

PROPERTY VS. TEMPERATURE CHART DURATHERM HTO STANDARD

| 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) |
|-----------------------------|----------------------------------|--|--------------------------------------|--|--------------------------------|-----------------------------|
| 50 | 53.32 | 226.00 | 193.032 | 0.082 | 0.446 | 0.00 |
| 60 | 53.32 | 153.00 | 130.681 | 0.082 | 0.446 | 0.00 |
| 70 | 52.58 | 108.00 | 90.964 | 0.082 | 0.446 | 0.00 |
| 80 | 52.58 | 78.30 | 65.949 | 0.081 | 0.455 | 0.00 |
| 90 | 52.58 | 60.49 | 50.944 | 0.081 | 0.455 | 0.00 |
| 100 | 52.58 | 45.56 | 38.373 | 0.081 | 0.465 | 0.00 |
| 110 | 51.84 | 35.16 | 29.194 | 0.081 | 0.465 | 0.00 |
| 120 | 51.84 | 28.01 | 23.262 | 0.081 | 0.475 | 0.00 |
| 130 | 51.84 | 22.69 | 18.845 | 0.081 | 0.475 | 0.00 |
| 140 | 51.10 | 18.66 | 15.275 | 0.080 | 0.475 | 0.00 |
| 150 | 51.10 | 15.55 | 12.731 | 0.080 | 0.485 | 0.00 |
| 160 | 51.10 | 13.12 | 10.740 | 0.080 | 0.485 | 0.00 |
| 170 | 50.36 | 11.19 | 9.029 | 0.080 | 0.495 | 0.00 |
| 180 | 50.36 | 9.65 | 7.780 | 0.080 | 0.495 | 0.00 |
| 190 | 50.36 | 8.39 | 6.766 | 0.080 | 0.505 | 0.00 |
| 200 | 49.62 | 7.36 | 5.847 | 0.079 | 0.505 | 0.00 |
| 210 | 49.62 | 6.50 | 5.166 | 0.079 | 0.515 | 0.00 |
| 220 | 49.62 | 5.78 | 4.597 | 0.079 | 0.515 | 0.00 |
| 230 | 49.62 | 5.18 | 4.117 | 0.079 | 0.515 | 0.00 |
| 240 | 48.88 | 4.67 | 3.654 | 0.079 | 0.525 | 0.00 |
| 250 | 48.88 | 4.23 | 3.310 | 0.079 | 0.525 | 0.00 |
| 260 | 48.88 | 3.85 | 3.014 | 0.078 | 0.535 | 0.00 |
| 270 | 48.14 | 3.52 | 2.715 | 0.078 | 0.535 | 0.00 |
| 280 | 48.14 | 3.23 | 2.494 | 0.078 | 0.545 | 0.00 |
| 290 | 48.14 | 2.98 | 2.300 | 0.078 | 0.545 | 0.01 |
| 300 | 47.40 | 2.76 | 2.097 | 0.078 | 0.545 | 0.01 |
| 310 | 47.40 | 2.57 | 1.948 | 0.078 | 0.554 | 0.01 |
| 320 | 47.40 | 2.39 | 1.816 | 0.077 | 0.554 | 0.01 |
| 330 | 46.66 | 2.24 | 1.671 | 0.077 | 0.564 | 0.02 |
| 340 | 46.66 | 2.10 | 1.567 | 0.077 | 0.564 | 0.02 |
| 350 | 46.66 | 1.97 | 1.473 | 0.077 | 0.574 | 0.02 |
| 360 | 45.92 | 1.86 | 1.367 | 0.077 | 0.574 | 0.03 |
| 370 | 45.92 | 1.76 | 1.292 | 0.077 | 0.574 | 0.04 |
| 380 | 45.92 | 1.66 | 1.222 | 0.076 | 0.584 | 0.06 |
| 390 | 45.92 | 1.58 | 1.161 | 0.076 | 0.584 | 0.07 |
| 400 | 45.17 | 1.50 | 1.085 | 0.076 | 0.594 | 0.08 |
