine ³⁾
1	Densitate La 15°C	ASTM D4052-22	kg/m ³	min. 775 max. 840	795,6	-
2	Aciditate Totala	ASTM D3242-23	mgKOH/g	max. 0.015	0,003	-
3	Punct Initial De Fierbere	ASTM D86-23ae2	°C	se raporteaza	146,5	-
4	Punct Final De Fierbere	ASTM D86-23ae2	°C	max. 300	244,8	-
5	Reziduu De Distilare	ASTM D86-23ae2	% (v/v)	max. 1.5	1,3	-
6	Pierderi	ASTM D86-23ae2	% (v/v)	max. 1.5	0,7	-
7	Punct De Inflamabilitate, Tag	ASTM D56-22	°C	min. 38	40,5	-
8	Componenti Non-I hidroprocesati	DEF STAN 91-091Editia 18*	% (v/v)	se raporteaza	0	-
9	Componenti Bland Hidroprocesati	DEF STAN 91-091Editia 18*	% (v/v)	se raporteaza	0	-
10	Componenti Sever I hidroprocesati	DEF STAN 91-091Editia 18*	% (v/v)	se raporteaza	0	-
11	Componenti Sintetici	DEF STAN 91-091Editia 18*	% (v/v)	se raporteaza	0	-
12	Temperatura De Disparitie A Cristalelor	ASTM D7153-22ae1	°C	-47	-59,1	-
13	Total Hidrocarburi Aromate	ASTM D6379-21e1	% (v/v)	max. 26.5	18,7	-
14	Microseparometru (Msep), Evaluare - Cu Aditiv De Conductivitate Electrica	ASTM D3948-22		min. 70	98	-
15	Sulf Total	ASTM D2622-24	% (m/m)	max. 0.30	<0,0003	-
16	Sulf Mercaptanic	ASTM D3227-24	% (m/m)	max. 0.003	<0,0003	-
17	Corozione Pe Lama De Cupru, 2 Ore La 100°C	ASTM D130-19	evaluare	clasa1	1b	-
18	Vascozitate Cinematica La -20°C	ASTM D445-24	cSt	max. 8.0	3,359	-
19	Gume Existente	IP 540/08(14)	mg/100ml	max. 7	1,0	-
20	Inaltimea Flacarii Fara Fum	ASTM D1322-24	mm	min. 25	25,0	-
21	Produsul Este Aditivat Cu: Aditiv Antioxidant Ionol Cp(2,6-Ditertiary-Butyl-4-Metyl Phenol), Tip Rde/A/607		mg/l	max. 24	15,4157	-
22	Produsul Este Aditivat Cu: Aditiv Antistatic (Stadis 450) Tip Rde/A/621		mg/l	max. 3	0,7941	-
23	Culoare Saybolt	ASTM D156-23		se raporteaza	+26	-
24	Caldura Neta De Combustie	ASTM D3338/D 3338M-20a	MJ/kg	min. 42.8	43,257	-
25	Cadere De Presiune Pe Filtru	ASTM D3241-24	mmHg	max. 25	1,0	-
26	Stabilitate Termica Jfot Depuneri Pe Tubul Incalzitului	ASTM D3241-24		<3	0,0	-
27	Contaminare Cu Particule, La Punctul De productie	ASTM D5452-23	mg/l	max. 1	0,76	-
28	Inspectie Vizuala	ASTM D4176-22*(procedeu 1)		la temperatura ambianta lichid limpede, stralucitor, fara corpuri straine in suspensie si apa decantata	la temperatura ambianta lichid limpede, stralucitor, fara corpuri straine in suspensie si apa decantata	-
29	10% (V/V) Recuperat Pana La Temp.	ASTM D86-23ae2	°C	max. 205	164,5	-
30	50% (V/V) Recuperat Pana La Temp.	ASTM D86-23ae2	°C	se raporteaza	188,9	-
31	90% (V/V) Recuperat Pana La Temp.	ASTM D86-23ae2	°C	se raporteaza	225,6	-

Amendament : nu este cazul

Observatii:

Se certifica faptul ca probele au fost testate folosind metodele de incercare declarate si ca lotul reprezentat prin probe este in conformitate cu check list AFQRJ06 Editia 30/februarie2025 si DEF STAN 91-091 Editia 18

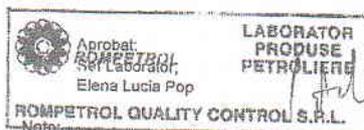
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RQC

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1. Laboratorul din cadrul Rompetrol Quality Control SRL este acreditat de RENAR pentru activitatea de incercari, conform SR EN ISO/CEI 17025:2018, asa cum este precizat in certificatul de acreditare nr. LI 333. Domeniile acoperite de acreditare sunt disponibile la adresa www.renar.ro.
2. "" Incercarile marcate nu sunt acoperite de acreditarea RENAR.
3. Incertitudinea extinsa pentru nivel de incredere de 95% cu factor de extindere $k=2$.
4. Raportul de incercari nu poate fi reprodus partial fara aprobarea scrisa a laboratorului de incercari.
5. Rezultatele prezentate caracterizeaza mostra testata si nu intreg lotul.
6. Observatiile continute de prezentul raport nu sunt acoperite de acreditarea RENAR.

