## Overview and applications

### APPLICATION

StaticTherm 600 is engineered for precise and efficient temperature control up to 315°C (600°F). With a high flash point, low vapor pressure and an initial boiling point above the maximum operating temperature StaticTherm 600 offers safety and performance for many diverse applications.

### THE DIFFERENCE

StaticTherm 600 contains the industry's most effective and resilient blend of additives to ensure long-lasting, trouble-free service.

Our exclusive system includes a proprietary, dual stage anti-oxidant and a special blend of metal deactivators, extenders, and other agents that prolong fluid life and help keep systems clean. That also means longer life for parts like pumps and rotary seals.

### LASTS LONGER

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.

Most other fluids fall short in their protection from oxidation and can quickly foul a system. StaticTherm 600 is engineered to give unsurpassed levels of protection and service life.

### RUNS CLEANER

StaticTherm 600 delivers superior resistance to sludging, a problem plaguing most other fluids. That makes it the best defense against extreme oxidation found in many of today's demanding manufacturing environments, including plastics processing, molding, casting, asphalt, paint, chemical and a wide variety of other applications.

### ENVIRONMENTAL

StaticTherm 600 is environmentally friendly, non-toxic, non-hazardous and non-reportable. It poses no ill effect to worker safety and does not require special handling. After its long service life, StaticTherm 600 thermal oil can easily be disposed of with other waste oils.

### SYSTEM CLEANING

If your existing fluid has let you down and left you with a system full of sludge or carbon, we've developed a full line of heat transfer system cleaners to get your system back to like-new condition. Contact us for complete details.

An oxidative and thermally stable heat transfer fluid (thermal oil) rated to 315°C (600°F). Long lasting and environmentally friendly it offers precise temperature control at an economical cost.

## Ratings and physical properties

### TEMPERATURE RATINGS

| | | |
|---|---|---|
| Maximum Bulk/Use Temp. | 315°C | 600°F |
| Maximum Film Temp. | 343°C | 650°F |
| Pour Point ASTM D97 | -10°C | 14°F |

### SAFETY DATA

| | | |
|---|---|---|
| Flash Point ASTM D92 | 224°C | 435°F |
| Fire Point ASTM D92 | 240°C | 464°F |
| Autoignition ASTM E-659-78 | 360°C | 680°F |

- Maximum temperature: 315°C / 600°F

- Flash point 224°C / 435°F

- Non-toxic/non-hazardous

- Runs longer, keeps systems cleaner

- Extreme oxidation resistance

- Ideal for systems open to atmosphere

- Includes free fluid analysis and tech support

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

### THERMAL PROPERTIES

| | | |
|---|---|---|
| Thermal Expansion Coefficient | 0.1011 %/°C | 0.0564 %/°F |
| Thermal Conductivity | W/m K | BTU/hr F ft |
| 38°C / 100°F | 0.138 | 0.080 |
| 260°C / 500°F | 0.127 | 0.074 |
| 316°C / 600°F | 0.124 | 0.072 |
| Heat Capacity | kJ/kg K | BTU/lb F |
| 38°C / 100°F | 1.928 | 0.461 |
| 260°C / 500°F | 2.626 | 0.631 |
| 316°C / 600°F | 2.818 | 0.673 |

### PHYSICAL PROPERTIES

| | | |
|---|---|---|
| Appearance: colorless, clear and bright liquid | | |
| Viscosity ASTM D445 | | |
| cSt at 40°C / 104°F | 39.35 | |
| cSt at 100°C / 212°F | 6.34 | |
| cSt at 316°C / 600°F | 0.73 | |
| Density ASTM D1298 | kg/m3 | lb/ft3 |
| 38°C / 100°F | 827.79 | 51.69 |
| 260°C / 500°F | 681.38 | 42.54 |
| 316°C / 600°F | 644.44 | 40.25 |
| Vapor Pressure ASTM D2879 | kPa | psi |
| 38°C / 100°F | 0.00 | 0.00 |
| 260°C / 500°F | 2.33 | 0.34 |
| 316°C / 600°F | 9.71 | 1.43 |
| Distillation Range ASTM D2887 | 10% | 373°C (705°F) |
| | 90% | 481°C (898°F) |
| Average Molecular Weight | 372 | |

