

CERTIFICATE OF ANALYSIS № 397

Litol-24 Lubricating Grease

DSTU GOST 21150:2019

Batch №397

Manufacturing date: 25.09.25

Batch net weight: 3,8 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	235	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)	230 (2,3)	GOST 7143, method B
9	Colloid stability, %, of separated oil, not more than	12,0	7,12	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	0,04	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

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: 29.09.25



CERTIFICATE OF ANALYSIS № 10

TEMOL Antifreeze Luxe G12 Red

TU U 20.5-30858281-009:2016 zm. 1,2

Batch № 10

Manufacturing date: 15.03.24 Batch net weight: 4,0 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Appearance	Homogeneous transparent liquid without mechanical impurities. Color should match the color of the sample-standard	Homogeneous transparent liquid without mechanical impurities red color	p.7.4
2	Density at 20 °C, kg/m ³ , not lower than	1,065	1,071	DSTU 7261
3	The temperature of the onset of crystallization, ° C, not higher	-38	-39	p.7.5
4	Boiling Point, °C, not less	104	110	p.7.13
5	Corrosive effect on metals, g / m ² per day, no more: - copper, brass, steel, cast iron, aluminum; - solder	0,15 0,3	0,088 0,095	p.7.7
6	Foaming, no more - the volume of foam, sm ³ - foam stability, s	150 5	30 3	p.7.8 or ASTM D 1881
7	Swelling rubber,%, not more	5	3	p.7.9
8	pH at 20 °C	7,5-11,0	8,19	DSTU 2201.1 or p.7.10 or ASTM D 1287
9	Alkalinity, cm ³ , not less	1,5	2,66	p.7.11

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: TEMOL Antifreeze Luxe G12 Red sample satisfies the requirement of TU U 20.5-30858281-009:2016 zm.1,2

Shelf life - 5 years from date of manufacture.

Laboratory technician

Laboratory head

Date of issue: 18.03.24



CERTIFICATE OF ANALYSIS № 8

TEMOL Antifreeze Extra G11 Green

TU U 20.5-30858281-009:2016 zm.1,2

Batch № 8

Manufacturing date: 14.02.25 Batch net weight: 3,012 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Appearance	Homogeneous transparent liquid without mechanical impurities. Color should match the color of the sample-standard	Homogeneous transparent liquid without mechanical impurities green color	p.7.4
2	Density at 20 °C, kg/m3, not lower than	1,065	1,070	DSTU 7261
3	The temperature of the onset of crystallization, ° C, not higher	-38	-38	p.7.5
4	Boiling Point, °C, not less	104	106	p.7.13
5	Corrosive effect on metals, g / m2 per day, no more: - copper, brass, steel, cast iron, aluminum; - solder	0,15 0,35	0,097 0,0083	p.7.7
6	Foaming, no more - the volume of foam, sm ³ - foam stability, s	150 5	40 3	p.7.8 or ASTM D 1881
7	Swelling rubber,%, not more	5	3	p.7.9
8	pH at 20 °C	7,5-11,0	8,13	DSTU 2201.1 or p.7.10 or ASTM D 1287
9	Alkalinity, cm3, not less	1,5	4,21	p.7.11

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: TEMOL Antifreeze Extra G11 Green sample satisfies the requirement of TU U 20.5-30858281-009:2016 zm.1,2

Shelf life - 5 years from date of manufacture



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CERTIFICATE OF ANALYSIS № 53

TEMOL Antifreeze Luxe G12 Yellow

TU U 20.5-30858281-009:2016 зм.1,2

Batch № 53

Manufacturing date: 23.07.24 Batch net weight: 7,23 t

Product Characteristics

№	Characteristics and units	Standard limits	Actual	Test method
1	Appearance	Homogeneous transparent liquid without mechanical impurities. Color should match the color of the sample-standard	Homogeneous transparent liquid without mechanical impurities yellow color	p.7.4
2	Density at 20 °C, kg/m3, not lower than	1,065	1,072	DSTU 7261
3	The temperature of the onset of crystallization, ° C, not higher	-38	-39	p.7.5
4	Boiling Point, °C, not less	104	106	p.7.13
5	Corrosive effect on metals, g / m2 per day, no more: - copper, brass, steel, cast iron, aluminum; - solder	0,15	0,088	p.7.7
		0,3	0,095	
6	Foaming, no more - the volume of foam, см ³ - foam stability, s	150	20	p.7.8 or ASTM D 1881
		5	3	
7	Swelling rubber,%, not more	5	1	p.7.9
8	pH at 20 °C	7,5-11,0	8,12	DSTU 2201.1 or p.7.10 or ASTM D 1287
9	Alkalinity, cm3, not less	1,5	2,48	p.7.11

Manufactured by KSM PROTEC LLC, Ukraine

Conclusion: TEMOL Antifreeze Luxe G12 Yellow sample satisfies the requirement of TU U 20.5-30858281-009:2016 зм.1,2

Shelf life - 5 years from date of manufacture.

Laboratory technician _____

Laboratory head _____

Date of issue: 24.07.24