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cod: F. LPP.02-PG.07

ed.5/rev.4/04.2023

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CERTIFICATE OF ANALYSIS № 350

Transformer oil T-1500

GOST 982-80 ch.1-3

Batch № 350

Manufacturing date 09.04.25 Batch net weight 6,31 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 50oC, cSt, not more than	8,0	7,31	DSTU GOST 33
2	Kinematic viscosity at -30oC, cSt, not more than	1 100	1020	DSTU GOST 33
3	Total acid number, mg KOH per 1 g, not more than	0,01	0,01	GOST 5985
4	Flash point (PM), °C, not lower than	135	153	GOST 6356
5	The content of water-soluble acids and alkalis	Nil	Nil	GOST 6307
6	Mechanical impurities content, %, not more than	Nil	Nil	GOST 6370
7	Pour point, °C, not more than	-45	-47	GOST 20287
8	Sodium test, optical density, not more	0,4	0,40	GOST 19296 and p.5.2
9	Transparency in temperatures 5 ° C	Pass	Pass	P.5.3 GOST 982
10	Colour on colorimeter CNT, point of CNT, not more than	1,5	1,5	GOST 20284
11	The stability against oxidation: low molecular weight volatile acids, mg KOH/g, not more than	0,04	0,032	GOST 981 and p.5.4
12	The stability against oxidation: mass fraction of sludge after oxidation, %, not more than	Nil	Nil	GOST 981 and p.5.4
13	The stability against oxidation: acid number after oxidation, mg KOH/g, not more than	0,2	0,15	GOST 981 and p.5.4
14	Dielectric loss tangent at a temperature of 90 °C, %, not more than	0,5	0,378	GOST 6581 and p.5.5
15	Density at 20 °C, kg/m3, not more than	885	882	GOST 3900

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Transformer oil T-1500 sample satisfies the requirement of GOST 982-80 ch. 1-3 standard based on characteristics analyzed.

Shelf life - 5 years from date of manufacture.

Laboratory technician _____

Laboratory head _____

Date of issue 10.04.25



CERTIFICATE OF ANALYSIS № 463

Motor oil TEMOL Luxe 5W-30

TU U 23.2-30858281-007:2008 zm. 1,2,3,4



Batch № 463

Manufacturing date: 29.04.21 Batch net weight: 3,75 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 100oC, cSt, in range	9,3-12,5	11,33	DSTU GOST 33 or ASTM D 445
2	Viscosity Index, not lower than	130	155	DSTU GOST 25371 or ASTM D 2270
3	Total base number, mg KOH per 1 g, not lower than	7,5	8,32	DSTU 5094 or ASTM D2896 or ISO 3771
4	Sulfated ash, %, not lower than	1,5	1,0	DSTU GOST 12417 or ASTM D 874
5	Flash point (COC), °C, not lower than	195	229	DSTU GOST 4333 or ASTM D GOST 20287 method B or ASTM D 97
6	Pour point, °C, not more than	-32	-34	D 97
7	Density at 20 °C, kg/m3, not more than	890	844	GOST 3900 or ASTM D 1298
8	Mechanical impurities content, %, not more than	nil	nil	GOST 6370 or ASTM D 2273
9	Water content, %, not more than	nil	nil	GOST 2477 or ASTM D 95
10	Phosphorus weight, %, not more than	0,12	0,092	GOST 9827 or ASTM D 4927
11	Colour on colorimeter (15.85), not more than	4,0	1,0	GOST 20284 or ASTM D 1500
12	Cold Cranking Simulatorat viscosity at -30oC, mP*s, not more than	6600	6400	p. 6.11 or GOST 1929 or ASTM D 5293
13	Corrosion on plumbum plates (DK-NAMI), g/m2, not more than	Pass	Pass	GOST 20502 method A, V. II
14	Stabilization by inductive period of sedimentation (IPS), 50 hours	Pass	Pass	GOST 11063

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Motor oil TEMOL Luxe 5W-30 sample satisfies the requirements of TU U 23.2-30858281-007:2008 zm. 1,2,3,4 standard based on characteristics analyzed.

Shelf life - 5 years from date of manufacture.

Laboratory technician

Laboratory head

Date of issue: 30.04.21



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CERTIFICATE OF ANALYSIS № 126

Motor oil TEMOL Luxe 10W-40

TU U 19.2-37838186-029:2023

Batch № 126

API SL/CF

Manufacturing date: 23.02.24 Batch net weight: 4,5 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 100oC, cSt, in range	12,5 - 16,3	14,46	DSTU GOST 33 or ASTM D445
2	Viscosity Index, not lower than	130	145	DSTU GOST 25371 or ASTM D2270
3	Total base number, mg KOH per 1 g, not lower than	6,5	7,53	DSTU 5094 or ISO 3771 or ASTM D2896
4	Sulfated ash, %, not lower than	1,5	1,25	DSTU GOST 12417 or ASTM D874
5	Flash point (COC), °C, not lower than	200	236	DSTU GOST 4333 or ASTM D92
6	Pour point, °C, not more than	-32	-32	GOST 20287 method B or ASTM D97
7	Density at 20 °C, kg/m3, not more than	905	865	GOST 3900 or ASTM D1298
8	Mechanical impurities content, %, not more than	0,015	Nil	GOST 6370 or ASTM D2273
9	Water content, %, not more than	0,03	Nil	GOST 2477 or ASTM D95
10	Phosphorus weight, %, not more than	0,12	0,098	GOST 2987 or ASTM D4927
11	Colour on colorimeter (15:85), not more than	4,5	1,0	GOST 20284 or ASTM D1500
12	Cold Cranking Simulatorat viscosity at -25oC, mP*s, not more than	7000	6750	GOST 1929 or p.6.11 or ASTM D5293
13	Corrosion on plumbum plates (DK-NAMI), g/m2, not more than	Pass	Pass	GOST 20502 method A, V.II
14	Stabilization by inductive period of sedimentation (IPS), 50 hours	Pass	Pass	GOST 11063

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Motor oil TEMOL Luxe 10W-40 sample satisfies the requirement of TU U 19.2-37838186-029:2023 standard based on characteristics analyzed.

