

Zeal Thermic Fluid series

High Performance Heat Transfer Oils



Product Data Sheet

Product Description

Zeal Thermic Fluid series are high performance heat transfer oils formulated with highly refined base stocks, intended for use in closed and indirect heating installations. They provide exceptional resistance to thermal cracking and chemical oxidation, thus flash point of these oils will not decrease significantly in service. Moreover, they are thermally stable and are capable of an extremely long service oil life, without deposit formation or increase in viscosity.

Features & Benefits

- Outstanding thermal & oxidation stability prevents coke, varnish & sludge formation and helps in extending life of oil.
- Good low temperature fluidity, facilitates easy starting of cold systems
- Excellent anti-foaming characteristics, avoids pump cavitation and erratic operations.
- High heat transfer rates and improved operating efficiency promotes low cost of operation.
- Excellent protection from rust and corrosion of multi-metallurgy heat exchangers.

Application

- Zeal Thermic Fluid series can be used in open and closed installations where the bulk oil temperature ranges are outlined as below and where minimum shutdown temperatures are not below -12°C.
- Bulk Oil Temperature Ranges for Closed Systems (-12°C to 310°C) & Open Systems (-12°C to 180°C).
- Suitable for Closed, cold-oil sealed, indirect heating and cooling systems in all kinds of industrial processes operating at bulk oil temperatures up to the maximum temperatures as stated above and at atmospheric pressures.
- Suitable for Open systems, provided the bulk oil temperatures do not exceed the maximum temperatures as stated above.

Typical Characteristics

Zeal Thermic Fluid	Test Method	Units	32	46	68
ISO Viscosity Grade	ISO 3448	-	32	46	68
Density @ 15 °C	ASTM D 4052	gm/cc	0.860	0.865	0.880
Viscosity @ 40 °C	ASTM D 445	cSt	32.4	46.8	68.9
Viscosity @ 100 °C	ASTM D 445	cSt	5.38	6.78	8.72
Viscosity Index	ASTM D 2270	-	98	98	98
Pour Point	ASTM D 97	°C	-12	-12	-21
Flash Point (COC)	ASTM D 92	°C	224	230	234
Fire Point (COC)	ASTM D92	°C	255	260	268
Micro-Conradson Residue	ASTM D 4530	%wt	0.05 (max)	0.05 (max)	0.05 (max)
Copper Strip Corrosion	ASTM D 130	-	1B	1B	1B
Rust Characteristics Proc B	ASTM D 665	-	Pass	Pass	Pass
Foam Seq I,II,III	ASTM D 892	ml/ml	10/0	10/0	10/0

The above figures are typical of blends with normal production tolerance and do not constitute a specification.

Zeal Thermic Fluid	Test Method	Units	32	46	68
Total Acid Number	ASTM D974	mgKOH/g	<0.05	<0.05	<0.05
Initial Boiling Point	ISO 3771	°C	>355	>360	>365
Auto Ignition Temperature	DIN 51794	°C	>360	>365	>375
Max. Film Temperature	--	°C	340	340	340
Max. Bulk Temperature	--	°C	310	310	310
Coefficient of Thermal Expansion	--	1/°C	0.0008	0.0008	0.0008