

Quality protection for quality output.

# OTX

## Industrial Heat Transfer Oil

### Product Data Sheet

**byco**

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Byco OTX Heat Transfer Oils are based on solvent refined, high viscosity index mineral oils to provide superior performance in indirect closed fluid heat transfer systems operating at bulk temperatures upto 320°C.



#### Applications

- Mineral Oil for all closed fluid heat transfer systems.

#### Performance Standards

- High heat transfer co-efficients
- High thermal & oxidation stability
- Good viscosity & temperature characteristic
- Low vapor pressure & toxicity
- Non-corrosive

#### Oil Life

Life of Byco OTX depends on design and usage of system. If system is well designed and not subjected to abnormal work loads/shutdown the life of the oil can be enjoyed for long period. However, oil condition monitoring at regular interval is important to measure the change in physical characteristics of the oil.

#### Benefits

##### Thermal Stability:

- Mineral oil are subject to degradation at high temperature.
- Cracking of hydrocarbon molecules by heat some of that appears as volatile gases and polymerize into non-soluble deposits.
- Oxidation of hydrocarbon oil with atmospheric oxygen that increases rapidly with increasing temperature.
- Oxidation produces acidity in oil with some non-soluble contaminants that result in increase in viscosity.

Byco OTX is developed to display exceptionally good thermal stability at temperatures upto 320°C depending on the ISO VG Grades. The low rate of cracking and oxidation gives maximum oil life assuming efficient fluid heater with good pump circulation.

##### Equipment Design and Operating Advice:

The potential source of damage to Byco OTX is the heater. To avoid damage, circulation pump should be capable of producing high turbulent oil flow through the heater. Heat flux should be kept to a minimum to reduce film temperature.

#### Key Properties

ISO VG Grade	22	32	46	Test Method
Auto ignition Temperature°C	330	350	360	-
Flash Point COC°C	209	230	235	ASTM D-92
Pour Point°C	-12	- 12	-9	ASTM D-97
Viscosity mm <sup>2</sup> /s@ 40°C	22	32	46	ASTM D-445
Viscosity mm <sup>2</sup> /s@100°C	4.32	5.41	6.7	ASTM D-445
Viscosity Index	102	102	98	ASTM D-2270
Maximum Bulk Film Temp°C.	290	320	325	-
Coefficient of Thermal Expansion per°C	0.000076	0.00077	0.000778	-

#### Physical & Thermal Properties of ISO VG 32 versus Temperature

	100°C	200°C	300°C	-
Density, kg/L	0.82	0.76	0.69	-
Dynamic Viscosity, mPa.s	4.35	1.05	0.46	-
Specific Heat Kj / kg.°C	2.15	2.15	2.88	-
Thermal Conductivity, W/m.°C	0.128	0.120	0.112	-
Vapor Pressure, mmHg	-	3.5	150	-

Note: The typical characteristics are given as a guide only and may vary according to latest production according to ISO.



#### ENVIRONMENTAL, HEALTH & SAFETY

Environmental, Health & Safety Information of this product is available in Byco Material Safety Data Sheet (MSDS). Customers are encouraged to review this information, follow precautions and complying with the guidelines in consuming of the product, its use and disposal.