Shelf life - 5 years from date of manufacture.



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CERTIFICATE OF ANALYSIS № 418

ОІІ PROTEC IG-20

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



Batch № 418

Manufacturing date: 03.08.22

Batch net weight: 18 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 40oC, cSt, in range	25-35	29,11	DSTU GOST 33 or ASTM D445
2	Total acid number, mg KOH per 1 g, not more than	0,05	0,011	GOST 11362 and P.7.6
3	Flash point, °C, not lower than	180	204	DSTU GOST 4333 or ASTM D92
4	Pour point, °C, not more than	-10	-10	GOST 20287 method B or ASTM D97
5	Mechanical impurities content, %, not more than	0,015	0,008	GOST 6370 or ASTM D2273
6	Water content, %, not more than	0,03	nil	GOST 2477 or ASTM D95
7	Density at 20 °C, kg/m3, not more than	910	870	GOST 3900 or ASTM D1298
8	Oxidation stability: acid number, mg KOH/r, not more than	0,3	0,23	DSTU GOST 18136 (GOST 18136)
9	Oxidation stability: increase in resins, %, not more than	3	1,75	DSTU GOST 18136 (GOST 18136)
10	Sulfur weight, %, not more than	1,3	0,36	GOST 1437 or ASTM D4927
11	Colour on colorimeter, not more than	4,0	1,5	GOST 20284 or ASTM D1500

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Oil PROTEC IG-20 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: 04.08.22

CERTIFICATE OF ANALYSIS № 358

Oil PROTEC IG-40

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



Batch № 358

Manufacturing date: 22.05.23

Batch net weight: 16 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 40oC, cSt, in range	51-75	62,71	DSTU GOST 33 or ASTM D445
2	Total acid number, mg KOH per 1 g, not more than	0,07	0,011	GOST 11362 and P.7.6
3	Flash point, °C, not lower than	200	231	DSTU GOST 4333 or ASTM D92
4	Pour point, °C, not more than	-10	-18	GOST 20287 method B or ASTM D97
5	Mechanical impurities content, %, not more than	0,015	nil	GOST 6370 or ASTM D2273
6	Water content, %, not more than	0,03	0,03	GOST 2477 or ASTM D95
7	Density at 20 °C, kg/m3, not more than	910	862	GOST 3900 or ASTM D1298
8	Oxidation stability: acid number, mg KOH/r, not more than	0,4	0,29	DSTU GOST 18136 (GOST 18136)
9	Oxidation stability: increase in resins, %, not more than	3	1,15	DSTU GOST 18136 (GOST 18136)
10	Sulfur weight, %, not more than	1,3	0,23	GOST 1437 or ASTM D4927
11	Colour on colorimeter, not more than	4,0	1,0	GOST 20284 or ASTM D1500

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Oil PROTEC IG-40 sample satisfies the requirements 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

Date of issue: 23.05.23

CERTIFICATE OF ANALYSIS № 705

Motor oil M-10G2K

GOST 8581-78 zm.1-10

Batch № 705

Manufacturing date: 26.09.24 Batch net weight: 12 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 100oC, cSt, in range	10,5-11,5	10,65	DSTU GOST 33
2	Viscosity Index, not lower than	85	132	DSTU GOST 25371
3	Total base number, mg KOH per 1 g, not lower than	6	6,42	GOST 11362
4	Sulfated ash, %, not lower than	1,15	0,9	GOST 12417
5	Flash point (COC), °C, not lower than	220	222	DSTU GOST 4333
6	Pour point, °C, not more than	-18	-25	GOST 20287 method B
7	Density at 20 °C, kg/m3, not more than	900	874	GOST 3900
8	Mechanical 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	0,245	GOST 13538
11	Zinc weight, %, not lower than	0,05	0,054	GOST 13538
12	Phosphorus weight, %, not lower than	0,05	0,05	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	3,0	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.

Laboratory technicia _____

Laboratory head _____

Date of issue: 27.09.24



CERTIFICATE OF ANALYSIS № 41

Motor oil TEMOL Universal (M-8B)

TU U 23.2-30858281-007:2008 zm.1,2,3,4

Batch №41

SAE 20

API SD/SB

Manufacturing date: 19.01.21

Batch net weight: 6,5 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 100°C, cSt, in range	6-9	8,48	DSTU GOST 33 or ASTM D445
2	Viscosity Index, not lower than	90	95	DSTU GOST 25371 or ASTM D2270
3	Total base number, mg KOH per 1 g, not lower than	4,0	4,43	DSTU 5094 or ASTM D2896 or ISO 3771
4	Sulfated ash, %, not lower than	1,10	0,74	DSTU GOST 12417 or ASTM D874
5	Flash point (COC), °C, not lower than	207	245	DSTU GOST 4333 or ASTM D92
6	Pour point, °C, not more than	-25	-28	GOST 20287 method B or ASTM D97
7	Density at 20 °C, kg/m3, not more than	905	891	GOST 3900 or ASTM D1298
8	Mechanical impurities content, %, not more than	0,015	0,010	GOST 6370 or ASTM D2273
9	Water content, %, not more than	0,03	0,03	GOST 2477 or ASTM D95
10	Active elements content, Ca+Mg (counted by Ca) %, not lower than	0,12	0,16	GOST 13538 or ASTM D4927
11	Colour on colorimeter (15/85), not more than	3,5	1,5	GOST 20284 or ASTM D1500
12	Corrosion on plumbum plates (DK-NAMI), g/m2, not more than	10	7,2	GOST 20502 method A, var II
13	Stabilization by inductive period of sedimentation (IPS), 30 hours	Pass	Pass	GOST 11063

Manufactured by KSM PROTEC LLC, Ukraine.