| 410 | 45.17 | 1.43 | 1.034 | 0.076 | 0.594 | 0.10 |
| 420 | 45.17 | 1.36 | 0.987 | 0.076 | 0.604 | 0.11 |
| 430 | 44.43 | 1.30 | 0.928 | 0.076 | 0.604 | 0.15 |
| 440 | 44.43 | 1.25 | 0.889 | 0.075 | 0.614 | 0.17 |
| 450 | 44.43 | 1.20 | 0.853 | 0.075 | 0.614 | 0.20 |
| 460 | 43.69 | 1.15 | 0.806 | 0.075 | 0.614 | 0.25 |
| 470 | 43.69 | 1.11 | 0.775 | 0.075 | 0.624 | 0.29 |
| 480 | 43.69 | 1.07 | 0.746 | 0.075 | 0.624 | 0.34 |
| 490 | 42.95 | 1.03 | 0.707 | 0.075 | 0.634 | 0.40 |
| 500 | 42.95 | 0.99 | 0.683 | 0.074 | 0.634 | 0.47 |
| 510 | 42.95 | 0.96 | 0.661 | 0.074 | 0.644 | 0.55 |
| 520 | 42.21 | 0.93 | 0.628 | 0.074 | 0.644 | 0.64 |
| 530 | 42.21 | 0.90 | 0.609 | 0.074 | 0.644 | 0.74 |
| 540 | 42.21 | 0.87 | 0.590 | 0.074 | 0.653 | 0.86 |
| 550 | 42.21 | 0.85 | 0.573 | 0.074 | 0.653 | 1.00 |
| 560 | 41.47 | 0.82 | 0.547 | 0.073 | 0.663 | 1.14 |
| 570 | 41.47 | 0.80 | 0.533 | 0.073 | 0.663 | 1.31 |
| 580 | 41.47 | 0.78 | 0.519 | 0.073 | 0.673 | 1.50 |
| 590 | 40.73 | 0.76 | 0.497 | 0.073 | 0.673 | 1.72 |
| 600 | 40.73 | 0.74 | 0.484 | 0.073 | 0.673 | 2.30 |

PROPERTY VS. TEMPERATURE CHART DURATHERM HTO 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) |
|--------------------------|---------------------------------|--|--------------------------------------|------------------------------------|-------------------------------|----------------------------|
| 10 | 854.12 | 226.00 | 193.032 | 0.142 | 1.865 | 0.00 |
| 16 | 854.12 | 153.00 | 130.681 | 0.142 | 1.865 | 0.00 |
| 21 | 842.26 | 108.00 | 90.964 | 0.142 | 1.865 | 0.00 |
| 27 | 842.26 | 78.30 | 65.949 | 0.141 | 1.907 | 0.00 |
| 32 | 842.26 | 60.49 | 50.944 | 0.141 | 1.907 | 0.00 |
| 38 | 842.26 | 45.56 | 38.373 | 0.141 | 1.948 | 0.00 |
| 43 | 830.40 | 35.16 | 29.194 | 0.141 | 1.948 | 0.00 |
| 49 | 830.40 | 28.01 | 23.262 | 0.141 | 1.990 | 0.00 |
| 54 | 830.40 | 22.69 | 18.845 | 0.141 | 1.990 | 0.00 |
| 60 | 818.53 | 18.66 | 15.275 | 0.139 | 1.990 | 0.00 |
| 66 | 818.53 | 15.55 | 12.731 | 0.139 | 2.031 | 0.00 |
| 71 | 818.53 | 13.12 | 10.740 | 0.139 | 2.031 | 0.00 |
| 77 | 806.67 | 11.19 | 9.029 | 0.139 | 2.073 | 0.00 |
| 82 | 806.67 | 9.65 | 7.780 | 0.139 | 2.073 | 0.00 |
| 88 | 806.67 | 8.39 | 6.766 | 0.139 | 2.114 | 0.00 |
