



СЕРТИФИКАТ

№ JBS - 249/1/2021

Настоящий сертификат удостоверяет, что:

LOTOS Oil Sp. z o.o.
ul. Elbląska 135, 80-718 Gdańsk
и
ul. Łukasiewicza 2, 43-502 Czechowice-Dziedzice

соответствует требованиям

**PN-EN ISO 9001:2015-10, PN-ISO 45001:2018-06
и PN-EN ISO 14001:2015-09**

в следующем:

**разработка и производство моторных,
промышленных масел и пластических смазок,
а также оборот базовыми, моторными,
промышленными маслами и пластическими смазками**

что подтверждено аудитом, проведенным Польским центром по испытаниям и сертификации.

Сертификат действителен при условии соблюдения организацией
вышеуказанных требований
с 05.07.2021 по 04.07.2024

Выдано на основании договора № 1688/JBSA/1/2021
Дата решения о сертификации: 05.07.2021
Сертификат имеет квалифицированную электронную подпись.
Варшава, 05.07.2021



Anna Wyroba
Elektronicznie
podpisany przez Anna
Małgorzata Wyroba
Data: 2021.07.20
13:26:10 +02'00'
Member of the Board





Denumirea anterioara: Shell Albida EMS 2

Shell Gadus S5 V100 2

- Durata lunga de viata
- Eficienta imbunatatita
- Complex de litiu

Vaselina multifunctionala de inalta performanta

Shell Gadus S5 V100 este o vaselina pe baza de complex de litiu, obtinuta din uleiuri de baza sintetice si aditivi antioxidanti, EP, antiuzura si antirugina. Produsul contine un modifier special de frecare care este potrivit pentru rulmenti de mare viteza, rulmenti cu role conice si cilindrice, tip NJ, NUP, plus aplicatiile cu unghi de inel.

DESIGNED TO MEET CHALLENGES

Aplicatii principale



Specificatii, Aprobari si Recomandari

Pentru lista completa de aprobari echipamente si recomandari, va rugam sa consultati local Shell Tehnic Helpdesk.

Shell Gadus S5 V100 este conceputa pentru lubrifierea rulmentilor cu role care opereaza la viteze moderate, precum si lagare cu un comportament foarte bun la temperaturi scazute. Vaselina are temperatura de pornire foarte scazuta si cuplurile de functionare la temperaturi de pana la -50°C, prin urmare este potrivita pentru ungerea pe tot parcursul anului, de exemplu ventilatoare in aer liber si motoare electrice. Vaselina are o stabilitate mecanica si termica foarte buna si poate fi utilizata in motoare electrice, ventilatoare si pompe la temperaturi de pana la 150°C, in cazul in care exista cereri pentru intervale prelungite de re-ungere.

Caracteristici fizice (valori tipice)

Proprietati	Metoda	Shell Gadus S5 V100 2
Consistenta NLGI		2
Penetratie, lucrata la 60 cicluri (0.1 mm)	IP 50 / Astm D217	265-295
Punct de picurare	°C	IP 396
Viscozitatea uleiului de baza	@40°C	cSt
Viscozitatea uleiului de baza	@100°C	cSt
Protectie antirugina: SKF Emcor, Apa distilata		trece
Protectie antirugina: SKF Emcor WWO, Apa distilata		trece
Capacitatea de lubrifiere, SKF R2F A		trece
Capacitatea de lubrifiere, SKF R2F B	@150°C	trece
Stabilitatea mecanica, rulare (50 ore)	@80°C	
Interval de temperatura (temporar)	°C	

Aceste caracteristici sunt tipice pentru productia curenta. In timp ce productia viitoare se va conforma specificatiilor Shell, pot aparea variatii ale acestor valori.



Specifications, Approvals & Recommendations

- ISO 6743-3:2003(E) L-DAJ

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

Compatibility & Miscibility

• Miscibility

Shell Corena S4 R is fully miscible with mineral oils, although dilution with mineral lubricants will markedly reduce its performance. Care must be taken to avoid mixing Shell Corena S4 R with certain other types of synthetic fluids. Contact your Shell representative for further information.

• Seal Compatibility

Shell Corena S4 R oils are compatible with seal materials specified for use with mineral oils.