Conclusion: Motor oil TEMOL Universal (M-8B) sample satisfies the requirement of TU U 23.2-30858281-007:2008 zm.1,2,3,4 standard based on characteristics analysis.

Shelf life - 5 years from date of manufacture.




CERTIFICATE OF ANALYSIS № 330
Transmission oil TEMOL Luxe Gear 80W-90
 TU U 23.2-30858281-003:2004 zm.1,2,3



Папір № 330

API GL-5

Manufacturing date: 30.03.21 Batch net weight: 4,5 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 100oC, cSt, in range	13,5 - 24	13,8	DSTU GOST 33 or ASTM D445
2	Viscosity Index, not lower than	90	120	DSTU GOST 25371 or ASTM D2270
3	Flash point (COC), °C, not lower than	185	258	DSTU GOST 4333 or ASTM D 92
4	Pour point, °C, not more than	-25	-28	GOST 20287 method B or ASTM D97
5	Density at 20 °C, kg/m3, not more than	910	898	GOST 3900 or ASTM D1298
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	Colour on colorimeter CNT, not more than	5,0	3,5	GOST 20284 or ASTM D1500
9	Corrosion test during 3 hr at 100°C on copper plates, point, not more than	2c	2c	GOST 2917 or ASTM D130
10	Sequence I, not more than	300/0	10/0	ASTM D 892 or DSTU 8420
11	Sequence II, not more than	150/0	25/0	ASTM D 892 or DSTU 8420
12	Sequence III, not more than	300/0	10/0	ASTM D 892 or DSTU 8420
13	Dynamic viscosity (-26 oC), Pa*s, not more than	150	68,5	GOST 1929
14	Four ball EP test machine (20±5°C): welding load, N, not less than	3 280	3 283	GOST 9490 or ASTM D 2783
15	Four ball EP test machine (20±5°C): scuff index, N, not less than	450	587	GOST 9490 or ASTM D 2783

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Transmission oil TEMOL Luxe Gear 80w-90 sample satisfies the requirement 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: 30.03.21





CERTIFICATE OF ANALYSIS № 928

Transmission oil Temol ATF III

TU U 19.2-37838186-003:2012 zm.1-3

Batch № 624

Dexron IIIIG

Manufacturing date: 03.09.24 Batch net weight: 0,95 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	7,13	DSTU GOST 33 or ASTM D445
3	Viscosity Index, not lower than	150	173	DSTU GOST 25371 or ASTM D2270
4	Flash point (COC), °C, not lower than	175	205	DSTU GOST 4333 or ASTM D92
5	Pour point, °C, not more than	-45	-46	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	846	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.1-3 standard based on characteristics analyzed.

Shelf life - 5 years from date of manufacturing.



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CERTIFICATE OF ANALYSIS № 725

Hydraulic oil PROTEC HYDROIL HM 32

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



Batch № 725

ISO 11158 HM

DIN 51524 HLP

ISO VG 32

Manufacturing date: 02.10.23

Batch net weight: 2,55 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 40oC, cSt, in range	28,8-35,2	32,72	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	215	DSTU GOST 4333 or ASTM D92
5	Pour point, °C, not more than	-30	-32	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	870	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 analyzed.

Shelf life - 5 years from date of manufacture.

Laboratory technician

Laboratory head

Date of issue: 03.10.23



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CERTIFICATE OF ANALYSIS № 361

Transmission Oil PROTEC Nigrol L

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



Batch № 361

Manufacturing date: 06.04.21

Batch net weight: 2,2t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 100oC, cSt, in range	27,0 - 34,0	31,40	DSTU GOST 33 or ASTM D445
2	Flash point, °C, not lower than	180	206	DSTU GOST 4333 or ASTM D92
3	Pour point, °C, not more than	-5	-15	GOST 20287 method B or ASTM D97
4	Water content, %, not more than	1,0	0,3	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 06.04.21



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CERTIFICATE OF ANALYSIS № 204

