



Perfecto™ HT 2

Low temperature heat transfer fluid

Description

Perfecto™ HT 2 (previously called Transcal LT) is a high quality mineral oil combining low vapour pressure and high levels of thermal stability, specific heat and thermal conductivity with exceptional low temperature fluidity.

Application

Perfecto HT 2 is recommended primarily for non-pressurized closed liquid phase heating systems that incorporate both heating and cooling branches (eg: where an exothermic or heat releasing reaction takes place). The low temperature fluidity ensures that adequate circulation occurs in the coolest parts of the circuit. The maximum recommended bulk fluid temperature for Perfecto HT 2 is 250°C, and the fluid also operates effectively in cooling systems down to bulk temperatures of 30°C. Before being commissioned, the system should be pressure tested for leaks and then thoroughly flushed with Perfecto HT 2. Water should never be used.

With the system flushed and drained, it should be filled with fresh Perfecto HT 2. All air must be completely vented from the system before full temperature is imposed. For maximum efficiency, the heat transfer fluid should be circulated in conditions of turbulent flow. Care must be taken to ensure that bulk fluid temperature does not exceed 250°C, as this could lead to degradation of the oil. Despite the excellent oxidation stability of Perfecto HT 2 various precautions must be taken to minimize exposure to air, especially if the temperature of the fluid in the expansion chamber exceeds 50°C. A floating cover can be provided or the oil can be blanketed with inert gas.

Perfecto HT 2, because of its low viscosity and freedom from additives, can also be used as the sealing medium in oil film barrier seals on rotating equipment such as gas compressors and main oil line pumps. Perfecto HT 2 has excellent low temperature properties and high temperature stability in order to give good performance over a wide range of conditions and to maximise seal life.

Advantages

- Excellent heat transfer properties which can be maintained over long periods of time.
- Suitability for systems incorporating both heating and cooling branches.

Typical Characteristics

| Name | Method | Units | HT 2 |
|---|-----------------------|--------------------|------------|
| Density @ 15°C | ASTM D1298 / ISO 3675 | g/ml | 0.87 |
| Flash Point (PMCC) | ASTM D93 / ISO 2719 | °C | 140 |
| Flash Point (COC) | ASTM D92 / ISO 2592 | °C | 152 |
| Kinematic Viscosity @ 40°C | ASTM D445 / ISO 3105 | mm ² /s | 8.2 |
| Kinematic Viscosity @ 100°C | ASTM D445 / ISO 3105 | mm ² /s | 2.2 |
| Pour Point | ASTM D97 / ISO 3016 | °C | -39 |
| Autogenous-Ignition Temperature | ASTM D2155 | °C | 310 |
| Neutralization Value | ASTM D974 | mg KOH / g | <0.05 |
| Ramsbottom Carbon Residue | ASTM D524 / ISO 4262 | % wt | <0.05 |
| Coefficient of Thermal Expansion | - | per °C | 0.00077 |
| Normal Operating Range of Bulk Temperatures | - | °C | -30 to 250 |
| Specific Heat @ 0°C | - | kcal / Kg °C | 0.45 |
| Specific Heat @ 250°C | - | kcal / Kg °C | 0.65 |
| Thermal Conductivity @ 0°C | - | Wt / m °C | 0.118 |
| Thermal Conductivity @ 250°C | - | Wt / m °C | 0.102 |
| Vapour Pressure @ 245°C | - | 10 ³ Pa | 10 |

Subject to usual manufacturing tolerances.

This product was previously called Transcal LT. The name was changed in 2015.

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