

RALCO THERM M

Description

RALCO THERM M oils are paraffinic heat transfer fluids for use in closed un-pressurized heat transfer systems operating at bulk oil temperatures up to 315 oC (ISO 22 to 150). They provide excellent resistance to thermal cracking and chemical oxidation and are nontoxic, have a very low odour level and have no detrimental effect on select seals. They provide high specific heat and thermal conductivity at all temperatures and therefore give rapid heating and efficient operation of the heat transfer system.

Application

RALCO THERM M grades have high specific heat and thermal conductivity at all temperatures and, therefore, will give rapid heating and flexibility in a system. The characteristics of these products make them ideal where high heat transfer rates combined with high flow rates are desired.

RALCO THERM 22 is especially suited fo systems where heating and cooling cycles are required since it functions effectively at both high and low temperatures and repeated thermal cycles. The application limits of heat transfer oils depend first on circulating speed, and second on temperature in closed circuit systems. In general, the minimum velocities vs. temperatures are as follows:

- Velocity of 1.5 m/s (5 ft/s) for operating temperatures below 200 oC (400 o F).
- Velocity of 2.0 m/s (10 ft/s) for operating temperatures between 200 and 260 oC (400 and 500 o F).
- Velocity of 3.0 m/s (10 ft/s) for operating temperatures between 260 and 300 oC (400 and 575 o F).
- Velocity of 3.5 m/s (12 ft/s) for operating temperatures above 300 oC(575 o F).

CHARACTERISTICS

Properties	Unit	Value						Test Method
ISO Viscosity Grade		22	32	46	68	100	150	
Viscosity @ 40 ^{o}C	mm^2/s	21.45	32	46.5	69	100	150	ASTM D 445
@ 100 ^{o}C	mm^2/s	4.23	5.4	6.8	8.7	11.21	15	ASTM D 445
Viscosity Index	-	100	102	100	97	97	100	ASTM D 2270
Density @ 15 ^{o}C	kg/m^3	866	873	878	880	887	890	ASTM D 4052
Flash Point	^{o}C	206	222	234	246	250	254	ASTM D 92
Pour Point	^{o}C	- 9	- 9	- 6	- 6	- 6	- 6	ASTM D 97
Neutralization Number	mgKOH/g	0.06	0.06	0.06	0.06	0.06	0.06	ASTM D 664
Thermal Expansion Coefficient, 0-300 ^{o}C	1/K	0.000 813	0.000 788	0.000 779	0.000 771	0.000 763	0.000 758	-
Thermal Conductivity @ 38 ^{o}C	W/m/K	0.126	0.126	0.126	0.126	0.126	0.126	-
Specific Heat @ 25 ^{o}C	J/Kg/K	1930	1910	1910	1900	1900	1890	-

Headquarter

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