PROTEC Multiplex EP2 Lubricating Grease

TU U 19.2-37838186-010:2012 zm.1



Batch № 204

NLGI 2

Manufacturing date: 27.07.21

Batch net weight: 4,978 t

DIN 51502, KP2P 30

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Appearance	Uniform grease with blue color	Uniform grease with blue color	GSTU 38.001
2	Penetration at 25°C, 0,1 mm	265 - 295	275	GOST 5346 method V
3	Dropping point, °C, not lower than	235	255	GOST 6793
4	Shear stability at 80°C, Pa, not lower than	120	132	GOST 7143, method B
5	Colloid stability, % of separated oil, not more than	12,0	11,6	GOST 7142
6	Water content, %, not more than	nil	nil	GOST 2477
7	Free alkali content NaOH, %, not more than	0,2	0,06	GOST 6707
8	Mechanical impurities content, %, not more than	0,02	nil	GOST 6479
9	Viscosity at -20°C and velocity gradient of 10 s ⁻¹ , Pa*s, not more than	2000	900	GOST 7163
10	Oxidation stability, mg KOH per 1 g, not more than	0,3	0,12	GOST 5734
11	Vaporability at 100 °C, %, not more than	8,0	1,3	GOST 9566
12	Metal corrosion	Pass	Pass	GOST 9.080 and p.7.4
13	Water resistance at 79oC, 1 hour, %, not more than	6,0	4,2	ASTM D 1264[2]
14	Four ball EP test machine (20±5°C): welding load, N, not less than	1 568	2 930	GOST 9490
15	Four ball EP test machine (20±5°C): critical load, N, not less than	617	784	GOST 9490
16	Four ball EP test machine (20±5°C): scuff index, not less than	360	440	GOST 9490
17	Four ball Wear test machine (20±5°C), 20 kg, scar mm, not more than	0,45	0,42	GOST 9490
18	Protective property	Pass	Pass	GOST 9.054 method 1 and p.7.5
19	Elastomer of grade 26-44, %: volume change	-8,0 - +12,0	+5,8	GOST 9.030

Manufactured by KSM PROTEC LLC, UKRAINE

Conclusion: PROTEC Multiplex EP2 lubricating grease sample satisfies the requirement of TU U 19.2-37838186-010:2012 zm.1 standard based on characteristics analyzed.



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CERTIFICATE OF ANALYSIS № 184

PROTEC Multilit EP2 Lubricating Grease

TU U 19.2-37838186-010:2012 zm.1



Batch № 184

Manufacturing date: 23.06.23

Batch net weight: 1,927 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 green color*	GSTU 38.001
2	Penetration at 25°C, 0,1 mm, in range	265 - 295	275	GOST 5346 method V
3	Dropping point, °C, not lower than	180	206	GOST 6793
4	Shear stability at 80°C, Pa, not less than	120	127	GOST 7143 method B
5	Colloid stability, %, of separated oil, not more than	14,0	8,03	GOST 7142
6	Water content, not more than	nil	nil	GOST 7142
7	Free alkali content NaOH, %, not more than	0,3	0,05	GOST 6707
8	Mechanical impurities content, %, not more than	0,02	nil	GOST 6479
9	Mechanical stability - penetration after 10000 strokes, 0,1 mm	-50,0 - +35,0	+15	GOST 5346
10	Viscosity at 20°C and velocity gradient of 10 s-1, Pa*s, not more than	2000	850	GOST 7163
11	Vaporability at 100 °C, %, not more than	6,0	1,3	GOST 9566
12	Metal corrosion	Pass	Pass	GOST 9.080
13	Water resistance at 79°C, 1 hour, %, not more than	6,0	3,5	ASTM D 1264
14	Four ball EP test machine (20±5°C): welding load, N, not less than	1 960	2 450	GOST 9490
15	Four ball EP test machine (20±5°C): critical load, N, not less than	650	770	GOST 9490
16	Four ball EP test machine (20±5°C): scuff index, not less than	390	440	GOST 9490
17	Four ball Wear test machine (20±5°C), 196 N, scar mm, not more than	0,50	0,45	GOST 9490
18	Protective property	Pass	Pass	GOST 9.054 method 1
19	Elastomer of grade 26-44, %: volume change	-8,0 - +12,0	+5,8	GOST 9.030

*As agreed by the parties

Manufactured by KSM PROTEC LLC, UKRAINE

Conclusion: PROTEC Multilit EP2 lubricating grease sample satisfies the requirement of TU U 19.2-37838186-010:2012 zm.1 standard based on characteristics analyzed.

Laboratory technician

Laboratory head

Date of issue: 26.06.23



CERTIFICATE OF ANALYSIS № 261

Graphite Grease

GOST 3333-80 zm. 1,2,3

Batch № 261

Manufacturing date 31.08.23

Batch net weight: 2,1 t



Product Characteristics

№	Characteristics and units	Standard limits	Actual	Метод испытання
1	Appearance	Uniform grease with color between dark-brown and black	Uniform grease with black color	P.4.2 of GOST 3333-80
2	Dropping point, °C, not lower than	77	97	GOST 6793
3	Penetration at 25°C, 0,1 mm, not lower than	250	270	GOST 5346, method B
4	Steel plate corrosion, steel grades 40, 45 and 50, according to GOST 1050-74	Pass	Pass	GOST 9.080
5	Colloid stability, %, of separated oil, not more than	5,0	4,86	GOST 7142
6	Water content, %, not more than	3,0	2,0	GOST 2477
7	Shear stability at 50°C, Pa, not lower than	100	206	GOST 7143 method B
8	Viscosity at 0°C and velocity gradient of 10 s ⁻¹ , Pa*s, not more than	100	88	GOST 7163

Manufactured by KSM PROTEC LLC

Conclusion: Graphite Grease lubricating grease sample satisfies the requirement of GOST 3333-80 zm. 1,2,3 standard based on characteristics analyzed.

