



## HYDRAULIC

### HYDRAULIC LUBRICANT

#### DESCRIPTION

Mineral oil based hydraulic fluids, meeting the international classification ISO Type HM and offering a wide selection of viscosities. They are enhanced by special additive treatment to minimize corrosion, oxidation, foaming and machinery wear. Due to extreme pressure (EP) additives, are suitable for difficult applications such as in lightly loaded gears, in some variable speed units and in bearings. They meet modern hydraulic system's filtration requirements (down to 6 micron filters).

#### APPLICATIONS

The HYDRAULIC series are suitable for use in industrial and marine hydraulic systems fitted with vane, gear axial and pistons pumps, especially those operating under high pressures ,with increased wear protection requirements. They can also be used in lifts, presses, coal mining machinery and various machine components.They comply with pump constructors requirements for all the materials of metallurgy except silver (silver plated) which requires hydraulic lubricants without zinc (zinc-free).

#### PROPERTIES - BENEFITS

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Inhibits rust and oxidation.	Protection of metallic surfaces against corrosion and rust
Superior thermal stability. Exceptional anti-wear protection	Prevents the creation of sticky sludge than cane reduce pump pump life and interfere the operation of critical components as servo - valves
Foam formation resistance and quick air release Very good water separation properties	Trouble free operation. Increase of system efficiency
Fully compatible with common seal materials Nitrile, Buna - N, Viton, Silicone	Safety in use. Long service life
Very good filterability	Prevent filter blockage Application in advanced hydraulic systems

#### PHYSICAL CHARACTERISTICS

HYDRAULIC	METHOD	ISO 22	ISO 32	ISO 37	ISO 46	ISO 68	ISO 100	ISO 150
Density at 15°C, g/cm <sup>3</sup>	ASTM D1298	0,872	0,875	0,876	0,878	0,881	0,885	0,890
Viscosity, Kinematic, (cSt) 40 °C	ASTM D445	22	32	37	46	68	100	150
Viscosity, Kinematic, (cSt) 100°C	ASTM D445	4,33	5,4	5,7	6,7	8,7	11,1	14,6
Viscosity index	ASTM D2270	103	102	98	98	98	96	95
Flash point, COC, °C	ASTM D92	200	210	220	230	240	256	260
Pour point, °C	ASTM D97	-33	-30	-30	-30	-24	-21	-18
Emulsion test , min	ASTM D1401	10	10	10	10	20	20	20
Copper corrosion	ASTM D130	1a	1a	1a	1a	1a	1a	1a
Foam test, ml	ASTM D892	0-0-0	0-0-0	0-0-0	0-0-0	0-0-0	0-0-0	0-0-0

*The mentioned characteristics represent mean values*

#### SPECIFICATIONS

DIN 51524 PART 2 HLP (ISO 22-100) , DENISON: HF-O & HF-2 , AFNOR:NFE 48-603 HM (ISO 22-150), CINC.MILACRON: P:68, 69, 70 (ISO 32,68,46), VICKERS M-2950-S, I-286-S