



eni OSO is trademark of a line of high-quality hydraulic oils based on mineral oils for the application in all types of hydraulic applications. The oils are formulated from selected paraffinic base stocks treated with low zinc technology and agents against corrosion, oil ageing, wear and stability against hydrolysis.

Characteristics (typical figures):

eni OSO	Unit	15	22	32	46	68	100	Test method	
Kin. Viscosity	at 40°C	mm ² /s	15	21,5	32	45	68	100	ASTM D 445
	at 100°C	mm ² /s	3,3	4,2	5,3	6,8	8,67	11,1	DIN 51 550
Viscosity index			111	98	109	100	98	96	DIN ISO 2909
Density at 15°C		kg/m ³	854	865	875	880	885	890	ASTM D 1298
Flashpoint o. C.		°C	210	190	224	215	225	225	ASTM D 92
Pourpoint		°C	-33	-30	-27	-27	-24	-24	ASTM D 97
Designation			HLP	HLP	HLP	HLP	HLP	HLP	DIN 51 524T.2
ISO-VG grade			15	22	32	46	68	100	DIN 51 524T.2

Properties and Performance:

- The hydraulic oil series had been developed for the application in power transmission systems. Due to the special additization a highly stressable lubrication film is ensured which withstands the high loads between the sliding parts of high-pressure hydraulic systems.
- **eni OSO** oils combine excellent wear protection and EP properties, which is obvious by the following test results:
 - Wear in the Vickers-Test approx. 35 mg
 - FZG-Test is met by the higher Viscosities (ISO VG 46 - 100) with >12, the lower grades pass with a value of >11.
- They have extremely good oxidation protection even under unusually high thermal loads. This minimizes the formation of sludge and deposits, thus preventing functional disorder at valves and control units. This results in the reduction of maintenance costs and the oil service life is prolonged.
- The high natural Viscosity index minimizes the fluctuation of the Viscosity throughout the range of normal ambient temperatures and therefore guarantees a proper operation, constant flow, low pressure loss, high efficiency and maximum protection against cavitation.
- The low Pourpoint allows immediate operational readiness of the system at low ambient temperatures without functional disorder.
- Due to the excellent corrosion protection, the metal constructional parts in the hydraulic systems are effectively protected against surface rust and therefore functional disorder or breakdown of the system.
- Best demulsifying properties ensure a fast separation of infiltrated humidity or condensation. The fluids therefore maintain their lubricating power and anticorrosion performance even under these circumstances.

- The good air release properties and antifoam behaviour prevent problems in the area of pressure generation and control.
- The hydraulic fluid excels due to an excellent filterability (3 µm up to ISO VG 68)

Applications:

eni OSO oils are hydraulic fluids for hydraulic transmission systems, control devices that are used in areas such as vehicles, constructional, agricultural and forestry machinery as well as for industrial plants, metal working machines, marine engineering and Aerotechnic. The necessary oil viscosity has to be found in the corresponding operating manual. Application examples for the lower Viscosity grades are mainly high-turning machines and precision manufacturing, the higher Viscosities are mainly for slowly running machines and high hydraulic pressures.

eni OSO oils are not only suitable as hydraulic fluids, but also as high-pressure lubricating oil for the lubrication of bearings, reduction gears and other applications, where special wear protection properties are required.

Specifications:

- ISO-L-FD (ISO VG 22)
- ISO-L-HM (ISO VG 22-100)
- ISO 11158 (ISO VG 32-100)
- DIN 51 524 T.2 HLP (ISO VG 22-100)
- AFNOR NF E 48603 HM
- AISE 127
- BS 4231 HSD
- CETOP RP 91 H HM
- ETON Vickers I-286-S3 (ISO VG 32-68)
- Fives CINCINNATI P68 level (ISO VG 32)
- P 69 und P70
- LINDE
- DENISON HF-0 level (ISO VG 32-68)
- SAUER-DANFOSS 520L0463 Rev. F

eni OSO products are approved by the following manufacturers:

- ATOS Tab. P 002-0/1
- Danieli Standard 0.000.001 Rev. 14 (A01.3.1a-Type10: OSO 46, A01.3.1b-Type1: OSO 68)
- ARBURG (OSO 46)
- HORBIGER HYDRAULIK
- REXROTH RD 90220-1/11.02
- REXROTH RD 90220-01/12.10 (ISO VG 32)
- ZF TE-ML 12