Typical Physical Characteristics

Properties		Method	Shell Corena S4 R 46
ISO Viscosity Grade		ISO 3448	46
Kinematic Viscosity	@40°C	mm ² /s	ASTM D445
Kinematic Viscosity	@100°C	mm ² /s	ASTM D445
Viscosity Index		ISO 2909	135
Density	@15°C	kg/m ³	ASTM D1298
Flash Point (COC)	°C	ASTM D92	230
Air Release	minutes	ASTM D3427	2
FZG Test	LS Fail	CEC-L-07-A-95	12
Pour Point	°C	ASTM D97	-48
Water Separability	@54°C	minutes	ASTM D1401
			10

These characteristics are typical of current production.

Health, Safety & Environment

• Health and Safety

Shell Corena S4 R is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

Guidance on Health and Safety is available on the appropriate Safety Data Sheet, which can be obtained from <https://www.epc.shell.com>

• Protect the Environment

Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

Additional Information

• Advice

Advice on applications not covered here may be obtained from your Shell representative.





Technical Data Sheet

Shell Corena S4 R 46

- Extra Long Life
- Improved Efficiency
- Severe Applications

Advanced Synthetic Rotary Air Compressor Oil

Shell Corena S4 R is primarily an advanced synthetic air compressor oil designed to deliver the highest performance lubrication of rotary sliding vane and screw air compressors. It uses a unique advanced additive system to provide excellent protection and performance for compressors running with oil maintenance intervals of 10,000 hours and up to 12,000 hours under certain conditions. Shell Corena S4 R is also perfectly suitable to cover applications where a synthetic bearing & circulating oil or R&O oil (ISO VG 32-68) is required.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- Long oil life – Maintenance saving

Shell Corena S4 R is capable of providing oil maintenance intervals of 10,000 hours (where allowed by manufacturers) even when operating at maximum discharge temperatures in excess of 100°C. This may be extended up to 12,000 hours under certain conditions.

The advanced formulation of Shell Corena S4 R helps deliver exceptional oil life through:

- Exceptional resistance to thermal and chemical breakdown.
- Resist formation of deposits on rotating components in screw compressors and in sliding vane slots for continuous efficient operation.
- Exceptionally low levels of deposit formation to help maintain excellent internal surface cleanliness particularly in oil/air separator and coalescer systems.

The exact oil maintenance interval will depend on intake air quality, duty cycle and ambient conditions. For hot and humid type climates as found in the Asian and Pacific regions, the lower oil drain period of 10,000hrs is recommended (also consult OEM recommendations).

- Outstanding wear protection

Shell Corena S4 R helps provide exceptional protection of internal metal surfaces from corrosion and wear.

It contains an advanced ashless anti-wear system to help prolong the life of critical parts such as bearings and gears.

- Maintaining system efficiency

Shell Corena S4 R is designed to provide rapid air release without excessive foaming to give trouble-free operation even under cycling conditions helping to ensure reliable start-up and continuous compressed air availability.

Shell Corena S4 R also has low volatility which can result in lower evaporation and oil carryover in the compressor, providing reduced oil top-up requirements in combination with increased air quality.

In addition, Shell Corena S4 R has excellent water separation properties to help ensure continuous efficient operation of the compressor even in the presence of water.

Main Applications



- Rotary sliding vane and screw air compressors

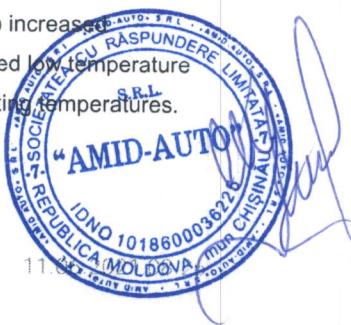
Shell Corena S4 R is suitable for use in oil-flooded/ oil injected single or two-stage rotary vane or screw air compressors.

- Severe service conditions

May be used where exceptionally high ambient temperatures or humidity are found.

- Bearing & Circulating oil

Perfectly suitable to cover applications where a synthetic bearing & circulating oil or R&O oil (ISO VG 32-68) is required, and will provide benefits due to increased resistance to deposits formation, improved low temperature fluidity and lowering of equipment operating temperatures.



****CERTIFICATE of QUALITY** Copy**

Control No: 118 / 2022 For:
Tank No.: 403/S1
Sample No 118 / 2022
Delivery doc:
Packing, Tank

LITHIUM GREASE LT-43

Lp	PROPERTY	RESULTS	UNITS	TEST METHOD
1	Worked Penetration 25 deg C	234	1/10 mm	ASTM D 217

Certificate of Quality may be duplicated only as a whole.

ECOL Sp. z o.o. Draw certificate date: 12-01-2022

ECOL Sp. z o.o.

