

HTO 21



Heat transfer oil



TOTAL

Mineral heat transfer oil

USES

- **HTO 21** 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
- **HTO 21** 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 L.

CUSTOMERS BENEFITS

- Thermal stability
- High flash point
- **HTO 21** 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, decreasing skin temperatures and reducing thermal stress on fluid.

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	D1250	
60°F		0.870
150°F		0.840
300°F		0.790
400°F		0.750
500°F		0.712
600°F	0.663	
Thermal conductivity in BTU/ FT ² / °F	-	
150°F		0.0746
300°F		0.0709
400°F		0.0680
500°F		0.0662
600°F	0.0640	
Specific heat in BTU / lb / °F	-	
150°F		0.515
300°F		0.593
400°F		0.649
500°F		0.703
600°F	0.761	
Vapor pressure in mm Hg	-	
300°F		0.0200
450°F		2.0
600°F	45.0	
Initial distillation point, °F	D2887	632
10%		793
20%		814
40%		839
60%		859
80%		881
Final	976	

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