

Over 25 years of experience developing fluids for the heat transfer industry and working with equipment manufacturers has given us a unique understanding of heat transfer fluids and what it takes to make a fluid that performs optimally in each type of application. Generic and multi use fluids just can't be all things to all applications.

Applications

Duratherm FG is rated for use up to 620°F and is engineered and manufactured to comply with the demands of food grade applications.

Duratherm FG meets USDA requirements for incidental food contact (H1) and meets the requirements of 21CFR1783570 and is NSF registered.

Ideal for any application requiring food grade rated process oils such as food processing, bottling, food packaging etc.

Longevity

In the heat transfer fluid industry cost is always a concern, however fluid longevity and resistance to harmful fouling are of equal importance.

Air contact is normally detrimental to a fluid. Oxidation can cripple your system and if left unchecked will ultimately cause catastrophic failure. Unscheduled downtime due to oil failure has a high cost and negative effect on production.

The Duratherm product line was developed with this in mind. Most other fluids fall short in their protection from oxidation and can quickly foul a system. Duratherm is engineered to give unsurpassed levels of protection and service life.

The Difference

Our exclusive additive package, including a proprietary dual stage anti-oxidant, ensures long trouble free operation. Duratherm also incorporates metal deactivators, a seal and gasket extender, defoaming and particle suspension agents.

Environmental

Duratherm FG is environmentally friendly, non-toxic, non-hazardous and non-reportable. Worker health and safety is of great concern, Duratherm FG poses no ill effect to worker safety. After its long service life it can easily be disposed of with other waste oils.

System Cleaning

In our effort to truly service the heat transfer industry, Frontier has developed 4 unique and specific heat transfer system cleaners. Ranging from preventative maintenance system cleaners to emergency downtime system revivers, we have a cleaner that fits your needs and schedule.

Synopsis

Duratherm FG is an oxidative and thermally stable heat transfer fluid offering precise temperature control in applications requiring a fluid to meet USDA or NSF standards.

Properties	Test Method	Duratherm FG
Appearance		Crystal Clear
Maximum use Temperature		332°C 620°F
Density at 38°C, g/ml (lb/ft ³)	ASTM D1298	0.873 (52.6)
at 260°C, g/ml (lb/ft ³)		0.735 (45.6)
at 316°C, g/ml (lb/ft ³)		0.705 (44.0)
Flash Point, °C (°F)	ASTM D92	227°C (440°F)
Fire Point, °C (°F)	ASTM D92	241°C (466°F)
Autoignition Temperature, °C (°F)	ASTM E-659-78	361°C (682°F)
Carbon Residue, % Mass	ASTM D189A	0.005
Sulphur Content, weight %	X-RAY	<.001
Cu Strip Corrosion	ASTM D130	1a
Average Molecular Weight		395
Viscosity, cSt at 40 C (104 F)	ASTM D445	33.1
cSt at 100 C (212 F)		05.9
cSt at 316 C (600 F)		0.70
Pour Point, °C (°F)	ASTM D97	-17°C (1°F)
Coefficient of Thermal Expansion, %/°C (%/°F)		0.1016 (0.0564)
Thermal Conductivity, W/m K (BTU/hr F ft)		
at 38°C (100 F)		0.145 (0.084)
at 260°C (500 F)		0.135 (0.078)
at 316°C (600 F)		0.130 (0.076)
Heat Capacity, kJ/kg K (BTU/lb F)		
at 38°C (100°F)		2.01 (0.48)
at 260°C (500°F)		2.77 (0.66)
at 316°C (600°F)		2.96 (0.71)
Vapor Pressure, kPa (psi)	ASTM D2879	
at 15°C (60°F)		0.00 (0.00)
at 38°C (100°F)		0.41 (0.06)
at 260°C (500°F)		2.41 (0.35)
at 316°C (600°F)		10.69 (1.55)
Distillation Range, °C (°F)	ASTM D2887	
10%		410°C (769°F)
90%		499°C (930°F)

The values quoted are typical of normal production. They do not constitute a specification.