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract: WT 48/05 wyd.7

Confirm certificate - name: ECOL - Kubacki Jakub

Publish certificate - name Sikora Paweł DC 03



****CERTIFICATE of QUALITY** Copy**

Control No: 120 / 2023 For:

Tank No.: 15V025

Sample No 120 / 2023

Delivery doc:

Packing, Tank

HYDRAULIC OIL L-HV 32

Lp	PROPERTY	RESULTS	UNITS	TEST METHOD
1	Kinematic viscosity at 40° C	32.60	mm ² /s	ASTM D 445-21e1 (A)
2	Pour point	-51	° C	ASTM D 97-17b
3	Flash Point COC	218	° C	ASTM D 92-18
4	Density at 15.0° C	0.8633	g/cm ³	ASTM D 4052-22
5	Viscosity Index	149		ASTM D 2270-10(2016)
6	Total Acid Number	0.57	mg KOH/g	ASTM D 664-18e2
7	Demulsibility at 54° C			ASTM D 1401-21
	-volume of oil	40	ml	
	-volume water	40	ml	
	-volume of emulsion	0	ml	
	-time of separability	10	min	
8	Corrosion action Cu at 120° C, 3 h	1	stop.kor.	ASTM D 130-19 (A)
9	Foaming			ASTM D 892-18
	-tendency at 24 deg C	10	ml	
	-tendency at 93 deg C	20	ml	
	-tendency at 24°C ex 93,5°C	0	ml	
10	Stability			ASTM D 892-18
	-at 24° C	0	ml	
	-at 93,5° C	0	ml	
	-at 24° C ex 93,5° C	0	ml	

Certificate of Quality may be duplicated only as a whole.

Laboratory test LOTOS Lab Sp. z o.o. Draw certificate date: 10-01-2023

Symbol (A) in the standard column - The tests were performed by LOTOS Lab Ltd. accredited in this respect by the PCA, No. 8B474

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract: WT 2/94 wyd. 7

Confirm certificate - name: Besler Paweł

Publish certificate - name: Sikora Paweł DC 03



****CERTIFICATE of QUALITY** Copy**

Control No: 186 / 2023 For:
 Tank No.: 237/E-6
 Sample No 186 / 2023

Delivery doc:
 Packing, Tank

HYDRAX HLP 32

Lp	PROPERTY	RESULTS	UNITS	TEST METHOD
1	Kinematic viscosity at 40° C	31.84	mm ² /s	ASTM D 445-21e1
2	Pour point	-33	° C	ASTM D 97-17b
3	Flash Point COC	228	° C	ASTM D 92-18
4	Density at 15,0° C	0.8675	g/cm ³	ASTM D 4052-22
5	Water	<0,03	% (m/m)	ASTM D 95-13(2018)
6	Total Acid Number	0.50	mg KOH/g	ASTM D 664-18e2
7	Demulsibility at 54° C			ASTM D 1401-21
	-volume of oil	40	ml	
	-volume water	40	ml	
	-volume of emulsion	0	ml	
	-time of separability	7	min	
8	Corrosion action Cu at 120° C, 3 h	1	stop kor.	ASTM D 130-19
9	Foaming			ASTM D 892-18
	-tendency at 24 deg C	0	ml	
	-tendency at 93 deg C	30	ml	
	-tendency at 24°C ex 93,5°C	0	ml	
10	Stability			ASTM D 892-18
	-at 24° C	0	ml	
	-at 93,5° C	0	ml	
	-at 24° C ex 93,5° C	0	ml	

Certificate of Quality may be duplicated only as a whole.
 Laboratory test ECOL Sp. z o.o. Draw certificate date: 16-01-2023
 Manufacturer: LOTOS OIL SP. Z O.O.
 Product does meet requirements of the contract: WT 91/04 wyd.7
 Confirm certificate - name: ECOL - Kubacki Jakub
 Publish certificate - name Sikora Paweł DC 03



****CERTIFICATE of QUALITY** Copy**

Control No: 129 / 2023 For:

Tank No.: 15V028

Sample No 129 / 2023

Delivery doc:

Packing, Tank

SUPEROL CC SAE 30

Lp	PROPERTY	RESULTS	UNITS	TEST METHOD
1	Kinematic viscosity at 100° C	11.280	mm ² /s	ASTM D 445-21e1 (A)
2	Flash Point COC	274	° C	ASTM D 92-18
3	Pour point	-30	° C	ASTM D 97-17b
4	Density at 15.0° C	0.8796	g/cm ³	ASTM D 4052-22 (A)
5	Total Base Number (TBN)	9.0	mg KOH/g	ASTM D 2896-21

Certificate of Quality may be duplicated only as a whole.

