THERMINOL® 77 HIGH-TEMPERATURE HEAT TRANSFER FLUID

TECHNICAL BULLETIN T-77

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Organic Division/800 N. Lindbergh Blvd./St. Louis, Missouri 63166

FUNCTIONAL FLUIDS Monsanto

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TOWOLDMON0021947
WATER_PCB-00006416

THERMINOL® 77 FLUID PROPERTIES

Temp °F	Vapor Pressure (mm Hg)	Viscosity (cs)	Viscosity (Lbs Ft-Hr)	Density (g/cc)	Density (Lbs Gal)
100	—	181	505	1.152	9.60
210	—	7.78	20.8	1.106	9.26
300	0.27	2.65	—	1.070	8.94
400	1.03	1.50	3.74	1.029	8.58
500	9.2	0.96	2.28	0.981	8.16
600	44	0.66	1.49	0.931	7.76
700	168	0.46*	0.99	0.885	7.38
800	530	—	—	—	—

*Extrapolation

THERMAL CONDUCTIVITY

Temp °F	Specific Heat (Btu/LB °F.)	Thermal Conductivity (Cal/cm, °C, sec)	Thermal Conductivity (BTU/ °F, Ft-Hr)	Thermal Expansion, (cc °F)
100	0.350	32.25×10^{-4}	0.0781	0.00034
200	0.375	31.40×10^{-4}	0.0760	—
300	0.420	30.50×10^{-4}	0.0739	0.00037
400	0.455	29.65×10^{-4}	0.0719	—
500	0.495	28.80×10^{-4}	0.0698	0.00049
600	0.530	—	—	—
700	0.565	—	—	0.00062
800	0.600	—	—	—

Pour Point	+45°F	Fire Point	540°F
Flash Point	460°F	A. I. T.	1115°F
		Thermal Decomposition**	800°F

**Thermal decomposition was determined by the isoteniscope method as described in the "Journal of Chemical and Engineering Data," January 1961, Vol. 6, No. 1. It is defined as the temperature at which dp/dt = 0.014 mm Hg per second, or 500 mm Hg per 10 hours.

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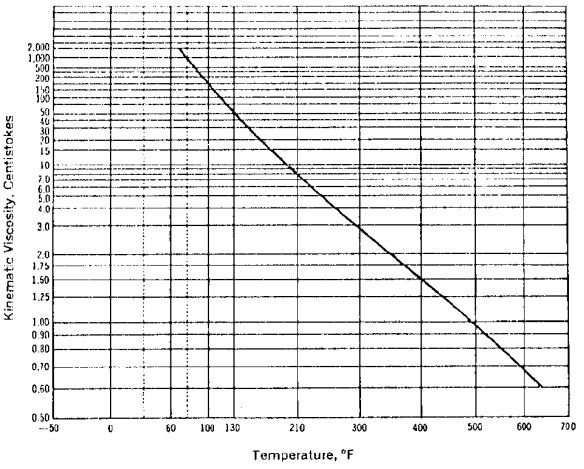
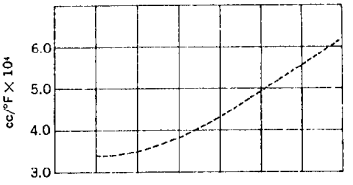
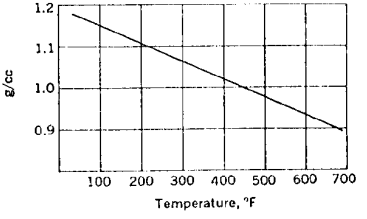
KINEMATIC VISCOSITY



COEFFICIENT OF THERMAL EXPANSION



DENSITY



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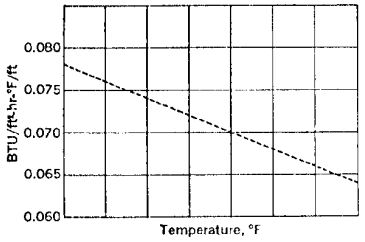
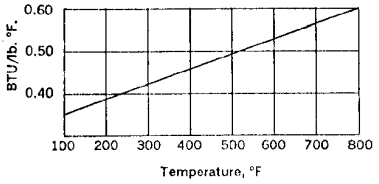
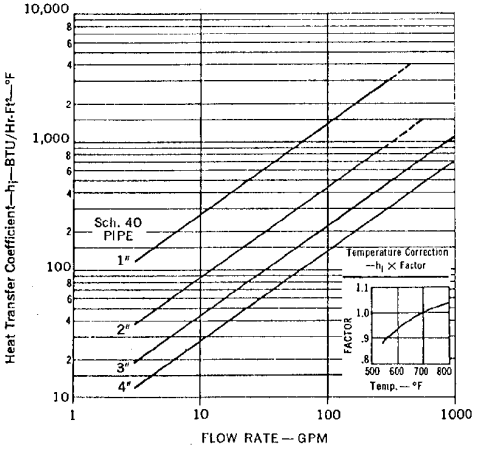
THERMAL CONDUCTIVITY



SPECIFIC HEAT



Inside Film Heat Transfer Coefficient versus Flow Rate at 700°F



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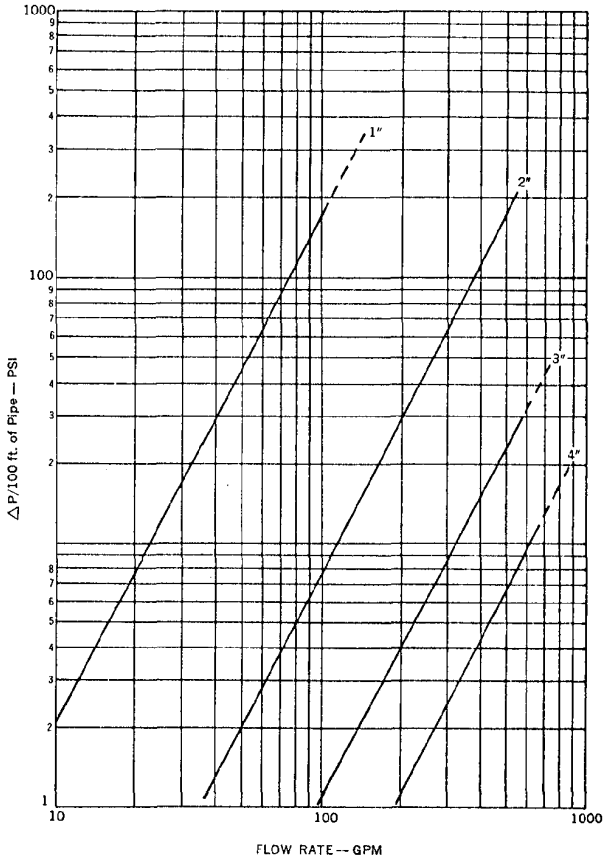
Pressure Drop Per 100 Ft. of Pipe

versus

Flow Rate at 700°F



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