



**DURATHERM**  
Heat Transfer Fluids

# DURATHERM XLT-120

Engineered for long-term operation in heat transfer applications requiring precise temperature control ranging from  $-84^{\circ}\text{C}$  ( $-120^{\circ}\text{F}$ ) up to  $65^{\circ}\text{C}$  ( $150^{\circ}\text{F}$ ).

Ideal for cryogenic applications Duratherm XLT-120's economical cost and wide operating temperature also makes it well-suited for heating and cooling applications found in the food processing, pharmaceutical and chemical industries.

## TROUBLE-FREE OPERATION

Duratherm XLT-120 heat transfer fluid does not require monitoring of concentration or additive levels.

## LASTS LONGER

Duratherm XLT-120 utilizes our exclusive additive system for long-term, trouble-free operation at any temperature, high or low.

## ENVIRONMENTAL

Duratherm XLT-120 is plant and user friendly. Low odors, high flash point and no SARA reportable substances makes Duratherm XLT-120 the wise choice for worker health and safety.

## DISPOSAL

After its extensive service life, Duratherm XLT-120 can typically be disposed of through local waste oil recycling programs. Check your local regulations.

[www.DurathermCanada.ca](http://www.DurathermCanada.ca)

# DURATHERM XLT-120

- Maximum temperature: 65°C/150°F
- Minimum temperature: -84°C/-120°F
- Flash point 49°C/120°F
- Extreme low-temperature capabilities
- Stable and non-corrosive
- Properties remain consistent over temperature range
- Includes free fluid analysis and tech support



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## TEMPERATURE RATINGS

|                        |       |        |
|------------------------|-------|--------|
| Maximum Bulk/Use Temp. | 65°C  | 150°F  |
| Minimum Bulk/Use Temp. | -84°C | -120°F |
| Maximum Film Temp.     | 82°C  | 180°F  |
| Pour Point ASTM D97    | -90°C | -130°F |

## SAFETY DATA

|                            |       |       |
|----------------------------|-------|-------|
| Flash Point ASTM D92       | 49°C  | 120°F |
| Fire Point ASTM D92        | 60°C  | 140°F |
| Autoignition ASTM E-659-78 | 237°C | 459°F |

## THERMAL PROPERTIES

|                      |         |             |
|----------------------|---------|-------------|
| Thermal Conductivity | W/m K   | BTU/hr F ft |
| -84°C / -120°F       | 0.145   | 0.084       |
| -40°C / -40°F        | 0.141   | 0.082       |
| 0°C / 32°F           | 0.138   | 0.080       |
| 65°C / 150°F         | 0.133   | 0.077       |
| Heat Capacity        | kJ/kg K | BTU/lb F    |
| -84°C / -120°F       | 1.806   | 0.430       |
| -40°C / -40°F        | 1.898   | 0.456       |
| 0°C / 32°F           | 1.989   | 0.478       |
| 65°C / 150°F         | 2.158   | 0.516       |

## PHYSICAL PROPERTIES

|  |                   |                    |
|--|-------------------|--------------------|
| Appearance: clear liquid, slight yellow tint |                   |                    |
| Viscosity ASTM D445                          |                   |                    |
| cSt at -84°C / -120°F                        | 44.04             |                    |
| cSt at -40°C / -40°F                         | 4.53              |                    |
| cSt at -18°C / 0°F                           | 2.48              |                    |
| cSt at 0°C / 32°F                            | 1.73              |                    |
| cSt at 65°C / 150°F                          | 0.76              |                    |
| Density ASTM D1298                           | kg/m <sup>3</sup> | lb/ft <sup>3</sup> |
| -84°C / -120°F                               | 843.15            | 52.64              |
| -40°C / -40°F                                | 831.09            | 51.88              |
| 0°C / 32°F                                   | 820.13            | 51.20              |
| 65°C / 150°F                                 | 802.32            | 50.08              |
| Vapor Pressure ASTM D2879                    | kPa               | psi                |
| -120°F / -84°C                               | 0.00              | 0.00               |
| 15°C / 60°F                                  | 0.00              | 0.00               |
| 38°C / 100°F                                 | 0.17              | 0.02               |
| 65°C / 150°F                                 | 27.64             | 4.01               |
| Distillation Range ASTM D2887                | 10%               | 83°C (181°F)       |
|  | 90%               | 285°C (546°F)      |