Laboratory technician

Laboratory seal

Date of issue 01.09



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CERTIFICATE OF ANALYSIS № 101

PROTEC Kranol Grease

TU U 19.2-37838186-006:2012 zm.1

Sample № 101

Manufacturing date 27.04.23 Net weight 1,698 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Appearance	Homogeneous grease from light yellow to brown color	Uniform grease of darck yellow color	GSTU 38.001
2	Penetration at 25°C, 0,1 mm, in range	35-70	55	GOST 5346
3	Dropping point, °C, not lower than	60	72	GOST 6793
4	Water content, not more than	3,5	2	GOST 2477
5	Mechanical impurities content, %, not more than	0,05	0,02	GOST 6479
6	Total acid number, mg KOH per 1 g, not more than	1	0,66	GOST 5985
7	Metal corrosion	Pass (steel)	Pass (steel)	GOST 9.080
8	Oxidation stability, mg of KOH per 1 g of grease, not more than	0,3	0,18	GOST 5734
9	Evaporation rate at 100°C after 1 hour, %, not more than	4	2,6	GOST 9566
10	Colloid stability, %, of separated oil, not more than	2	1,22	GOST 7142

Manufactured by KSM PROTEC LLC, UKRAINE

Conclusion: PROTEC Kranol Grease ample satisfies the requirement of TU U 19.2-37838186-006:2012 zm.1 standard based on characteristics analyzed.

Shelf life - 5 years from date of manufacture.

Laboratory technician _____

Laboratory head _____

Date of issue 28.04.23



CERTIFICATE OF ANALYSIS № 198
PROTEC Litol-24 M Lubricating Grease
 TU U 19.2-37838186-006:2012 zm.1,2

Batch № 198

Manufacturing date: 08.05.25

Batch net weight: 3,531 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 yellow color	GSTU 38.001
2	Dropping point, °C, not lower than	145	154	GOST 6793
3	Penetration at 25°C, 0,1 mm, in range	220 - 280	270	GOST 5346, method V
4	Viscosity at -20°C and velocity gradient of 10 s ⁻¹ , Pa*s (P), not more than	1000	650	GOST 7163
5	Shear stability at 50°C, Pa (gs/cm ²), not lower than	120	216	GOST 7143, method B
6	Colloid stability, %, of separated oil, not more than	16,0	9,69	GOST 7142, method A
7	Metal corrosion	Pass	Pass	GOST 9.080 and P. 7.4
8	Vaporability at 100 °C, %, not more than	8,0	1,0	GOST 9566
9	Free alkali content NaOH, %, not more than	0,2	0,05	GOST 6707 P.7.3
10	Water content	nil	nil	GOST 2477 and P. 7.4
11	Mechanical impurities content, %, not more than	0,05	nil	GOST 6479 and P. 7.5
12	Four ball EP test machine (20±5°C): scuff index, N (kgs), not less than	270	330	GOST 9490
13	Four ball EP test machine (20±5°C): welding load, N (kgs), not less than	1 230	1 600	GOST 9490
14	Four ball EP test machine (20±5°C): critical load, N (kgs), not less than	610	735	GOST 9490
15	Elastomer of grade 26-44, %: volume change	-8+12	-1,8	GOST 9.030

Manufactured by KSM PROTEC LLC

Conclusion: PROTEC Litol-24 M Lubricating Grease Lubricating grease sample satisfies the requirement of TU U 19.2-37838186-006:2012 zm.1,2 standard based on characteristics analyzed.

Laboratory technician

Laboratory head



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Date of issue: 09.05.25

CERTIFICATE OF ANALYSIS №420

Solidol Zhirovoi Lubricating Grease

GOST 1033-79 zm. 1,2,3

Batch №420

Manufacturing date: 21.10.25

Batch net weight: 2,218 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 light-brown color	P.4.2 of GOST 1033
2	Dropping point, °C, not lower than	78	104	GOST 6793
3	Penetration at 25°C, 0,1 mm	230 - 290	260	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)	216 (2,2)	GOST 7143
6	Free organic acids content, not more than	nil	nil	GOST 6707
7	Water content, %, not more than	2,5	2,0	GOST 2477
8*	Mechanical impurities insoluble in hydrochloric acid content	nil	nil	GOST 6479
9*	Calcium soaps of fatty acids content, %, not less than	11,0	13,1	GOST 5211
10	Free alkali content NaOH, %, not more than	0,2	0,03	GOST 6707

Manufactured by KSM PROTEC LLC

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

Laboratory technician _____

Laboratory head _____

Date of issue: 22.10.25



CERTIFICATE OF ANALYSIS № 330

Oil TEMOL GARDEN TECH 2T

TU U 19.2-37838186-029:2023 zm.1

Batch № 330

JASO FD/FC

ISO-L-EGD/ISO-L-EGC

Manufacturing date: 03.04.25

Batch net weight: 2,358 t

API TC

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 100oC, cSt, in range	8-13	9,43	DSTU GOST 33 or ASTM D445
2	Viscosity Index, not lower than	100	112	DSTU GOST 25371 or ASTM D2270
3	Total base number, mg KOH per 1 g, not lower than	0,8	1,07	DSTU 5094 or ASTM D2896 or DSTU ISO 3771
4	Sulfated ash, %, not more than	0,2	0,1	DSTU GOST 12417 or ASTM D874
5	Flash point (COC), °C, not lower than	125	216	DSTU GOST 4333 or ASTM D92
6	Pour point, °C, not more than	-20	-27	GOST 20287 method B or ASTM D97
7	Mechanical impurities content, %, not more than	nil	nil	DSTU GOST 6370
8	Water content, %, not more than	nil	nil	DSTU GOST 2477 or ASTM D95
9	Density at 20 °C, kg/m3, not more than	910	866	GOST 3900 or ASTM D1298
10	Corrosion test	Pass	Pass	GOST 2917 or ASTM D130

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Oil TEMOL GARDEN TECH 2T sample satisfies the requirement of TU U 19.2-37838186-029:2023 zm.1 standard based on characteristics analyzed.

