HIGH TEMPERATURE HEAT TRANSFER OIL

USES

- It is a high quality white mineral oil possessing low vapor pressure and is selected for its high degrees of thermal stability, specifically heat and thermal conductivity. In a well-designed and properly operated system
- It can be expected to give years of trouble-free service.
- For maximum efficiency, all heat transfer should be used under conditions of turbulent flow, minimizing skin temperatures, and reducing thermal stress on the fluid.
- Domestic and industrial premises heating.
- Steam and hot water production
- Heating temperature exchange
- Thermal baths, autoclaves, reactors, ovens, molds, drying tunnels, presses heating
- Manufacturing processes (cement, paper, wood industries, etc).

PERFORMANCES

- ISO 6743/12 class L, QB family
- DIN 51502 class

CUSTOMERS BENEFITS

- Thermal stability
- High flash point
- It was designed for closed heating systems, liquid phase, non-pressurized operating at medium temperatures up to 325 °C. Open systems (those in which the oil continues in the expansion tank is exposed to air) are usually more severe applications, its put greater pressure on oil as closed systems.)
- For maximum systems efficiency, all heat transfer fluids should be used in turbulent flow conditions,

CHARACTERISTICS

PROPERTY	TEST ASTM	HTO 21
Viscosity in cSt at 40 °C	D445	51.2
Viscosity in cSt at 100 °C	D445	7.08
Viscosity SUS at 100 °F	D2161	260
API gravity at 15 °C in kg/dm^3	D287	31.5
Index of Viscosity	D2270	95+
Flash Point in °C	D92	238
Pour Point in °C	D97	–15
TAN in mg KOH/g	D664	0.01
Carbon Residue in %	D189	0.01
Copper strip corrosion test, 3 hours; 100 °C	D130	N° 1
Coefficient of thermal expansion per °C	–	0.00077
Aniline Point °C	D611	105
Relative Density 60 °F 150 °F 300 °F 400 °F 500 °F 600 °F	D1250	 0.870 0.840 0.790 0.750 0.712 0.663
"Thermal conductivity in BTU/ FT2 / °F 150 °F 300 °F 400 °F 500 °F 600 °F	–	 0.0746 0.0709 0.0680 0.0662 0.0640
Specific heat in BTU / 1b / °F 150 °F 300 °F 400 °F 500 °F 600 °F	–	 0.515 0.593 0.649 0.703 0.761
Vapor pressure in mm/Hg 300 °F 450 °F 600 °F	–	 0.0200 2.0 45.0
Initial distillation point, °F 10% 20% 40% 60% 80% Final	D2887	632 793 814 839 859 881 976

Remark: Although the preceding values are typical properties, they do not represent guaranteed characteristics.

UNITS CHARTS

IMPERIAL UNITS

Temp. (°F)	Viscosity (cP)	Thermal Cond. BTU/lb°F	Specific Heat BTU/lb°F	Density lb°/ft^3
32	160	0.0801	0.453	55.5
40	108	0.0799	0.456	55.3
60	49.0	0.0794	0.466	54.8
80	27.0	0.0789	0.476	54.3
100	17.0	0.0785	0.486	53.9
120	11.0	0.0780	0.495	53.4
140	8.20	0.0775	0.505	52.9
160	6.20	0.0770	0.515	52.5
180	4.80	0.0765	0.524	52.0
200	3.90	0.0760	0.534	51.6
220	3.20	0.0755	0.544	51.1
240	2.70	0.0750	0.553	50.6
260	2.30	0.0745	0.563	50.2
280	1.90	0.0740	0.573	49.7

Temp. (°F)	Viscosity (cP)	Thermal Cond. BTU/lb°F	Specific Heat BTU/lb°F	Density lb°/ft^3
320	1.50	0.0730	0.592	48.8
340	1.30	0.0724	0.602	48.3
360	1.20	0.0719	0.612	47.8
380	1.00	0.0714	0.621	47.4
400	0.93	0.0708	0.631	46.9
420	0.85	0.0703	0.641	46.4
440	0.77	0.0697	0.650	46.0
460	0.7	0.0692	0.660	45.5
480	0.64	0.0586	0.670	45.0
500	0.59	0.0681	0.680	44.6
520	0.55	0.0675	0.689	44.1
540	0.51	0.0669	0.669	43.6
560	0.47	0.0664	0.709	43.2
580	0.44	0.0658	0.718	42.7

METRIC UNITS

Temp. (°C)	Viscosity (mPa s)	Thermal Cond. W/m K	Specific Heat kJ/kg K	Density kg/m^3
0	160	0.1361	1.894	890
10	70.0	0.1354	1.930	884
20	37.0	0.1347	1.967	877
30	23.0	0.1340	2.003	870
40	15.0	0.1332	2.040	863
50	11.0	0.1325	2.076	857
60	8.10	0.1318	2.113	850
70	6.30	0.1310	2.150	843
80	5.00	0.1303	2.186	836
90	4.10	0.1295	2.223	830
100	3.40	0.1287	2.259	823
110	2.90	0.1280	2.296	816
120	2.40	0.1272	2.332	810
130	2.20	0.1264	2.369	803
140	1.90	0.1256	2.405	796
150	1.70	0.1248	2.442	789

Temp. (°C)	Viscosity (mPa s)	Thermal Cond. W/m K	Specific Heat kJ/kg K	Density kg/m^3
160	1.50	0.1240	2.478	783
170	1.30	0.1232	2.515	776
180	1.20	0.1224	2.552	769
190	1.10	0.1216	2.588	763
200	1.00	0.1208	2.625	756
210	0.88	0.1200	2.661	749
220	0.81	0.1191	2.698	742
230	0.75	0.1183	2.734	736
240	0.69	0.1174	2.771	729
250	0.64	0.1165	2.807	722
260	0.59	0.1157	2.844	715
270	0.55	0.1149	2.880	709
280	0.51	0.1140	2.917	702
290	048	0.1131	2.954	695
300	0.45	0.1123	2.990	689
310	0.42	0.1114	3.027	682
315	0.41	0.1109	3.045	678

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