PETRONAS DANOL XHT

High Quality Inhibited Heat Transfer Oil

Petronas Danol XHT is a finest quality heat transfer oil formulated for use in most of direct and indirect fired heat transfer systems with forced circulation where the fluid is subjected to the most severe operating conditions.

It is made from premium quality, high viscosity index and low volatile base oils with higher percentage of saturates for its excellent heat transfer properties (specific heat and thermal conductivity) at all temperatures ensuring more rapid heating and greater system flexibility. Thermally stable oxidation inhibitor additive is added to enhance its outstanding thermal and oxidation stability which can easily resist thermal cracking and chemical oxidation and maintain in solution any decomposition product that form to maintains heat transfer system efficiency.

Applications

For use in both open and closed heat transfer system with forced circulation. For closed system, maximum heater outlet temperature is 305 °C and 340 °C maximum heater wall temperature. For any open system, the operating temperature shall not exceed 250 °C for safety purposes. Open heating systems provided that the bulk oil temperature does not exceed 180 °C.

Operating Advice

When starting up new unit or restarting a unit after maintenance work or a unit operating irregularly, the temperature of the unit should be reduced to around 100 °C and the steam blow off before returning to the normal operating temperature.

Customer Benefits

- Outstanding resistance to thermal cracking and oxidation thus preventing excessive sludge and coke deposits formation in the oil circulating tubes and heat exchangers thereby giving longer oil service life.
- High thermal conductivity – Fluid heats up quickly for fuel economy and even heat distribution.
- Lower vapor pressure – minimize fluid loss due to evaporation, avoids vapor lock and hazards of flammability.
- Low temperature start-up for prompt circulation.
- Non-corrosive to aluminium, brass, bronze, copper and steel.

Typical Physical Characteristics

Danol XHT	Unit	Method	Typical Values
Density at 15 °C	kg/l	ISO 12185	0.868
Kinematic Viscosity	mm²/s	ISO 3014	230
at 0 °C	cSt		215
at 40 °C	cSt		24
at 100 °C	cSt		4.8
at 200 °C	cSt		1.4
at 300 °C	cSt		0.55
Flash Point PMCC	°C	ISO12185	225
Flash Point COC	°C	ISO 2592	235
Fire Point COC	°C	ISO 2592	260
Pour Point	°C	ISO 3016	-27
Initial Boiling Point	°C	ISO 3771	>360
Auto ignition Temperature	°C	DIN 51794	363
Neutralization Value	mgKOH/g	ASTM D 974	<0.04
Water Content	%m/m	ISO 3733	<0.1
Ash (Oxid)	%m/m	ISO 6245	<0.01
Carbon Residue (Conradson)	%m/m	ISO 10370	0.015
Copper Corrosion (3h/100°C)		ISO 2160	1A
Coefficient of Thermal Expansion	1/°C		0.00069

Typical Specification data

Temperature	°C	0	20	40	100	150	200	250	300	340
Density	kg/m3	872	859	845	807	772	739	707	675	645
Viscosity	mm2/s	149	57.75	24	4.8	2.26	1.36	0.96	0.55	0.63
Specific Heat Capacity	kJ/kg*K	1.881	1.957	2.032	2.260	2.473	2.665	2.856	3.047	3.200
Thermal Conductivity	W/m*K	0.141	0.139	0.138	0.133	0.131	0.127	0.124	0.120	0.117
Vapour Pressure	mbar	0	0	0	0	0	4.5	24	93	241

Customer Advice

For further assistance on product MSDS, recommendation or technical queries, please liaise with the regional technical services engineer or contact HQ technical engineers.