Shelf life - 5 years from date of manufacture.

Laboratory technician _____

Laboratory head _____

Date of issue: 04.04.25





PRISTA® ULTRA

PASSENGER CAR ENGINE OILS

Description and Application

Prista® Ultra multigrade engine oils are fully synthetic products blended according to the latest advanced lubricant technology and designated for lubrication of today's engines in passenger cars, light trucks and vans.

Prista® Ultra multigrade engine oils are recommended for high performance gasoline and heavy-duty diesel engines of passenger cars operated in a wide temperature range and variable conditions. They are especially fit for use in gasoline and diesel (including Common Rail) engines, naturally aspirated or turbocharged, direct injection, multiple valve system, etc., whose manufacturers recommend ACEA A3/B4 and API SN, SM, SL or CF performance level lubricants.

Benefits

- Provides advanced protection against wear and corrosion
- Keep engine clean
- Ensure reliable protection in a wide temperature range
- Provides low temperature protection even with biodiesel fuels
- Designed to help reduce harmful emissions in the exhaust gases

Specifications

	SAE 5W-30	SAE 5W-40
ACEA	A3/B4	
API	SL/CF	SN/SM/CF
MB	229.3, 229.5	229.3, 229.5
VW	502 00 / 505 00	
Opel	GM-LL-A/B-025	
RN	0700/0710	
Porsche	-	A40
JASO	-	MA-2

Typical Characteristics

Parameter	Test Method	Typical Value	
		SAE 5W-30	SAE 5W-40
Density at 20°C, g/ml	EN ISO 3675	0.852	0.856
Kinematic Viscosity at 100°C, mm ² /s	EN ISO 3104	10.9	14.4
Kinematic Viscosity at 40°C, mm ² /s	EN ISO 3104	64.0	87.0
Viscosity Index	ISO 2909	163	172
Flash point COC, °C	EN ISO 2592	232	234
Pour point, °C	ISO 3016	-39	-39
TBN (HClO ₄), mg KOH/g	ASTM D 2896	10.0	
Sulfated Ash, %	EN ISO 3987	1.2	

Important note: typical data values do not constitute a specification but are an indication based on current production and can be affected by allowable production tolerances. The right to make modifications is reserved.

Health, Safety and Handling

Based on current available information, this product is not expected to produce adverse effects on health when used for the intended application.

For more information about product MSDS, terms and conditions for storage and shelf life please visit: www.prista-oil.com

Motor Oil TEMOL Extra Diesel 15W-40

TU U 19.2-37838186-029:2023 zm.1

Batch № 1148 API CF-4/SG
 Manufacturing date 12.12.25 Batch net weigh 12,5 t ACEA E3, A3/B4
 Types of packaging: 1L; 4L; 5L; 10L; 20L canisters
 50L; 200L drums

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Kinematic viscosity at 100°C, cSt, in range	12,5 - 16,3	14,56	DSTU GOST 33 or ASTM D445
2	Viscosity Index, not lower than	125	151	DSTU GOST 25371 or ASTM D2270
3	Total base number, mg KOH per 1 g, not lower than	7,5	7,67	DSTU 5094 or ISO 3771 or ASTM D2896
4	Sulfated ash, %, not lower than	1,5	1,05	DSTU ISO 3987 or ASTM D874
5	Flash point (COC), °C, not lower than	195	213	DSTU GOST 4333 or ASTM D92
6	Pour point, °C, not more than	-32	-32	GOST 20287 or ASTM D97
7	Density at 20 °C, kg/m ³ , not more than	905	876	GOST 3900 or ASTM D1298
8	Mechanical impurities content, %, not more than	0,015	nil	DSTU GOST 6370
9	Water content, %, not more than	0,03	nil	DSTU GOST 2477 or ASTM D95
10	Mass fraction of calcium and magnesium, expressed as calcium, %, not lower than	0,18	0,278	GOST 13538 or ASTM D4927
11	Colour on colorimeter (15:85), not more than	4,5	0,5	GOST 20284 or ASTM D1500
12	Viscosity is dynamic at -20°C ,CP, not more than	7000	6800	DSTU 8349 or ASTM D5293
13	Corrosion on plumbum plates (DK-NAMI), g/m ² , not more than	Pass	Pass	GOST 20502
14	Stabilization by inductive period of sedimentation (IPS), hours 50	Pass	Pass	DSTU GOST 11063

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Motor Oil TEMOL Extra Diesel 15W-40 sample satisfies the requirement of TU U 19.2-37838186-029:2023 zm.1 standard based on characteristics analyzed.

Shelf life - 5 years from date of manufacture. Storage conditions according to DSTU 4454.

Laboratory technician _____

Laboratory head _____

Date of issue: 16.12.25p.



