

660

OMEGA 660 Superior Thermal Stability Heat Transfer Oil



Superior Thermal Stability Heat Transfer Oil

- *Significantly improves heat transfer rate – cuts operating costs dramatically.*
- *Super dispersants resist sludge build-up almost indefinitely.*
- *Provides lower viscosity property & excellent built-in stability.*

TRUST *Save Money*
OMEGA *Enhance Performance*
TO *Extend Service Life*



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SPECIAL FEATURES

Omega 660 Superior Thermal Stability Heat Transfer Oil is the high-quality heat transfer lubricant designed to ensure increased operating efficiency.

- **Omega 660** significantly improves the heat transfer rate – cuts operating costs dramatically.
- **Omega 660** contains super dispersants that resist sludge build-up almost indefinitely.
- **Omega 660** provides lower viscosity property and excellent built-in stability to enable smaller and lower pump requirements.

OUTSTANDING PROPERTIES

Omega 660 is the superior thermal stability heat transfer oil that:

- Is produced only from exceptionally fine, low viscosity base oils to provide improved heat transfer properties and superior thermal stability.
- Features a selected range of additives that withstand heat and heat fluctuations common to equipment start-up/shut-down phases.
- Is also highly effective as a quenching oil.
- Is completely safe under normal handling conditions and is entirely non-toxic.

USE FOR

Omega 660 is engineered for use in closed heat transfer systems equipped with expansion tanks and operating to 320°C (608°F). **Omega 660** is ideal as a heat transfer medium in processing industries such as plastics, waxes, resin, fiberboard, varnish, asphalt, grease, rubber, soap and pharmaceuticals manufacture.

Omega 660 enables extremely close process temperature control and reduces the risk of fire as no direct heat is exposed to flammable processing materials. The uniform transfer of heat provided by **Omega 660** reduces the possibility of over heating.

Use **Omega 660** for closed recirculating heat transfer systems.



Omega

The Ultimate Lubricant

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The Ultimate Lubricant

660

DESCRIPTION:

Omega 660 is a high quality Heat Transfer Lubricant of superior thermal stability. It is engineered to the highest operating standards to resist sludging tendencies common with low quality oils.

Omega 660 is produced from an exceptionally fine, low viscosity base oil. This improves heat transfer properties immensely and also provides superior thermal stability and resistance to thermal cracking at elevated temperatures.

INCREASED THERMAL STABILITY:

Ordinary heat transfer oils lack the stability at temperature extremes to prevent sludging and deposition of oil solids on internal oil-side parts. Omega 660 however features a select range of additives that provide maximum thermal stability at elevated temperatures through thousands of cyclic temperature cycles (start up/shut downs).

These special additives minimize deposits to inconsequential and non-damaging proportions. Proprietary dispersants also control sludge which would otherwise decrease heat transfer rates.

The highly improved thermal efficiency of Omega 660 all but eliminates the necessity to frequently drain, dispose and replenish heat transfer oil systems.

IMPROVED CALORIFIC CAPACITY RESERVE:

Omega 660 ensures rapid and increased efficiency heat transfer to the process environment. Its high viscosity index minimizes viscosity variations during temperature climbs and drops. Heat transfer rate is properly controlled for the first time due to Omega 660's stable viscosity. Omega 660 features extremely low volatility due to special choice petroleum fraction constituents. Its low vapour pressure and extended boiling point enable heat transfer systems to operate at both low pressures and elevated temperatures.

USES:

Omega 660 is engineered for use in closed heat transfer systems equipped with expansion tanks and operating to 320°C (608°F). It is ideal as a heat transfer medium in processing industries such as plastics, waxes, resin, fiberboard, varnish, asphalt, grease, rubber, soap and pharmaceuticals manufacturing.

Omega 660 enables extremely close process temperature control and reduces the risk of fire as no direct heat is exposed to flammable processing materials. The uniform transfer of heat provided by Omega 660 reduces the possibility, of overheating which is a common problem in processing industries. Omega 660 is also highly effective as a quenching oil and is recommended for heat-treating steels due to its high heat capacity, good heat conductivity, low viscosity, high thermal stability and high flash point.

DECREASED OPERATIONAL COSTS:

Omega 660's lower viscosity at all operating temperatures lowers energy requirements for pumping and circulation purposes. Smaller pumps can be used or alternately, bigger existing pumps can be run at lower and more economical speeds due to the low load presented by Omega 660 at start-up.

Omega 660 is completely safe under normal handling conditions and is completely non-toxic.

TYPICAL DATA:

TEST	ASTM TEST METHOD	TEST RESULT
		Omega 660
ISO Viscosity Grade	D-2422	100
Appearance	Visual	Amber
Density, kg/L @ 15°C	D-1298	0.890
Viscosity, cSt @ 40°C	D-445	90.2
Viscosity, cSt @ 100°C	D-445	10.6
Viscosity Index	D-2270	100
Pour Point, °C (°F)	D-97	-9 (14)
Flash Point, COC, °C (°F)	D-92	267 (512)
Fire Point, °C (°F)	D-92	291 (555)
Total Base Number, mg KOH/g	D-2896	2.2
Foaming Characteristics -		
All Sequences, After Settling	D-892	Nil
Carbon Residue, Conradson, % Mass*	D-189	0.04
Ash, Sulphated, % Mass	D-874	0.390
Calcium, % Mass	AA	0.072

*In excess of Ash Content

THERMAL CHARACTERISTICS:

TEST	TEST RESULT						
Temperature, °C (°F)	40 (104)	100 (212)	150 (302)	200 (392)	250 (482)	300 (570)	350 (662)
Density, kg/L @ 15°C (60°F)	0.877	0.837	0.804	0.770	0.737	0.703	0.670
Viscosity, cP	79.1	8.87	3.31	1.7	1.1	0.5	-
Viscosity, cSt	90.2	10.6	4.12	2.2	1.5	0.8	-
Vapour Pressure, mm Hg	0	0	0	0	0.5	28	
Vapour Pressure, mm Pa	0	0	0	0	0.07	3.7	
Specific Heat Capacity -							
kJ/kg °K	1.95	2.16	2.40	2.65	2.90	3.15	3.37
Thermal Conductivity							
W/m °K	0.0106	0.0103	0.0100	0.0097	0.0094	0.0091	0.0088
BTU/hr/°F/ft	0.073	0.071	0.069	0.067	0.065	0.063	0.061

The characteristics given above are typical of current production only and slight batch to batch variations should be expected.

APPLICATION:

The circulation system must be totally enclosed. This will help prevent fluid contamination, losses from vaporization and excessive oxidation.

In order to maximize operating life, the following should be observed:

- Keep system clean, enclosed and free of air leaks.
- Ensure turbulent fluid flow in heat transfer tubes to maximize heat transfer rate.
- Maintain flow rates at between 1.5 to 3 metres (5 feet to 12 feet) per second to reduce localized overheating.