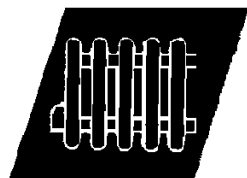


VULCAN OILS



HEAT TRANSFER
& LUBRICATION



TOTAL

Premium heat transfer oil

APPLICATIONS

Very hot circulating oils
systems

- **VULCAN OILS** are mineral oil based, fluids designed specifically for use in hot circulating oil systems where heat exchangers are often utilized. They are produced from high viscosity index paraffinic base stocks and specialized additives which extends service life.
- Recommended for open hot oils systems that operate up to 400 F or closed systems operating up to 600 F. Such systems are found in a variety of industries such as plastics, chemicals, food, paper, petro-chemicals and road construction. Viscosity grades are chosen based on factors such as: turbulent flow temperature, service type (intermittent or continuous), skin temperature, vapor pressure at operating temperature, ambient temperature on startup and flash point,

SPECIFICATIONS

International
specifications

- ISO 6743/12 Family QA
- DIN 51502 Class L

ADVANTAGES

Long fluid life and high
operating reliability

- Excellent thermal stability
- High flash point
- High natural viscosity index.

TYPICAL CHARACTERISTICS—VULCAN OILS*

ISO Grade	22	32	46	68
Specific Gravity @ 60/60 °F (ASTM D 1298)	0.840	0.868	0.870	0.871
Viscosity at 40°C, cSt (ASTM D 445)	22.5	31.9	47.0	69.0
Viscosity at 100°C, cSt (ASTM D 445)	4.60	5.49	6.96	8.76
Viscosity Index (ASTM D 2270)	121	108	104	99
Color, (ASTM D 1500)	2.5	2.5	2.5	2.5
Flash Point, COC, °F (ASTM D 92)	(199)	400 (204)	415 (213)	460 (238)
Pour Point, °F, (°C) (ASTM D 97)	-15 (-26)	-15 (-26)	-15 (-26)	-15 (-26)
Estimated thermal conductivity at 400 F (205 C), Btu/hr-sq ft-deg F	0.865	0.835	0.835	0.835
Estimated specific heat at 400 F (205 C), BTU/lb-degree F	0.62	0.609	0.609	0.609
Bulk temperature limit °F, (°C)	275 (527)	280 (536)	280 (536)	290 (554)
Skin temperature limit °F, (°C)	295 (563)	300 (572)	300 (572)	320 (608)
Calculated vapor pressure at 450 F, torr	9	6	1.5	0.7
Calculated vapor pressure at 550 F, torr	45	35	15	9

* The above estimates, calculations and limits are generally within 10% of actual value. Limits are without air contact.

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TOTAL Lubricants USA with a policy of continuous improvement, reserves the right to change specifications as our technology progresses.
We are not responsible for the misuse and/or misapplication of our products. MSDS are found at on our web site.