CERTIFICATE OF ANALYSIS № 1002

Hydraulic oil PROTEC MGE-10A

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

Batch № 1002

Manufacturing date 03.11.25 Batch net weight 1,7t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Appearance	Clear light brown liquid	Clear light brown liquid	p.7.3
2	Kinematic viscosity at 50oC, mm2/s , not lower than	10	11,1	DSTU GOST 33 or ASTM D445
3	Kinematic viscosity at - 30oC, mm2/s , not more than	2500	1700	DSTU GOST 33 or ASTM D445
4	Total acid number, mg KOH per 1 g, in range	0,4 - 0,7	0,45	GOST 5985 and p.7.6
5	Flash point (COC), °C, not lower than	96	170	DSTU GOST 4333 or ASTM D92
6	Pour point, °C, not more than	-45	-52	GOST 20287 or ASTM D97
7	Mechanical impurities content, %, not more than	nil	nil	DSTU GOST 6370
8	Water content, %, not more than	nil	nil	DSTU GOST 2477 or ASTM D95
9	Density at 20 °C, kg/m3, not more than	860	851	GOST 3900 or ASTM D1298
10	Ash content, %, not more than	0,3	0,25	GOST 1461 or ASTM D482
11	Oxidation stability: mass fraction of sediment after oxidation, %, not more than	Nil	Nil	GOST 981
12	Action on rubber of the UIM-1 brand (72 hours, 130 C), change of weight, not more than	5,5 - 7,5	6	GOST 9.030
13	Corrosion test on steel plates	Pass	Pass	GOST 2917 and p. 7.4
14	Four ball Wear test machine (20±5°C): scar (Dz) (196N), mm, not more than	0,6	0,32	GOST 9490 or ASTM D2783
15	Sequence I, not more than	100/0	100/0	DSTU 8420 or ASTM D892
16	Sequence II, not more than	100/0	100/0	DSTU 8420 or ASTM D892
17	Sequence III, not more than	100/0	100/0	DSTU 8420 or ASTM D892
18	Colour on colorimeter , not more than	3,0	0,5	GOST 20284 or ASTM D1500

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: Hydraulic oil PROTEC MGE-10A 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. Storage conditions according to DSTU 4454.

Laboratory technician _____

Laboratory head _____

Date of issue: 06.11.25p.



CERTIFICATE OF ANALYSIS № 261
PROTEC ShRUS-4 Lubricating Grease
 TU U 19.2-37838186-010:2012 zm.1,2

Batch № 261

Manufacturing date: 16.06.25

Batch net weight: 0,572 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Appearance	Uniform grease with color between brown and black	Uniform grease with black color	GSTU 38.001
2	Dropping point, °C, not lower than	190	200	GOST 6793
3	Penetration at 25°C, 0,1 mm, in range	250-280	270	GOST 5346, method V
4	Viscosity at -30°C and velocity gradient of 10 s ⁻¹ , Pa*s, not more	2000	1670	GOST 7163
5	Shear stability at 20°C, Pa, not less than	300	320	GOST 7143, method B
6	Shear stability at 80°C, Pa, not lower than	120	147	GOST 7143, method B
7	Colloid stability, %, of separated oil, not more than	16,0	7,38	GOST 7142 method A
8	Metal corrosion	Pass	Pass	GOST 9.080 and p.7.4
9	Vaporability at 100 °C, %, not more than	6,0	1,0	GOST 9566
10	Free alkali content NaOH, %, not more than	0,2	0,09	GOST 6707
11	Water content	nil	nil	GOST 2477
12	Four ball EP test machine (20±5°C): scuff index, N, not less than	450	610	GOST 9490
13	Four ball EP test machine (20±5°C): welding load, N, not less than	4 136	5 204	GOST 9490
14	Four ball EP test machine (20±5°C): critical load, N, not less than	872	1039	GOST 9490
15	Protective properties	Pass	Pass	GOST 9.054 method 1 and p.7.5

Manufactured by KSM PROTEC LLC

Conclusion: PROTEC ShRUS-4 lubricating grease sample satisfies the requirement of TU U 19.2-37838186-010:2012 zm.1,2 standard based on characteristics analyzed.

Laboratory technician _____

Laboratory head _____

Date of issue: 17.06.25



Grease CIATIM-221

GOST 9433-80, zm.1-3

Batch № 211

Manufacturing date 21.06.24 Batch net weight 0,4 т

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Appearance	Homogeneous grease with a smooth texture, light yellow to light brown in color	Homogeneous grease with a smooth texture, light yellow in color	p. 4.3 GOST 9433
2	Viscosity at -50°C and velocity gradient of 10 s-1, Pa*s, not more than	800	760	GOST 7163
3	Shear stability at 50°C, Pa, not lower than	120	142	GOST 7143
4	Dropping point, °C, not lower than	200	220	GOST 6793
5	Penetration at 25°C, 0,1 mm, in range	280 - 360	300	GOST 5734
6	Metal corrosion	Pass	Pass	GOST 9.080 and p. 4.4 GOST 9433
7	Colloid stability, %, of separated oil, not more than	7	6,89	GOST 7142 and p. 4.5 GOST 9433
8	Free alkali content NaOH, %, not more than	0,08	0,01	GOST 6707 and p. 4.6 GOST 9433
9	Water content	Nil	Nil	DATU GOST 2477
10	Mechanical impurities content, %, not more than	Nil	Nil	GOST 6479 and p. 4.7 GOST 9433
11	Vaporability at 150 °C, %, not more than	2	1,5	GOST 9566

Manufactured by KSM PROTEC LLC

Conclusion: Grease CIATIM-221 sample satisfies the requirement of GOST 9433-80, zm.1-3 standard based on characteristics analyzed.

Shelf life - 5 years from date of manufacture. Storage conditions according to DSTU 4454.

Laboratory technician _____

Laboratory head _____

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