

Mobiltherm 605

Premium Heat Transfer Oils

The Mobil logo, consisting of the word "Mobil" in a blue, sans-serif font, is positioned in the upper right corner of the page. A large red curved line arches over the logo from the top edge of the page.

Product Description

Mobiltherm 605 heat transfer oil is a premium, high quality products intended for use in closed indirect heating installations. It is formulated from highly refined base stocks which is resistant to thermal cracking and chemical oxidation. It has good heat transfer efficiency and its viscosity is such that it can be pumped readily at both start-up and operating temperatures. The flash points of this oil will not decrease significantly in service because of its resistance to thermal cracking at the operating temperatures for which it is recommended. The Mobiltherm 605 product is a very thermally stable and is capable of an extremely long service life without deposit formation or viscosity increase. It has a high specific heat and thermal conductivity which provides more rapid heating and greater flexibility in a system.

Benefits/Advantages

- High resistance to thermal cracking decomposition resulting in freedom from sludge and coke deposits and minimum interference with heat transfer capability.
- Excellent thermal properties giving high heat transfer rates and improved operating efficiency.
- Long trouble free service life.
- Easy starting of cold systems.

Application

Mobiltherm heat transfer oil are recommended for use in closed, cold-oil sealed, indirect heating and cooling system in all kinds of industrial processes operating at bulk oil temperatures up to maximum of 320°C and at atmospheric pressure.

Mobiltherm 605 can be used in installations where the bulk oil temperature is as high as 290°C and 320°C respectively and where minimum shutdown temperatures are not below (approx.) -12°C. If the oil is used above its recommended maximum temperature, vapor lock may result unless the system is designed to operate at the higher temperature by pressurizing with an inert gas such as nitrogen. However, at higher temperatures, fluid life will be shortened because the rate of thermal degradation increases markedly as temperatures rise above the recommended limit. In well designed systems, the temperature of the oil film surrounding the heating element should be about 15°C to 30°C above the bulk oil temperature. If higher than this, the service life of the oil may be shortened and sludge and coke may be deposited which would interfere with the heat transfer rates.

Mobiltherm heat transfer oils should not be mixed with conventional oils since this may impair the excellent thermal and oxidation stability of the Mobiltherm oils, cause a change in other properties and complicate the interpretation of analyses made to determine the oil's useful life. As with other mineral oils, Mobiltherm heat transfer oils should be used only in systems with forced circulation. Systems that depend on convection for circulation of the heat transfer medium, do not provide a rapid flow to prevent local overheating and rapid deterioration of the oil. Further, these oils are not recommended for use in open systems where hot oil is exposed directly to the air. If they spray or escape from leakage points, hot Mobiltherm oils may spontaneously ignite.



Typical Properties

Mobiltherm	605
Viscosity	
cSt at 40°C	29
cSt at 100°C	5.1
Specific Gravity	0.872
Flash Point, °C	210
Pour Point, °C	-12
Color	L0.5
Recommended Max Bulk oil temp, °C	320

Health and Safety

Mobiltherm 605 is formulated from solvent refined or severely hydrotreated oils. Based on available toxicological information, this product produces no adverse effect on health when properly handled and used. No special precautions are suggested beyond attention to good personal hygiene, including laundering oil-soaked clothing and washing skin contact areas with soap and water. Additional health and safety information on this product, including Material Safety Data Bulletins, is available on request from your local ExxonMobil company.

ExxonMobil Middle East Marketing Corporation
P. O. Box 33369, Dubai, U.A.E.

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