

BREOX HTF 14

INTRODUCTION

BREOX Heat Transfer Fluid 14 is a fluid based on modified polyalkylene glycol to ensure optimum performance in heat transfer applications. Inside the system **BREOX HTF 14** acts as a solvent for its' own decomposition products, thereby preventing the deposition of sludge or gums.

APPLICATION

The application characteristics of **BREOX HTF 14** are outlined below in figures 1-7.

Figure 1 : Viscosity vs Temperature

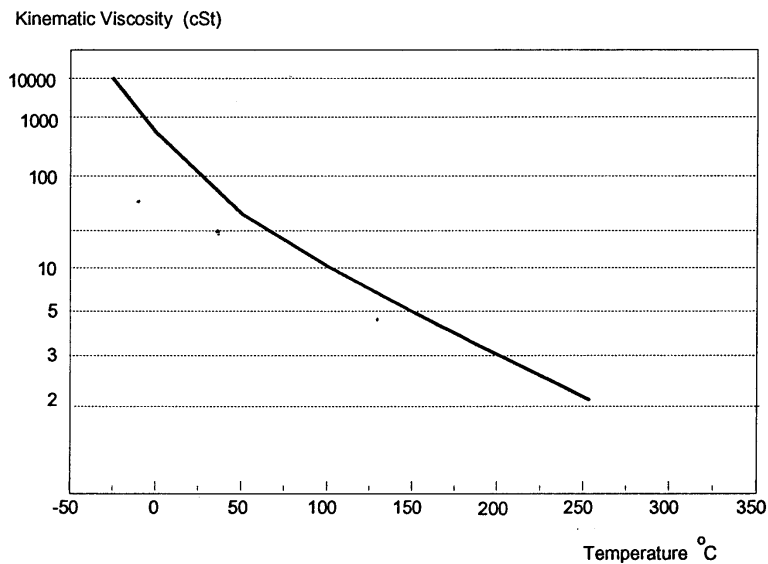


Figure 2: Vapour pressure vs Temperature

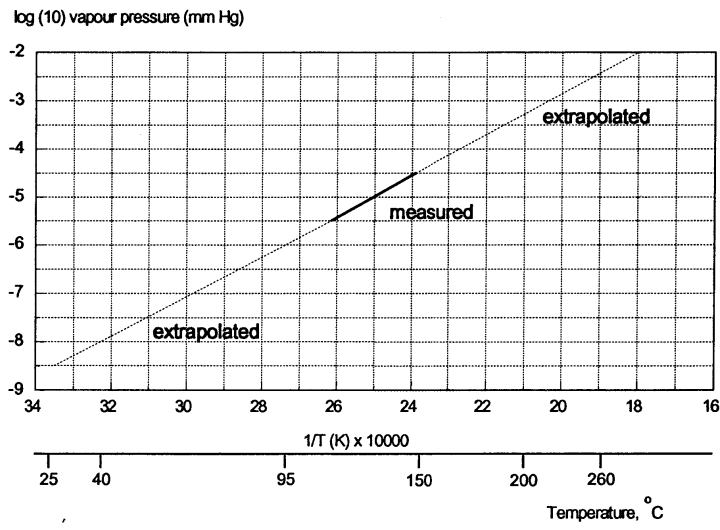


Figure 3: Specific Heat Vs Temperature

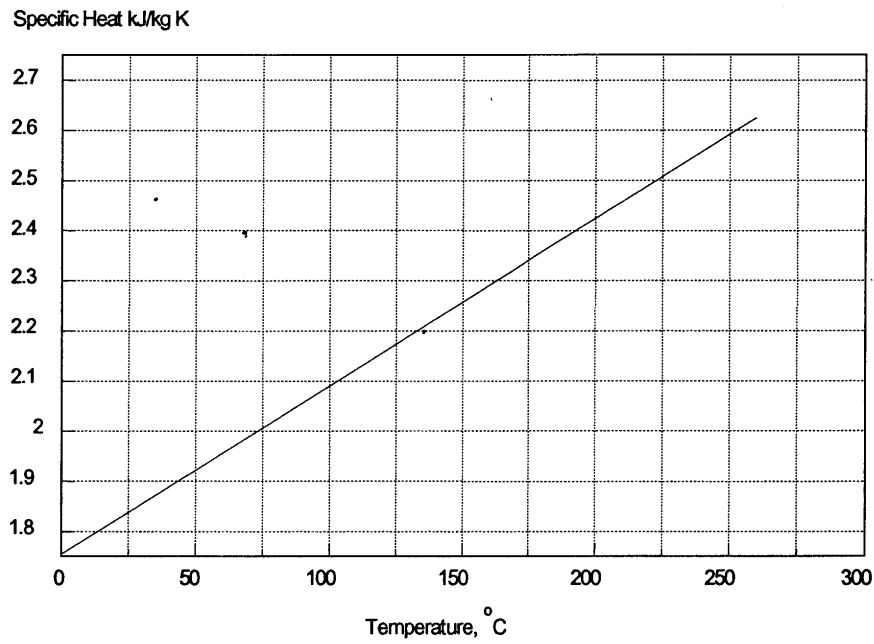


Figure 4: Specific Gravity vs Temperature

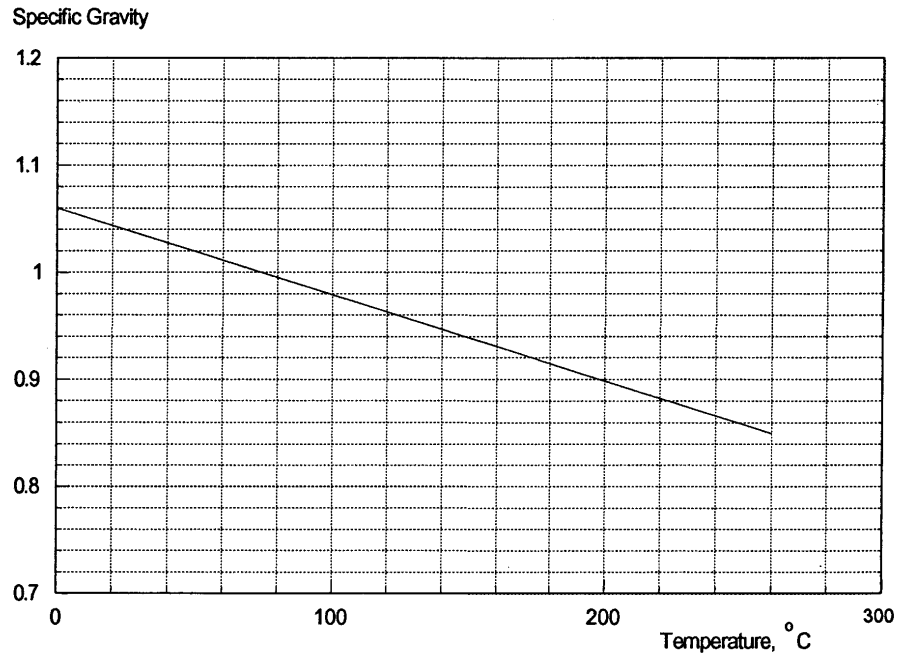


Figure 5: Thermal Conductivity vs Temperature

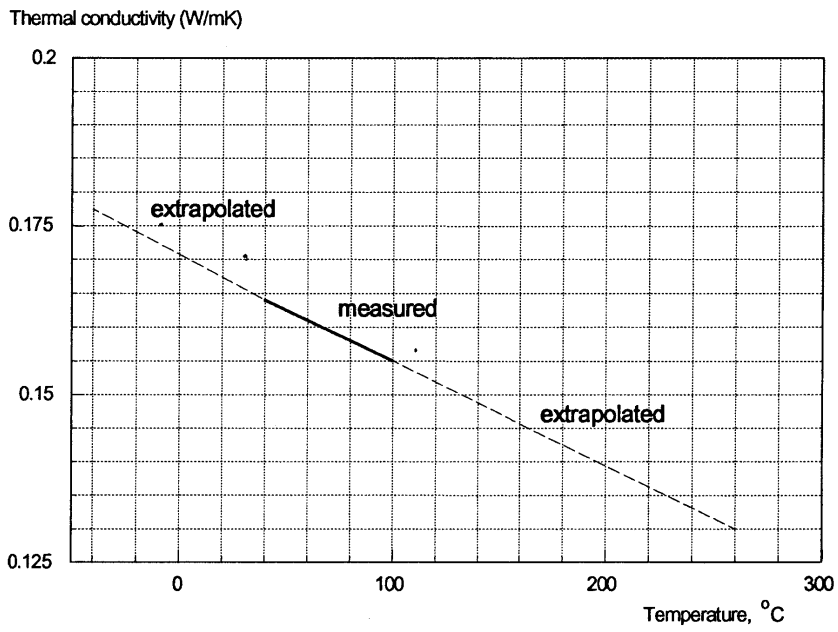
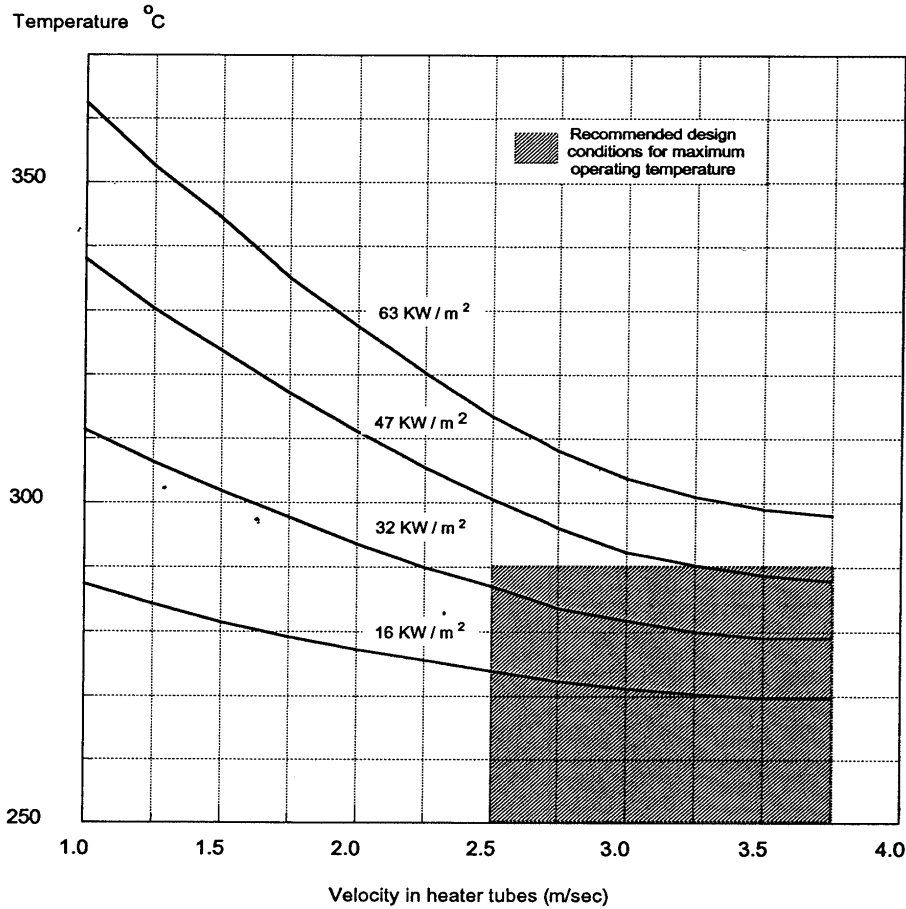


