HY-THERM™ 707

SYNTHETIC HEAT TRANSFER OIL

Royal Purple's Hy-Therm™707 is a synthetic heat transfer fluid that is more efficient and safer than mineral oil-based fluids. Its thermal conductivity is 50% to 100% higher than many widely used heat transfer fluids. This means that heat goes in and comes out of Hy-Therm™707 much more quickly. A pound of Hy-Therm™707 can hold over 30% more heat than commonly used mineral oil fluids. Hy-Therm™707 can safely be used in open systems up to 400°F, and in closed systems under inert gas at 700°F. Fluid life and system cleanliness can greatly be enhanced when Hy-Therm™707 is used with inert gas (nitrogen, etc.) blanketing. Its low temperature fluidity eliminates the need to drain fluid during cold weather shutdowns, a common problem with many heat transfer fluids.

Systems using Hy-Therm™707 are safer and cleaner. Hy-Therm™707 higher flash and fire points, and lower evaporation increase system safety. Heat Transfer efficiency is increased as up to 25% more heat is removed than comparable petroleum heat transfer oils. Systems remain cleaner as Hy-Therm™707 minimizes carbon deposits assuring superior heat transfer efficiency.

Hy-Therm™707 is environmentally responsible. All components comply with TSCA, EPA and OSHA requirements.

PERFORMANCE ADVANTAGES

HIGH HEAT CAPACITY – Hy-Therm™707 can absorb and hold over 30% more heat than typical mineral oils

EXCEPTIONAL HEAT TRANSFER – High thermal conductivity allows heat to easily pass into and out of Hy-Therm™707

SUPERIOR EXTREME TEMPERATURE PERFORMANCE – High allowable operating temperatures AND excellent cold flow

OUTSTANDING SYSTEM PERFORMANCE - Provides a wide operating temperature range and excellent shear stability

EXCELLENT DEMULSIBILITY - Rapidly separates from water, allowing free water to be drained from the system

TYPICAL THERMAL PROPERTIES

Temperature °C (°F)	Specific Gravity	Kinematic Visc., cSt	Specific Heat, kJ/kg·K (Btu/lb·°F)	Therm. Cond., W/m·K (Btu/hr· ft· °F)
15 (60)	0.835	98.8	2.102 (0.502)	0.2212 (0.1278)
38 (100)	0.820	35.5	2.186 (0.522)	0.2195 (0.1268)
93 (200)	0.780	7.25	2.391 (0.571)	0.2155 (0.1245)
149 (300)	0.740	2.97	2.800 (0.669)	0.2115 (0.1222)
204 (400)	0.699	1.69	2.596 (0.620)	0.2075 (0.1199)
260 (500)	0.658	1.15	3.006 (0.718)	0.2035 (0.1176)
315 (600)	0.618	0.87	3.215 (0.768)	0.1996 (0.1153)

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TECHNICAL DATA

Property	Test Method	
ISO Viscosity Grade	ISO 3448	32
Viscosity @ 40°C, cSt	ASTM D445	32
Viscosity @ 100°C, cSt	ASTM D445	6.1
Viscosity Index	ASTM D2270	141
Specific Gravity	ASTM D4052	0.835
Flash Point, °C (°F)	ASTM D92	238 (460)
Fire Point, °C (°F)	ASTM D92	271 (520)
Pour Point, °C (°F)	ASTM D97	-51 (-60)
Foam Test, Seq. II	ASTM D892	0/0/0
Evaporative Loss, % wt.	ASTM D972	0.3
Distillation, Gas Chrom.	ASTM D2287	
Initial BP, °C (°F)		419 (786)
20%, °C (°F)		432 (810)
50%, °C (°F)		491 (915)
80%, °C (°F)		527 (980)
90%, °C (°F)		538 (1,001)
End Pont, °C (°F)		614 (1,106)

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1919 E. Tulsa • Wichita, KS 67216
RPinfo@royalpurpleind.com