

## OVERVIEW

**Duratherm S** heat transfer fluid is ideal for applications such as negative pressure mold heaters, annealing tanks, open bath forming, or any processing equipment where oxidation is prevalent and problematic. **Duratherm S** heat transfer fluid resists the effects of oxidation seen with most other heat transfer fluids.

High temperature stability is maintained to 650°F. This combined with a low end working temperature of -40°F also makes **Duratherm S** heat transfer fluid ideally suited for low temperature applications, batch processing or any application requiring a single fluid for both heating and cooling.

**Duratherm S** is an extremely oxidative and thermally stable heat transfer fluid offering precise temperature control in applications requiring the highest level of oxidative stability with high and low temperature workability.

## APPLICATION

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## THE DIFFERENCE

- Superior oxidation resistance (virtually unaffected)
- Non-fouling - extremely long life
- Low odor
- Non corrosive
- Non hazardous
- Non Toxic
- Extremely high working temperature (650°F)
- Extremely low working temperature (-40°F)

## LASTS LONGER

**Duratherm S** heat transfer fluid is a high performance, extremely stable, long lasting silicone based heat transfer fluid.

Virtually unaffected by oxidation **Duratherm S** heat transfer fluid is perfect for use in a variety of applications requiring a safe, non reportable, non-toxic and non corrosive heat transfer fluid.

## DURATHERM S PROPERTIES

<b>Appearance:</b> clear liquid, slight yellow tint		
<b>Maximum Bulk Temp. (Closed System)*</b>	650°F	343°C
<b>Maximum Bulk Temp. (Open System)</b>	400°F	204°C
<b>Flash Point ASTM D92</b>	615°F	323°C
<b>Fire Point ASTM D92</b>	636°F	335°C
<b>Autoignition ASTM E-659-78</b>	818°F	436°C
<b>Viscosity ASTM D445</b>		
cSt at -58°F / -50°C	334.2	
cSt at -13°F / -25°C	177.4	
cSt at 100°F / 38°C	37.5	
cSt at 212°F / 100°C	17.4	
cSt at 500°F / 260°C	4.4	
cSt at 600°F / 316°C	3.3	
<b>Pour Point ASTM D97</b>	-87°F	-66°C
<b>Density ASTM D1298</b>		
	<b>lb/ft3</b>	<b>g/ml</b>
at 100°F / 38°C	59.7	0.957
at 500°F / 260°C	53.4	0.855
at 600°F / 316°C	51.8	0.83
<b>Carbon Residue ASTM D189</b>	0.005	% Mass
<b>Sulphur Content X-RAY</b>	<.001	weight %
<b>Thermal Expansion Coefficient</b>	0.055 %/°F	0.105 %/°C
<b>Thermal Conductivity</b>		
	<b>BTU/hr F ft</b>	<b>W/m K</b>
at 0°F / -17°C	0.081	0.140
at 100°F / 38°C	0.075	0.130
at 300°F / 148°C	0.061	0.105
at 500°F / 260°C	0.048	0.083
at 600°F / 316°C	0.042	0.072
<b>Heat Capacity</b>		
	<b>BTU/lb F</b>	<b>kJ/kg K</b>
at 0°F / -17°C	0.382	1.599
at 100°F / 38°C	0.403	1.687
at 300°F / 148°C	0.449	1.879
at 500°F / 260°C	0.495	2.072
at 600°F / 316°C	0.518	2.168
<b>Vapor Pressure ASTM D2879</b>		
	<b>psi</b>	<b>kPa</b>
at 100°F / 38°C	0.00	0.00
at 500°F / 260°C	2.15	14.82
at 600°F / 316°C	2.70	18.62
<b>*Maximum Film Temp.</b>	690°F	365°C

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