Laboratory test LOTOS Lab Sp. z o.o. Draw certificate date: 11-01-2023

Symbol (A) in the standard column - The tests were performed by LOTOS Lab Ltd. accredited in this respect by the PCA, No.AB 474

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract: WT 3/98 wyd.6

Confirm certificate - name: Frąckowiak Bartłomiej

Publish certificate - name: Sikora Paweł DC 03



****CERTIFICATE of QUALITY** Copy**

Control No: 4628 / 2022 For:

Tank No.: 225/95

Sample No 4628 / 2022

Delivery doc:

Packing, Tank

LOTOS TITANIS GL-5 SAE 80W/90

Lp	PROPERTY	RESULTS	UNITS	TEST METHOD
1	Kinematic viscosity at 100° C	14.1	mm ² /s	ASTM D 445-21e1
2	Pour point	-30	°C	ASTM D 97-17b
3	Flash Point COC	225	°C	ASTM D 92-18
4	Density,at 15,0°C	0.8958	g/cm ³	ASTM D 4052-22
5	Appearance			visual
	-Appearance			visual
6	Kinematic viscosity at 40° C	C & B		
7	Viscosity Index	141.42	mm ² /s	ASTM D 445-21e1
8	Brookfield Viscosity at -26° C	96	mPa*s	ASTM D 2270-10(2016)
9	Water	68450	% (m/m)	ASTM D 2983-22
10	Corrosion action Cu at 120° C, 3 h	<0,03	stop.kor.	ASTM D 95-13(2018)
11	Lubricating properties on 4-ball appar.	1		ASTM D 130-19
	-Welding load (Pz)	392	daN	DIN 51350
	-load Wear Index	57	daN	
12	Foaming			ASTM D 892-18
	-tendency at 24 deg C	0	ml	
	-tendency at 93 deg C	10	ml	
	-tendency at 24°C ex 93,5°C	0	ml	
13	Stability			ASTM D 892-18
	-at 24° C	0	ml	
	-at 93,5° C	0	ml	
	-at 24° C ex 93,5° C	0	ml	

Certificate of Quality may be duplicated only as a whole.
 Laboratory test ECOL Sp. z o.o. Draw certificate date: 24-10-2022
 Manufacturer: LOTOS OIL SP. Z O.O.
 Product does meet requirements of the contract: WT 1/02 wyd.6
 Confirm certificate - name: ECOL - Kubacki Jakub
 Publish certificate - name: Stachura Tomasz DC 03



****CERTIFICATE of QUALITY** Copy**

Control No: 4697 / 2022 For:
 Tank No.: 224/91
 Sample No 4697 / 2022
 Delivery doc:
 Packing, Tank

GEAR OIL GL-4 SAE 80W-90

Lp	PROPERTY	RESULTS	UNITS	TEST METHOD
1	Kinematic viscosity at 100° C	14.3	mm ² /s	ASTM D 445-21e1
2	Pour point	-33	° C	ASTM D 97-17b
3	Flash Point COC	242	° C	ASTM D 92-18
4	Density,at 15,0° C	0.8772	g/cm ³	ASTM D 4052-22
5	Kinematic viscosity at 40° C	144.78	mm ² /s	ASTM D 445-21e1
6	Viscosity Index	96		ASTM D 2270-10(2016)
7	Corrosion for Synthetic Sea Water	rust free		ASTM D 665-14e1
8	Foaming			ASTM D 892-18
	-tendency at 24 deg C	0	ml	
	-tendency at 93 deg C	0	ml	
	-tendency at 24°C ex 93,5°C	0	ml	
9	Stability			ASTM D 892-18
	-at 24° C	0	ml	
	-at 93,5° C	0	ml	
	-at 24° C ex 93,5° C	0	ml	

Certificate of Quality may be duplicated only as a whole.
 ECOL Sp. z o.o. Draw certificate date: 28-10-2022

ECOL Sp. z o.o.