## Temperature-dependent properties - metric

| TEMPERATURE (Celsius) | DENSITY (kg/m^3) | KINEMATIC VISCOSITY (Centistoke) | DYNAMIC VISCOSITY (Centipoise) | THERMAL CONDUCTIVITY (W/m-K) | HEAT CAPACITY (kJ/kg-K) | VAPOR PRESSURE (kPa) |
|---|---|---|---|---|---|---|
| -5 | 856.15 | 649.00 | 572.83 | 0.142 | 1.812 | 0 |
| 5 | 849.56 | 292.31 | 256.02 | 0.141 | 1.810 | 0.00 |
| 15 | 842.96 | 148.35 | 128.92 | 0.141 | 1.842 | 0.00 |
| 25 | 836.37 | 83.01 | 71.57 | 0.140 | 1.874 | 0.00 |
| 35 | 829.77 | 50.32 | 43.05 | 0.140 | 1.906 | 0.00 |
| 45 | 823.18 | 32.59 | 27.66 | 0.139 | 1.938 | 0.00 |
| 55 | 816.58 | 22.30 | 18.77 | 0.138 | 1.970 | 0.00 |
| 65 | 809.98 | 15.97 | 13.34 | 0.138 | 2.002 | 0.00 |
| 75 | 803.39 | 11.89 | 9.85 | 0.137 | 2.034 | 0.00 |
| 85 | 796.79 | 9.14 | 7.51 | 0.137 | 2.066 | 0.00 |
| 95 | 790.20 | 7.22 | 5.88 | 0.136 | 2.098 | 0.00 |
| 105 | 783.60 | 5.84 | 4.72 | 0.136 | 2.130 | 0.00 |
| 115 | 777.01 | 4.82 | 3.86 | 0.135 | 2.162 | 0.00 |
| 125 | 770.41 | 4.05 | 3.22 | 0.134 | 2.194 | 0.01 |
| 135 | 763.82 | 3.45 | 2.72 | 0.134 | 2.226 | 0.01 |
| 145 | 757.22 | 2.99 | 2.33 | 0.133 | 2.258 | 0.03 |
| 155 | 750.63 | 2.61 | 2.02 | 0.133 | 2.290 | 0.04 |
| 165 | 744.03 | 2.31 | 1.77 | 0.132 | 2.322 | 0.06 |
| 175 | 737.44 | 2.06 | 1.56 | 0.132 | 2.354 | 0.10 |
| 185 | 730.84 | 1.85 | 1.39 | 0.131 | 2.386 | 0.15 |
| 195 | 724.25 | 1.67 | 1.25 | 0.131 | 2.418 | 0.22 |
| 205 | 717.65 | 1.53 | 1.13 | 0.130 | 2.450 | 0.33 |
| 215 | 711.06 | 1.40 | 1.03 | 0.129 | 2.482 | 0.47 |
| 225 | 704.46 | 1.29 | 0.94 | 0.129 | 2.514 | 0.67 |
| 235 | 697.87 | 1.20 | 0.86 | 0.128 | 2.546 | 0.93 |
| 245 | 691.27 | 1.12 | 0.80 | 0.128 | 2.578 | 1.29 |
| 255 | 684.68 | 1.04 | 0.74 | 0.127 | 2.610 | 1.73 |
| 265 | 678.08 | 0.98 | 0.69 | 0.127 | 2.642 | 2.33 |
| 275 | 671.49 | 0.92 | 0.64 | 0.126 | 2.674 | 3.08 |
| 285 | 664.89 | 0.87 | 0.60 | 0.126 | 2.706 | 4.05 |
| 295 | 658.29 | 0.83 | 0.56 | 0.125 | 2.738 | 5.26 |
| 305 | 651.70 | 0.79 | 0.53 | 0.125 | 2.770 | 6.78 |
| 315 | 645.10 | 0.75 | 0.50 | 0.124 | 2.802 | 8.66 |

