

LABORATOR LUBRIFIANT/ LUBRICANTS LABORATORY

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Laborator@lukoil-lubricants.ro

acreditat pentru
INCERCARE

SR EN ISO/IEC 17025:2018
CERTIFICAT DE ACREDITARE
LI 1200

RAPORT DE INCERCARE (TEST REPORT)

Nr.:

1330

Data:

19.10.2020

Client (Customer)	Sectia Amestec/Blending Sector	LUKOIL LUBRICANTS EAST EUROPE
Produs (Product)	ULEI PENTRU MOTOARE CU GAZ LUKOIL EFFORCE 4004 ENGINE OIL GAS LUKOIL EFFORCE 4004	
Document normativ (Normative doc)	ST 73 - 2014	
Numar Comanda (Order number)	1300	
Cod proba (Cod sample) / Lot(Batch)	3602 / Lot/Batch 3	
Proba prelevata de (Sampling by)	Client (By customer)	
Data primire proba (Receive date)	19.10.2020	

Nr. crt. No	Caracteristici (Characteristics)	U.M. (U.M.)	Valoare prevazuta (Standard limits)	Valoare determinata (Obtained value)	Metoda de incercare (Test Method)	Incertitudine (Uncertainty) **
	Clasa de viscozitate		40		SAE J300	
1	Viscozitatea cinematica la 100°C Kinematic viscosity at 100°C	mm ² /s	12,5+16,3	13,40	ASTM D 7042-19e1	
2	Viscozitatea cinematica la 40°C Kinematic viscosity at 40°C	mm ² /s	125+165	125,3	ASTM D 7042-19e1	
3	Indice de viscozitate Viscosity index	-	min 92	102	ASTM D 7042-19e1 ASTM D 2270-10(16) SR ISO 2909	
4	Cifra de bazicitate totala Total Base Number	mgKOH/g	min 4,5	5,7	ASTM D 2896-15	
5	#*Punct de inflamare in vas deschis Flash point, COC	°C	min 220	252	SR EN ISO 2592-18 ASTM D 92-18	
6	Punct de curgere Pour point	°C	max. -20	-20	SR 13552-12 ASTM D 97-17b	
7	#*Cenusa sulfatata / Sulfated ash	%	max 0,52	0,40	ASTM D 874-13a(18)	
8	#*Continut de calciu / Calcium content	%	se raporteaza/report	0,11	STAS 8428-69	
9	#*Continut de fosfor / Phosphorus content	%	max 0,08	0,025	STAS 7330-83	
10	Caracteristici de spumare: tendinta-stabilitate Foaming characteristics: tendency-stability - la 24°C / at 24°C - la 93,5°C / at 93,5°C - la 24°C, dupa 93,5°C / at 24°C, after test at 93,5°C	cm ³ cm ³ cm ³	max 10-0 50-0 10-0	10-0 10-0 10-0	ASTM D 892-18	
11	Densitate la 15°C / Density at 15°C Densitate la 20°C / Density at 20°C	g/cm ³	se raporteaza/report	0,8869 0,8839	ASTM D 7042-19e1	

Observatii (Remarks):

* Garantate prin tehnologie (Guaranteed by technology).

** Incertitudinea raportata la solicitarea clientului (Uncertainty related to customer demand).

Incercare neacreditata (Test not accredited).

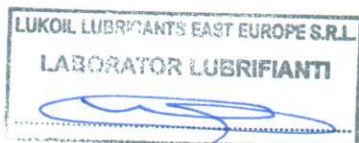
Verificat/Aprobat (Approved by):

Sef Laborator (Laboratory Chief)

Lungu Cristina

Intocmit: (Performed by):

Dinu Madalina



DECLARATIE DE CONFORMITATE/CONFORMITY STATEMENT
Nr./No: 1184 Data/Date: 19.10.2020

Noi,

Numele furnizorului: LUKOIL LUBRICANTS EAST EUROPE S.R.L

Adresa furnizorului: Str. Mihai Bravu, nr. 235, Ploiesti, jud. Prahova, Romania

Nr. de inregistrare la Registrul Comertului: J29/1451/0810.2015

Asiguram, garantam si declaram pe propria raspundere, prin prezentul document, ca produsul la care se refera aceasta declaratie este in conformitate cu cerintele specificate in documentul normativ specificat mai jos:

We,

Supplier Name: LUKOIL LUBRICANTS EAST EUROPE S.R.L

Supplier Address: Ploiesti, 235 Mihai Bravu Street, Prahova County, Romania

Registration number at the Commerce Registry: J29/1451/0810.2015

Assure, guarantee and declare on our own responsibility, in this document, that the product to which this declaration relates is in compliance with the requirements specified in the regulatory document specified below:

Denumire produs <i>Product name</i>	Lot, Rez./Lot, Tank <i>Ambalaj/Pack</i>	Titlul si numarul documentului normativ <i>Title and no. of the normative document</i>	
LUKOIL EFFORCE 4004	Lot 3	ULEI PENTRU MOTOARE CU GAZ <i>GAS ENGINE OIL</i>	FT

Certificat de Valabilitate <i>Certificate of Validity</i>	Perioada de valabilitate a produsului in depozitare este 5 ani de la data fabricatiei, in conditiile respectarii cerintelor de ambalare, depozitare, transport si manipulare. <i>Shelf life of product in storage is 5 years from date of manufacture, in compliance with the requirements for packaging, storage, transport and handling.</i>
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Certificat de Conformitate RAR-OCF <i>Certificate of statement RAR-OCF</i>	
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Raport de Incercare / <i>Test report</i>	1330	Data / <i>Date</i>	19.10.2020
Client / <i>Customer</i>			
Data livrarii / <i>Delivery date</i>			
Factura/Aviz expeditie/Scrisoare trasura / <i>Invoice/Delivery note/Car licence plate</i>			
Cantitate / <i>Quantity</i>			
Mijloc de transport / <i>Transport</i>			

LUKOIL LUBRICANTS EAST EUROPE
PANAIT Luminita



Cod DC/2013, ed.2

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Departament Productie Tel/ Fax: +40 244 504 654
Departament Calitate Tel/ Fax: +40 244 504 679

www.lukoil-lubricants.ro



LUKOIL EFFORCE 4004

Low ash motor oil for 4-stroke gas engine application with exhaust catalyst

APPROVALS

INNIO Jenbacher TA 1000-1109, Type 2 and 3/ Type 4 (version A&B)/ Type 6 (version C&E)/ Type 6 (version F&J)
MAN Diesel & Turbo
Mitsubishi HIET
Rolls-Royce
Wartsila 175SG/ 220SG/ 25SG/ 28SG/ 32DF/ 34SG/ 50DF
JSC "Volzhsky Diesel Engine named after Maminykh (VDM)"

MEETS REQUIREMENTS

Caterpillar 3300/ 3400/ 3500/ 3600
Cummins QSK 60G/ QSV 81G/ QSV 91G
Guascor FGLD, SFGDL
MAN M 3271-2
MTU MLT 5074, A001061/29E (Category 1), Onsite Energy 400 & 4000 series
MWM TR 0199-99-2105
Perkins engine series 4000
Waukesha

PRODUCT DESCRIPTION

LUKOIL EFFORCE 4004 shows excellent anti wear properties as well as high oxidation and aging resistance. Due to its balanced formulation, formation of deposits in the combustion chamber and exhaust system of the gas engine is prevented reliably.

LUKOIL EFFORCE 4004 avoids sludge formation, creation of coking residues and shows excellent corrosion protection.

APPLICATION

LUKOIL EFFORCE 4004 is recommended for application in 4-stroke gas engines with or without turbo charger and exhaust catalyst (λ -1 operation). It is suitable for natural gas, low contaminated organic gases or even low energy process gases.

LUKOIL EFFORCE 4004 is also suitable for pilot injection gas engines. It also fulfills the requirements for MAN Diesel & Turbo medium speed engines.

TYPICAL TEST DATA

PROPERTY	Units	Test methods	LUKOIL EFFORCE 4004
Density at 15°C	kg/m ³	ASTM D 7042	887
Flash point, COC	°C	ASTM D 92 SR EN ISO 2592	220
Viscosity class	-	SAE J 300	40
Kinematic viscosity at 40°C	mm ² /s	ASTM D 7042 STAS 1666	130
Kinematic viscosity at 100°C	mm ² /s	ASTM D 7042 STAS 1666	13.5
Viscosity index	--	ASTM D 7042 SR ISO 2909	100
Pour point	°C	ASTM D 97 SR 13552	-20
Sulphated Ash	%	ASTM D 482 SR EN ISO 6245	0.4
Total Base Number (TBN)	mg KOH / g	ASTM D 2896	5.5

The information given in the typical data does not constitute a specification but is an indication based on current production and can be affected by allowable production tolerances. The right to make modifications is reserved by OOO "LLK-International".

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*This document supersedes all previous versions