| 93 | 794.81 | 7.36 | 5.847 | 0.137 | 2.114 | 0.00 |
| 99 | 794.81 | 6.50 | 5.166 | 0.137 | 2.156 | 0.00 |
| 104 | 794.81 | 5.78 | 4.597 | 0.137 | 2.156 | 0.00 |
| 110 | 794.81 | 5.18 | 4.117 | 0.137 | 2.156 | 0.00 |
| 116 | 782.95 | 4.67 | 3.654 | 0.137 | 2.197 | 0.00 |
| 121 | 782.95 | 4.23 | 3.310 | 0.137 | 2.197 | 0.00 |
| 127 | 782.95 | 3.85 | 3.014 | 0.135 | 2.238 | 0.00 |
| 132 | 771.08 | 3.52 | 2.715 | 0.135 | 2.238 | 0.00 |
| 138 | 771.08 | 3.23 | 2.494 | 0.135 | 2.280 | 0.00 |
| 143 | 771.08 | 2.98 | 2.300 | 0.135 | 2.280 | 0.08 |
| 149 | 759.22 | 2.76 | 2.097 | 0.135 | 2.280 | 0.08 |
| 154 | 759.22 | 2.57 | 1.948 | 0.135 | 2.321 | 0.08 |
| 160 | 759.22 | 2.39 | 1.816 | 0.134 | 2.321 | 0.08 |
| 166 | 747.36 | 2.24 | 1.671 | 0.134 | 2.363 | 0.15 |
| 171 | 747.36 | 2.10 | 1.567 | 0.134 | 2.363 | 0.15 |
| 177 | 747.36 | 1.97 | 1.473 | 0.134 | 2.404 | 0.15 |
| 182 | 735.49 | 1.86 | 1.367 | 0.134 | 2.404 | 0.23 |
| 188 | 735.49 | 1.76 | 1.292 | 0.134 | 2.404 | 0.31 |
| 193 | 735.49 | 1.66 | 1.222 | 0.132 | 2.446 | 0.39 |
| 199 | 735.49 | 1.58 | 1.161 | 0.132 | 2.446 | 0.46 |
| 204 | 723.63 | 1.50 | 1.085 | 0.132 | 2.487 | 0.54 |
| 210 | 723.63 | 1.43 | 1.034 | 0.132 | 2.487 | 0.69 |
| 216 | 723.63 | 1.36 | 0.987 | 0.132 | 2.529 | 0.77 |
| 221 | 711.77 | 1.30 | 0.928 | 0.132 | 2.529 | 1.00 |
| 227 | 711.77 | 1.25 | 0.889 | 0.130 | 2.570 | 1.16 |
| 232 | 711.77 | 1.20 | 0.853 | 0.130 | 2.570 | 1.39 |
| 238 | 699.91 | 1.15 | 0.806 | 0.130 | 2.570 | 1.70 |
| 243 | 699.91 | 1.11 | 0.775 | 0.130 | 2.612 | 2.01 |
| 249 | 699.91 | 1.07 | 0.746 | 0.130 | 2.612 | 2.32 |
| 254 | 688.04 | 1.03 | 0.707 | 0.130 | 2.653 | 2.78 |
| 260 | 688.04 | 0.99 | 0.683 | 0.129 | 2.653 | 3.24 |
| 266 | 688.04 | 0.96 | 0.661 | 0.129 | 2.694 | 3.78 |
| 271 | 676.18 | 0.93 | 0.628 | 0.129 | 2.694 | 4.40 |
| 277 | 676.18 | 0.90 | 0.609 | 0.129 | 2.694 | 5.10 |
| 282 | 676.18 | 0.87 | 0.590 | 0.129 | 2.736 | 5.95 |
| 288 | 676.18 | 0.85 | 0.573 | 0.129 | 2.736 | 6.87 |
| 293 | 664.32 | 0.82 | 0.547 | 0.127 | 2.777 | 7.88 |
| 299 | 664.32 | 0.80 | 0.533 | 0.127 | 2.777 | 9.03 |
| 304 | 664.32 | 0.78 | 0.519 | 0.127 | 2.819 | 10.35 |
| 310 | 652.45 | 0.76 | 0.497 | 0.127 | 2.819 | 11.89 |
| 316 | 652.45 | 0.74 | 0.484 | 0.127 | 2.819 | 15.86 |