BP Transcal N

Heat Transfer Oil

Description

Transcal™ N is a high quality mineral oil possessing low vapour-pressure characteristics as well as high levels of thermal stability, specific heat and thermal conductivity.

Application

Transcal N is recommended for non-pressurised, closed liquid-phase heating systems operating at bulk-fluid temperatures up to 320 °C, and a maximum film temperature of 340°C (in systems where the bulk temperatures are up to 343 °C, then BP`s synthetic fluid Transcal SA should be used).
Such systems are used widely in the food, construction, plastics, timber and metal industries as well as in laundries, on ships and where waste heat is extracted from flue gases.
Before being commissioned, the system should be pressure tested for leaks and then thoroughly flushed with Transcal N. Water should never be used. Having been flushed and drained, the system should be filled with fresh Transcal N. Filling is complete when the oil level in the expansion chamber is at 30-45 % of the level expected at operating temperature. All air must be completely evacuated from the system before the temperature is raised to operating level. Since mineral oils expand when heated, an expansion chamber must be incorporated in the system. This is the only location where the oil is likely to be in contact with the atmosphere.
Despite the excellent oxidation stability of Transcal N, various precautions must be taken to minimize exposure to air, especially if the temperatures of the fluid in the expansion chamber exceed 50 °C. A floating cover can be used or the oil can be blanketed with inert gas.
Note: It is quite normal for the oil temperature to be higher than its flash and fire point in a correctly operated heat transfer system fitted with an inert gas blanket. Under these operating conditions, there should not be a combustion risk hazard with the oil.. However, the oil should not be operated above the upper bulk temperature limit of 320°C as recommended above.

Advantages

- Excellent heat-transfer properties and consistently high heat-transfer performance.
- Ease of circulation even when a system is started from cold.
- Contains all essential characteristics to ensure a long and trouble free service.

Typical Characteristics

Name	Method	Units	Transcal N
Density at 15°C	ASTM D1298	kg/m³	875
Flash Point, PMCC	ISO 2719, ASTM D93	°C	210
Flash Point, COC	ISO 2592, ASTM D92	°C	221
Fire Point	ISO 2592, ASTM D92	°C	243
Viscosity at 40°C	ISO 3014, ASTM D445	mm²/s	31
Viscosity at 100°C	ISO 3014, ASTM D445	mm²/s	5.2
Pour Point	ASTM D97	°C	-12
Autogenous-ignition Temperature	ASTM D2155	°C	350
Neutralisation Value	ASTM D974	mgKOH/g	<0.05
Ramsbottom Carbon Residue	ISO 4262, ASTM D524	% wt	<0.05
Coefficient of Thermal Expansion	-	per °C	0.00077
Normal Operating Range of Bulk Temperatures	-	°C	-10 to 320

Subject to usual manufacturing tolerances.

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