

DESCRIPTION

Extra-enhanced hydraulic lubricant, specially additised with a balanced blend of extreme pressure, demulsifying, anti-foaming, anti-oxidation agents and a carefully selected friction modifier. KLEEMANN HYDRAULIC EXTRA was purposely formulated for the lubrication of hydraulic systems and components with low sliding velocities and high pressures. Such systems, e.g. hydraulic elevators/lifts are often subject to stick-slip phenomena that result in the hydraulic cylinders of the system being positioned incorrectly. In addition, the superior quality hydrotreated basestocks prevent air entrapment and ensure a smooth, vibration-free operation of the hydraulic system, while their excellent filter-ability properties ensure the optimal operation of hydraulic valves (servo valves).

The product forms a very stable and adhesive lubricating film that prevents the system's cylinder packages, elastomers and sealing from being compromised and, even, being destroyed.

APPLICATIONS

Enhanced with very advanced, zinc-free additive chemistry, KLEEMANN HYDRAULIC EXTRA was custom-developed for the efficient lubrication of KLEEMANN hydraulic elevators/lifts and to prevent stick-slip occurrences while in operation under low speeds and high pressures. Moreover, it surpasses the requirements of all geared, reciprocating pumps (incl. silver-plated ones) and hydraulic systems and is suitable for hydraulic power transmission applications, such as forklifts, off-road/farming machinery or vibration damper systems.

PROPERTIES-BENEFITS

PROPERTIES	BENEFITS
Extremely low friction coefficient.	Protects from slow speed stick-slip occurrences.
Thermal and oxidative stability	Long life cycle for the oil.
Compatibility with elastomers/sealing materials.	Increased drain intervals equals lowered maintenance costs.
Quick air release and excellent antifoaming behavior.	Comfort and smooth operation of the elevator.
Product application versatility.	Intended for multiple industries and applications.

PHYSICAL-CHEMICAL CHARACTERISTICS

KLEEMANN HYDRAULIC EXTRA	METHOD	ISO 46
Specific gravity at 15°C, g/cm ³	ASTM D1298	0,87
Kinematic Viscosity at 40°C (cSt)	ASTM D445	46.00
Kinematic Viscosity at 100°C (cSt)	ASTM D445	6.92
Viscosity Index	ASTM D2270	105
Flash point (COC), °C	ASTM D92	232
Pour point, °C	ASTM D97	-27
Air release, min	ASTM D3427	3
Demulsibility, ml/min	ASTM D1401	20-20-0 10
Foaming, Tendency/Stability, ml Seq. I Seq. II Seq. III	ASTM D892	5-0 5-0 5-0
Copper corrosion	ASTM D130	1A
FZG gear test A 8.3/90	DIN 51354-2	11 (pass)

The above characteristics represent typical values

SPECIFICATIONS

ISO 6743-4 (ISO-L-HM); DIN 51524 Part 2 HLP; AFNOR NFE 48-603 HM; U.S. Steel 127, 136
Meets: KLEEMANN