DelcoTerm® S DBT

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SYNTHETIC DIATHERMIC OIL FOR HIGH TEMPERATURES

The **DelcoTerm® S DBT** is a synthetic diathermic oil consisting of a mixture of ***isomers of dibenzyltoluene*** particularly suitable for oleothermal systems operating at very high temperatures where a mineral oil cannot be used.

The maximum operating temperatures that the fluid is able to withstand without suffering cracking are: **350 ° C** as mass temperature, and **370 ° C** as film temperature.

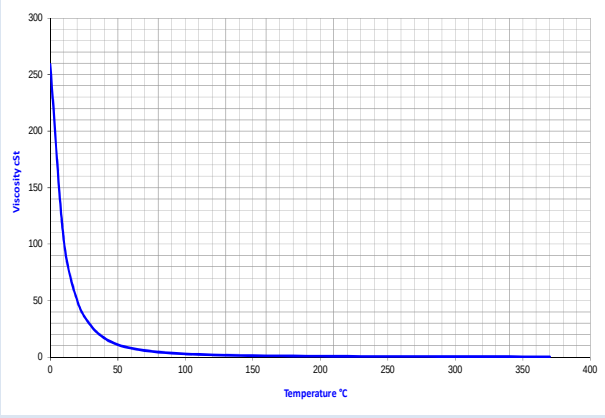
Like all synthetic diathermic fluids, compared to a mineral oil, it has a higher resistance to cracking, but a reduced oxidation resistance.

Its use is necessary and, therefore, is recommended for systems where the fluid is subject to temperatures above **300 ° C** and localized temperatures above **340 ° C**.

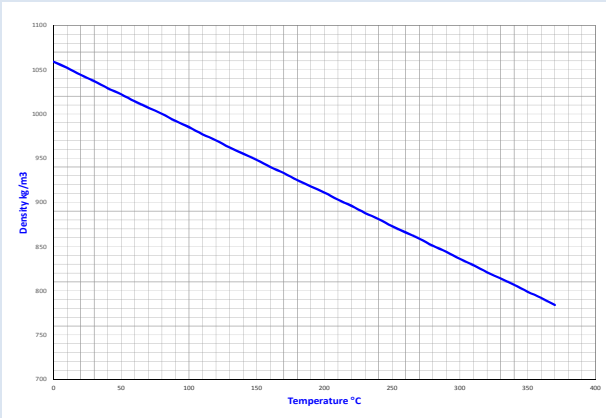
Due to its limited resistance to oxidation, it is imperative that the plant that uses it, is fitted with a secure defence barrier against the chance that the fluid comes into contact with oxygen. For this reason, the plant must absolutely be fitted either with nitrogen pressurized vessel or with reverse expansion barrel installed (DELCO's patent).

The following graphs and tables show the average properties of thermodynamic parameters in function of temperature.

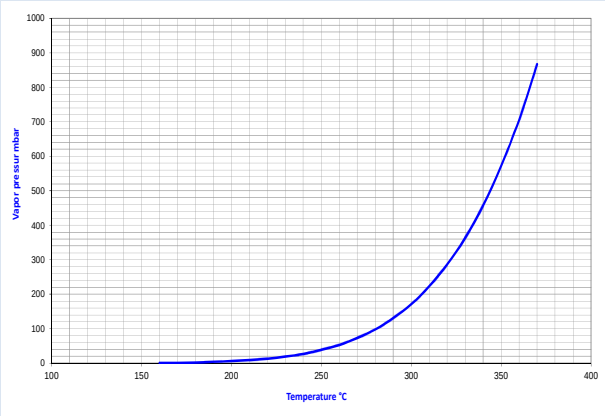
VISCOSITY VS TEMPERATURE



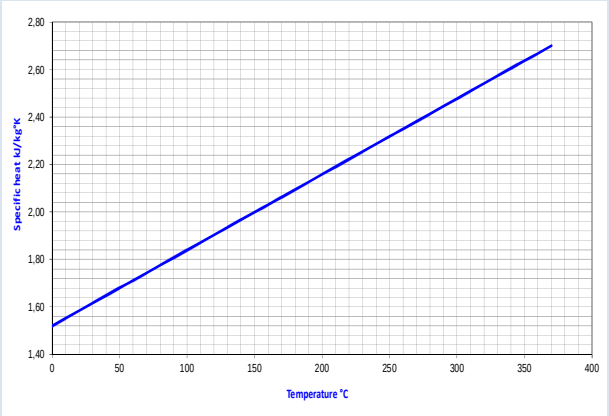
DENSITY VS TEMPERATURE



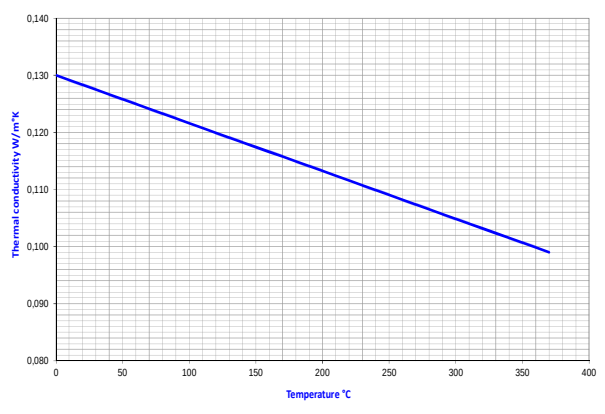
VAPOUR PRESSUR VS TEMPERATURE



SPECIFIC HEAT VS TEMPERATURE



THERMAL CONDUCTIVITY VS TEMPERATURE



Parameter		*U.d.M.*	*Typical values*
Density	at 40°C	kg/lt	1,030
	at 200°C	kg/lt	0,911
	at 300°C	kg/lt	0,835
Kinematic viscosity	at 40°C	cSt	17,0
	at 200°C	cSt	0,80
	at 300°C	cSt	0,45
Specific heat	at 40°C	kJ/(kg*K)	1,65
	at 200°C	KJ/(kg*K)	2,17
	at 300°C	KJ/(kg*K)	2,50
Thermal conductivity	at 40°C	W/(m*K)	0,126
	at 200°C	W/(m*K)	0,113
	at 300°C	W/(m*K)	0,107
Flash point in closed vessel (PM)		°C	200
Pour point		°C	-24
Boiling point		°C	380
Auto ignition temperature		°C	470
Minimum operating temperature		°C	-2
Maximum operating temperature		°C	350
Maximum film temperature		°C	370