

Heating oil

G 35 HEATING OIL

G 35 heating oil is formulated on the base of deeply refined mineral oils adequately enhanced with improvers.

Characteristics:

G 35 heating oil is recommended for non-pressurised closed liquid phase heating systems operating at maximum volume temperatures up to 280°C and maximum bulk temperature up to 340°C.

Application:

Features and benefits: good temperature characteristics – high heat transfer coefficients, good thermal stability, and excellent resistance to oxidation – resistance to deposits formation, viscosity degradation, good fluidity and relatively low viscosity – easy start-ups, excellent oil circulation, long service life without deposits formation and viscosity up.

The oil's physical and chemical properties make it comparable with such oils as Iterm 6Mb, Mobilterm 32, Thermia B etc.

The oil cannot be applied in sinners heated with electric heaters.

No	Requirements	Research methods by	Unit	Value
1.	Kinematic viscosity at 100°C	ASTM D-445	mm ² /s	5,6
2.	Pour point	ASTM D-97	°C	-16
3.	Flash point	PN-EN ISO 2592	°C	220

The above given data are typical values for a production batch, they are not included in the technical specification, and they are subject to change due to continual product research and development.

Application Recommendations:

The heating oil is a high quality product. It require special treatment while transportation, storage, handling and use.

The heating oil should be transported and stored:

- in bulk (in special cisterns),
- separately (in barrels)

Containers should be clean and dry, with humidity below 0.01%.

The containers with oil should be stored under a roof. Storage tanks should be equipped with moisture absorbers placed at a container's closing.

The heating oil G35 should not be shipped nor stored in used containers.

Handling the heating oil, such as filling the systems or refilling, should follow the energy procedures and the procedures set by the OEM and the contractor of heating systems.

Heat transfer oil should not be mixed with other oils. This could change properties of the oils and make it difficult to interpret the analysis of the monitored oil parameters.

It is recommended to check changes in oil quality during operation every six months. It is suggested to make the analysis of: viscosity, flash point in closed and open crucible, acid number, Conradson carbon content, deposits content.

Filling the heat transfer systems with heating oil:

- before being commissioned, the system should be pressure-tested for leaks,
- water should never be used,
- with the system flushed and drained, it should be filled with the fresh oil,
- the systems should be filled to the volume of 40% of the expansion chamber (equalizing tank).
- all air must be completely vented from the system before full temperature is imposed.
- the oil should be heated gradually until it reaches its basic motive parameters:
- heat the system very slowly to the temperature of 110°C,
- hold the oil at the temperature of 120°C for several hours to vaporise moisture and air absorbed while filling the heating system with the oil,
- the oil should be heated gradually until it reaches the system working temperature and the system volume should be controlled following the design engineer's guidelines.

For maximum efficiency, the heat transfer fluid should be circulated in conditions of turbulent flow and the difference in temperatures between the oil volume and oil film covering the heating element should not exceed 15 -30°C.

For the mineral oils thermal expansion, the oil circulation system should be equipped with equalizing tank to equal the changes in the oil volume while heating.

Despite the excellent oxidation stability of the oil 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.

Heating oils should be used as heat transfer fluids only in systems with forced circulation.

Systems using only convection of heat do not provide flows quick enough to prevent local overheating and the oil degradation.

Packaging:

26 kg, 180 kg, 1000 liter

Storage:

The products should be stored under a roof. If they are stored in the open air where they can be exposed to atmospheric conditions – rains, they should be placed in a horizontal position in order to avoid inrush of water to a container and to prevent label damaging; they should be covered with tarpaulin.

The products should not be stored at the temperature above 60°C and in the places where solar radiation is very strong or – temperatures very low. The expiry date is not less than 3 years if the storage conditions are satisfied.

Health, Industrial Safety and the Environment:

Information concerning safety is included in the product Safety Sheet. It contains detailed information on possible threats, warnings, first aid as well as the impact on the environment and ways of utilization of the used products. LOTOS Oil SA and the cooperating companies do not take responsibility for misuse of the product or – the use with the violation of the precautions given. Before using the product for other than recommended purposes, seek advice in the local LOTOS Oil SA office.

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