Figure 7: Relation between velocity and skin temperature (260 °C bulk temperature)



TYPICAL PHYSICAL PROPERTIES

The typical values presented here are believed to be accurate, they should not however be considered to constitute a specification.

Physical Attribute	Analysis Method	Value and Unit
Viscosity @40°C	ASTM D 445	55 cSt
Viscosity @100°C	ASTM D 445	11 cSt
Viscosity Index	ASTM D2270	200
Density	ASTM D 1298	1039 kg/m ³
Flash Point C (COC)	ASTM D 93	244°C
Pour Point °C	ASTM D 97	-37
Coefficient of Expansion At 20°C	per °C	0.00076

COMPATIBILITY

Most types of material, including synthetic rubber are compatible with **BREOX HTF 14**. Special seals, gaskets and packaging are generally not necessary except in the case of very high temperature applications; in this instance VITON B® seals are recommended.

FLUID FLOW

Two essential parameters for determining fluid flow are the temperature uniformity required across the processing equipment and the circulation rate required in the heaters to prevent local over heating of the fluid. The heat demand of the equipment determines the first parameter. The circulation rate in the equipment must be sufficient to ensure that the temperature drop between inlet and outlet is within temperature tolerances required by the process.

For example, for a working temperature of 260°C a skin temperature of 280°C is permitted for the fluid providing the fluid flow is at least 3m/sec.

Figure 7 shows the affect the flow can have on the skin temperature of the fluid.

THERMAL STABILITY

In properly designed closed, vented systems the fluid exhibits good thermal stability at bulk fluid temperatures up to 260°C. Above 260°C the fluid life is not long enough to make it practicable for process heating except in a few cases where certain properties of the fluid may be desired. Below 260°C a charge of fluid will usually last from one to several years, depending on the design of the system and the operating temperature.

HEAT TRANSFER SYSTEM PREPARATION

The presence of oil residue, sludge, scale-like material or other contaminants can disrupt the sensitivity of controls, foul up valves and impair the heat transfer characteristics of a system. Contamination also reduces the service life of a new fluid charge. Therefore, when the service life of a fluid is exhausted, or when **BREOX HTF 14** is substituted for a competitive product, or even with initial charge of a new system, the system should be thoroughly cleaned before introducing the fresh fluid. This operation will prolong the service life of the replacement fluid and ensure satisfactory operation conditions of the system.

Remarks

Handling & Safety:

A material Safety Data Sheet (MSDS) has been issued describing the health, safety and environmental characteristics of BREOX HTF 14 together with handling precautions and emergency procedures. This must be consulted and fully understood before storage, handling and use.

Storage:

Revision-No.

1.2-08.2004 Effective August 17, 2004

The product can be stored for at least 2 years at ambient storage conditions and temperature without any deterioration.

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