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract: WT 32/05 wyd. 4

Confirm certificate - name: ECOL - Kubacki Jakub

Publish certificate - name: Stachura Tomasz DC 03



****CERTIFICATE of QUALITY** Copy**

Control No: 853 / 2023 For:
 Tank No.: 15V024
 Sample No 853 / 2023
 Delivery doc:
 Packing, Tank

SIGMUS L- DAB 150

Lp	PROPERTY	RESULTS	UNITS	TEST METHOD
1	Kinematic viscosity at 40° C	146	mm ² /s	ASTM D 445-21e1 (A)
2	Kinematic viscosity at 100° C	14.520	mm ² /s	ASTM D 445-21e1 (A)
3	Viscosity Index	97		ASTM D 2270-10(2016)
4	Copper corrosion, 100°C, 3h	1	stop.kor.	ASTM D 130-19 (A)
5	Pour point	-12	° C	ASTM D 97-17b
6	Flash Point COC	268	° C	ASTM D 92-18
7	Water	<0,05	% [m/m]	ASTM D 95-13(2018)
8	Ash	0.000	% [m/m]	ASTM D 482-19
9	Demulsibility at 82° C			ASTM D 1401-21
	-volume of oil	40	ml	
	-volume water	40	ml	
	-volume of emulsion	0	ml	
	-time of separability	15	min	
10	Rust	rust free		
11	Oxidation Stability			ASTM D 665-14e1
	-Evapor.Loss	3	% [m/m]	DIN 51352
	-Micro Carbon Residue	2.88	% [m/m]	
12	Total Acid Number	0.29	mg KOH/g	ASTM D 4530-15(2020)
13	Density,at 15,0° C	0.8830	g/cm ³	ASTM D 664-18e2
				ASTM D 4052-22

Certificate of Quality may be duplicated only as a whole.

Laboratory test LOTOS Lab Sp. z o.o. Draw certificate date: 09-03-2023

Symbol (A) in the standard column - The tests were performed by LOTOS Lab Ltd. accredited in this respect by the PCA, No. A/00074

Manufacturer: LOTOS OIL SP. Z O.O.

Product does meet requirements of the contract: WT 13/16 wyd.1

Confirm certificate - name: Besler Paweł

Publish certificate - name:

Stachura Tomasz DC 03





Publish date: 05-04-2023 13:15

Distrib. LOTOS Oil Sp. z o.o. BDO 000025638

Elbląska 135
80-718 Gdańsk

CERTIFICATE of QUALITY Copy

Control No: 955 / 2023 For:
Tank No.: 412
Sample No 955 / 2023
Delivery doc:
Packing, Tank

GREASE UNILIT LT4 EP-2

Lp : PROPERTY	RESULTS	UNITS	TEST METHOD
1 Worked Penetration 25 deg C	279	1/10 mm	ASTM D 217

Certificate of Quality may be duplicated only as a whole.
Laboratory test ECOL Sp. z o.o. Draw certificate date: 16-03-2023
Manufacturer: LOTOS OIL SP. Z O.O.
Product does meet requirements of the contract: WT 101/04 wyd.9
Confirm certificate - name: ECOL - Kubacki Jakub
Publish certificate - name: Stachura Tomasz DC 03



ИНФОРМАЦИЯ О ПРОДУКТЕ



RENOLIT LX-PEP 2

Описание

RENOLIT LX-PEP 2 это пластичная смазка с широким температурным интервалом применения, приготовленная на базе минерального масла и комплексного литиевого мыла.

Свойства

Комбинация противоизносных и противозадирных присадок обеспечивает отличную стабильность смазочной пленки в условиях экстремальных нагрузок.

RENOLIT LX-PEP 2 содержит антиокислительные и антикоррозионные присадки, предохраняющие подшипник от коррозии в условиях агрессивной атмосферы и повышенной влажности на весь срок службы.

RENOLIT LX-PEP 2 обладает отличной адгезией к смазываемым поверхностям, что в сочетании со смазывающими свойствами продукта сводит износ узла к минимуму.

Типовые характеристики

Свойства	Единица	Значение	Метод
Классификация		KP 2 N -30 L-X-CDEB 2	DIN 51 502 ISO 6743-9
Цвет		Зелёный	
Температура каплепадения	°C	>250	DIN ISO 2176
Пенетрация рабочая	0,1 мм	265 - 295	DIN ISO 2137
NLGI класс	-	2	DIN 51 818
Тест на коррозию (SKF-Emcor)	баллы	0 - 0	DIN 51 802
ЧШМ, нагрузка сваривания	Н	2600	DIN 51 350-4
Водостойкость	баллы	1 - 90	DIN 51 807-1
Предел текучести, -30°C	гПа	< 1600	DIN 51 805
Коллоидная стабильность, 184/40°C	%	< 1	DIN 51 817
Коллоидная стабильность, 7дн/40°C	%	< 4	DIN 51 817
Стабильность к окислению	бар	0,5	DIN 51 808
Вязкость базового масла, 40°C	мм²/с	170	DIN 51 562
Вязкость базового масла, 100°C	мм²/с	14	DIN 51 562
Температурный диапазон	°C	-30 / +150	



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