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

## Temperature-dependent properties - imperial

| TEMPERATURE (Fahrenheit) | DENSITY (lb/ft^3) | KINEMATIC VISCOSITY (Centistoke) | DYNAMIC VISCOSITY (Centipoise) | THERMAL CONDUCTIVITY (BTU/hr-F-ft) | HEAT CAPACITY (BTU/lb-F) | VAPOR PRESSURE (Psia) |
|---|---|---|---|---|---|---|
| 15 | 53.63 | 967.96 | 857.83 | 0.082 | 0.425 | 0.00 |
| 25 | 53.40 | 590.00 | 520.64 | 0.082 | 0.429 | 0.00 |
| 35 | 53.17 | 375.85 | 330.25 | 0.082 | 0.434 | 0.00 |
| 45 | 52.95 | 249.04 | 217.88 | 0.081 | 0.438 | 0.00 |
| 55 | 52.72 | 170.92 | 148.89 | 0.081 | 0.442 | 0.00 |
| 65 | 52.49 | 121.04 | 104.98 | 0.081 | 0.446 | 0.00 |
| 75 | 52.26 | 88.16 | 76.13 | 0.081 | 0.450 | 0.00 |
| 85 | 52.03 | 65.86 | 56.62 | 0.081 | 0.455 | 0.00 |
| 95 | 51.80 | 50.32 | 43.07 | 0.080 | 0.459 | 0.00 |
| 105 | 51.57 | 39.24 | 33.44 | 0.080 | 0.463 | 0.00 |
| 115 | 51.35 | 31.17 | 26.44 | 0.080 | 0.467 | 0.00 |
| 125 | 51.12 | 25.17 | 21.26 | 0.080 | 0.472 | 0.00 |
| 135 | 50.89 | 20.63 | 17.35 | 0.080 | 0.476 | 0.00 |
| 145 | 50.66 | 17.14 | 14.35 | 0.080 | 0.480 | 0.00 |
| 155 | 50.43 | 14.42 | 12.02 | 0.079 | 0.484 | 0.00 |
| 165 | 50.20 | 12.26 | 10.17 | 0.079 | 0.489 | 0.00 |
| 175 | 49.97 | 10.54 | 8.70 | 0.079 | 0.493 | 0.00 |
| 185 | 49.74 | 9.14 | 7.51 | 0.079 | 0.497 | 0.00 |
| 195 | 49.52 | 7.99 | 6.54 | 0.079 | 0.501 | 0.00 |
| 205 | 49.29 | 7.05 | 5.74 | 0.079 | 0.506 | 0.00 |
| 215 | 49.06 | 6.26 | 5.07 | 0.078 | 0.510 | 0.00 |
| 225 | 48.83 | 5.59 | 4.51 | 0.078 | 0.514 | 0.00 |
| 235 | 48.60 | 5.03 | 4.04 | 0.078 | 0.518 | 0.00 |
| 245 | 48.37 | 4.54 | 3.63 | 0.078 | 0.523 | 0.00 |
| 255 | 48.14 | 4.13 | 3.28 | 0.078 | 0.527 | 0.00 |
| 265 | 47.91 | 3.77 | 2.98 | 0.078 | 0.531 | 0.00 |
| 275 | 47.69 | 3.45 | 2.72 | 0.077 | 0.535 | 0.00 |
| 285 | 47.46 | 3.18 | 2.49 | 0.077 | 0.540 | 0.00 |
| 295 | 47.23 | 2.94 | 2.29 | 0.077 | 0.544 | 0.01 |
| 305 | 47.00 | 2.73 | 2.12 | 0.077 | 0.548 | 0.01 |
| 315 | 46.77 | 2.54 | 1.96 | 0.077 | 0.552 | 0.01 |
| 325 | 46.54 | 2.37 | 1.82 | 0.077 | 0.557 | 0.01 |
| 335 | 46.31 | 2.22 | 1.70 | 0.076 | 0.561 | 0.02 |
| 345 | 46.08 | 2.08 | 1.59 | 0.076 | 0.565 | 0.02 |
| 355 | 45.86 | 1.96 | 1.48 | 0.076 | 0.569 | 0.02 |
| 365 | 45.63 | 1.85 | 1.39 | 0.076 | 0.574 | 0.03 |
| 375 | 45.40 | 1.75 | 1.31 | 0.076 | 0.578 | 0.03 |
| 385 | 45.17 | 1.66 | 1.24 | 0.075 | 0.582 | 0.04 |
| 395 | 44.94 | 1.57 | 1.17 | 0.075 | 0.586 | 0.05 |
| 405 | 44.71 | 1.50 | 1.11 | 0.075 | 0.591 | 0.06 |
| 415 | 44.48 | 1.43 | 1.05 | 0.075 | 0.595 | 0.08 |
| 425 | 44.25 | 1.36 | 1.00 | 0.075 | 0.599 | 0.09 |
| 435 | 44.03 | 1.30 | 0.95 | 0.075 | 0.603 | 0.11 |
| 445 | 43.80 | 1.25 | 0.90 | 0.074 | 0.608 | 0.13 |
| 455 | 43.57 | 1.20 | 0.86 | 0.074 | 0.612 | 0.16 |
| 465 | 43.34 | 1.15 | 0.82 | 0.074 | 0.616 | 0.19 |
| 475 | 43.11 | 1.11 | 0.79 | 0.074 | 0.620 | 0.23 |
| 485 | 42.88 | 1.07 | 0.76 | 0.074 | 0.625 | 0.26 |
| 495 | 42.65 | 1.03 | 0.73 | 0.074 | 0.629 | 0.31 |
| 505 | 42.42 | 0.99 | 0.70 | 0.073 | 0.633 | 0.36 |
| 515 | 42.20 | 0.96 | 0.67 | 0.073 | 0.637 | 0.43 |
| 525 | 41.97 | 0.93 | 0.64 | 0.073 | 0.641 | 0.49 |
| 535 | 41.74 | 0.90 | 0.62 | 0.073 | 0.646 | 0.57 |
| 545 | 41.51 | 0.87 | 0.60 | 0.073 | 0.650 | 0.67 |
| 555 | 41.28 | 0.85 | 0.58 | 0.073 | 0.654 | 0.77 |
| 565 | 41.05 | 0.82 | 0.56 | 0.072 | 0.658 | 0.89 |
| 575 | 40.82 | 0.80 | 0.54 | 0.072 | 0.663 | 1.02 |
| 585 | 40.59 | 0.78 | 0.52 | 0.072 | 0.667 | 1.16 |
| 595 | 40.37 | 0.76 | 0.51 | 0.072 | 0.671 | 1.34 |
| 600 | 40.25 | 0.75 | 0.50 | 0.072 | 0.673 | 1.43 |

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