REOLUBE®
TURBOFLUID 46XC
Fire-Resistant EHC Fluid

DESCRIPTION

REOLUBE TURBOFLUID 46XC is a high performance, fire-resistant hydraulic fluid designed for use in electrohydraulic governor control systems of steam turbines, including systems using fine tolerance servo valves. It is a triaryl phosphate based on a specially selected xylenol distillate, and is formulated to provide good oxidation stability. Physical properties such as air release, foaming and demulsibility are also carefully controlled within turbine manufacturers' specified limits.

REOLUBE TURBOFLUID 46XC is also recommended for use as a fire-resistant lubricant, for example in steam and gas turbines. Reolube Turbofluid 46XC meets and exceeds all major OEM requirement and is approved by FM Global against Standard 6930 for 'Less flammable hydraulic fluids'. It also meets the requirements of ISO Standard 12922 and ASTM D4293 for HFDR-type fire-resistant hydraulic fluids.

The values given in the tables are typical and do not constitute specification limits.

TYPICAL PROPERTIES

PHYSICAL PROPERTY	UNIT	TYPICAL VALUE	TEST METHOD
Kinematic Viscosity **at 100°C** **at 40°C** **at 0°C**	cSt	 5.2 45.2 2136	ISO 3104
Specific Gravity at 20°C		1.14	ISO 3675
Pour Point	°C	-24	ISO 3016
Acid Number	mg·KOH/g	0.01	ISO 6619
Chlorine Content	ppm	<2	Microcoulometric
Water Content	% w/w	0.03	ISO 760
Volume Resistivity at 20°C	Mohm·m	500	IEC 60247
Particulate Contamination		-/15/12	ISO 4406
Foaming at 24°C **tendency** **stability**	ml	 10 0	ISO 6247
Air Release at 50°C	min	1.4	ISO 9120
Water Separation*	min	5	ISO 6614

* also known as demulisification

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FIRE RESISTANCE PROPERTY	UNIT	TYPICAL VALUE	TEST METHOD
Flash Point (open cup)	°C	279	ASTM D92
Fire Point (open cup)	°C	356	ASTM D92
Auto-ignition Temperature **Method A** **Method B**	°C °C	545 530	DIN 51794 ASTM E659
Wick Ignition **maximum persistence**	s	0.8 (pass)	ISO 14935
Spray Ignition **spray flammability parameter** **maximum persistence of burning**	s	Group I 3 (pass)	FM Global 6930 ISO 15029-1
Spray Ignition Stabilised **ignitability grade** **flame length grade**		Class E Class D	ISO 15029-2
Hot Manifold Ignition	°C	No flashing or burning on tube at 741 (pass)	ISO 20823

LUBRICATION PERFORMANCE PROPERTY	UNIT	TYPICAL VALUE	TEST METHOD
Vickers Vane Pump Test **ring weight loss** **vane weight loss** **total weight loss**	mg	6.0 2.2 8.2	ISO 20763
4-Ball Wear Test **wear scar diameter**	mm	0.48	ASTM D4172
FZG gear test **failure load stage** **specific weight loss**	mg/kWh	7 <0.2	DIN 51354 part 2

STABILITY PROPERTY	UNIT	TYPICAL VALUE	TEST METHOD
Oxidative Stability			
Method A **Acid Value Change** **Metal Weight Changes** **iron** **copper**	 mg·KOH/g mg	 0.14 0.2 0.2	DIN EN 14832
Method B **Viscosity Change at 40°C** **Acid Value Change**	 % mg·KOH/g	 1.3% 0.16	FTM 791-5308.7
Method C **Time to 175 kPa Pressure Drop**	 min	 321	ASTM D2272
Hydrolytic Stability			
Method A **Acid Value Change** **in fluid** **in water**	 mg·KOH/g	 +0.0 +0.17	DIN EN 14833
Method B **Acid Value Change** **in fluid** **in water** **copper weight change**	 mg·KOH/g mg/cm^2	 0.00 0.08 0.01	ASTM D2619

COMPATIBILITY

MATERIAL APPLICATION	SEALS, PACKING HOSES, ACCUMULATORS	WIRES & CABLE INSULATION	PAINTS	FILTERS
Acrylic			U	
Activated Alumina				A
Alkyd Paint			A	
Butyl Rubber	R			
Cellulose				A
Ethylene-Propylene Rubber	R			
Epoxy Paint (Cured)			R	
Fullers Earth				A
Ion Exchange Resins				R
Natural Rubber	U			
Neoprene	U			
Nitrocellulose			U	
Nitrile Rubber	U			
Nylon	R	R		
Paper				A
Phenolic Resins			U	
Polyethylene		A		
Polypropylene		A		
Polyurethane Paint			A	
PVC		U		
Silicone Rubber	U	A		
Teflon	R	R		
Vinyl Ester Paint			A	
Viton Rubber	R			

LEGEND: R=RECOMMENDED A = ACCEPTABLE U = UNSUITABLE

SAFETY & HANDLING

In accordance with safe industrial practice, gloves, safety glasses and an apron should be worn when handling Reolube® Turbofluids, and spillages should be dealt with immediately. If allowed to overheat, breathing the fumes should be avoided

For more extensive information on the safety handling and use of this product, see the Safety Data Sheet.

SHIPPING INFORMATION

REOLUBE TURBOFLUID 46XC is available in 230kg drums.

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