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

# DURATHERM XLT-120

## PROPERTY VS. TEMPERATURE CHART METRIC

| TEMPERATURE<br>(Celsius) | DENSITY<br>(kg/m <sup>3</sup> ) | KINEMATIC VISCOSITY<br>(Centistoke) | DYNAMIC VISCOSITY<br>(Centipoise) | THERMAL CONDUCTIVITY<br>(W/m-K) | HEAT CAPACITY<br>(kJ/kg-K) | VAPOR PRESSURE<br>(kPa) |
|--------------------------|---------------------------------|-------------------------------------|-----------------------------------|---------------------------------|----------------------------|-------------------------|
| -85                      | 843.42                          | 46.07                               | 38.86                             | 0.145                           | 1.808                      | 0.00                    |
| -75                      | 840.68                          | 22.33                               | 18.77                             | 0.144                           | 1.827                      | 0.00                    |
| -65                      | 837.94                          | 12.56                               | 10.52                             | 0.143                           | 1.847                      | 0.00                    |
| -55                      | 835.20                          | 7.88                                | 6.58                              | 0.142                           | 1.867                      | 0.00                    |
| -45                      | 832.46                          | 5.36                                | 4.46                              | 0.142                           | 1.888                      | 0.00                    |
| -35                      | 829.72                          | 3.88                                | 3.22                              | 0.141                           | 1.909                      | 0.00                    |
| -25                      | 826.98                          | 2.95                                | 2.44                              | 0.140                           | 1.931                      | 0.00                    |
| -15                      | 824.24                          | 2.33                                | 1.92                              | 0.139                           | 1.954                      | 0.00                    |
| -5                       | 821.50                          | 1.90                                | 1.56                              | 0.138                           | 1.977                      | 0.00                    |
| 5                        | 818.76                          | 1.59                                | 1.30                              | 0.138                           | 2.001                      | 0.00                    |
| 15                       | 816.02                          | 1.35                                | 1.10                              | 0.137                           | 2.025                      | 0.00                    |
| 25                       | 813.28                          | 1.18                                | 0.96                              | 0.136                           | 2.050                      | 0.00                    |
| 35                       | 810.54                          | 1.04                                | 0.84                              | 0.135                           | 2.076                      | 0.07                    |
| 45                       | 807.80                          | 0.93                                | 0.75                              | 0.134                           | 2.103                      | 0.61                    |
| 55                       | 805.06                          | 0.84                                | 0.68                              | 0.134                           | 2.130                      | 4.25                    |
| 65                       | 802.32                          | 0.77                                | 0.62                              | 0.133                           | 2.158                      | 27.64                   |

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# DURATHERM XLT-120

## PROPERTY VS. TEMPERATURE CHART STANDARD

| TEMPERATURE<br>(Fahrenheit) | DENSITY<br>(lb/ft <sup>3</sup> ) | KINEMATIC VISCOSITY<br>(Centistoke) | DYNAMIC VISCOSITY<br>(Centipoise) | THERMAL CONDUCTIVITY<br>(BTU/hr-F-ft) | HEAT CAPACITY<br>(BTU/lb-F) | VAPOR PRESSURE<br>(Psia) |
|-----------------------------|----------------------------------|-------------------------------------|-----------------------------------|---------------------------------------|-----------------------------|--------------------------|
| -120                        | 52.64                            | 44.04                               | 37.16                             | 0.084                                 | 0.430                       | 0.00                     |
| -110                        | 52.55                            | 29.00                               | 24.43                             | 0.083                                 | 0.433                       | 0.00                     |
| -100                        | 52.45                            | 20.11                               | 16.90                             | 0.083                                 | 0.437                       | 0.00                     |
| -90                         | 52.36                            | 14.56                               | 12.22                             | 0.083                                 | 0.440                       | 0.00                     |
| -80                         | 52.26                            | 10.93                               | 9.16                              | 0.083                                 | 0.443                       | 0.00                     |
| -70                         | 52.17                            | 8.46                                | 7.08                              | 0.082                                 | 0.446                       | 0.00                     |
| -60                         | 52.07                            | 6.73                                | 5.61                              | 0.082                                 | 0.449                       | 0.00                     |
| -50                         | 51.98                            | 5.47                                | 4.56                              | 0.082                                 | 0.452                       | 0.00                     |
| -40                         | 51.88                            | 4.53                                | 3.77                              | 0.082                                 | 0.456                       | 0.00                     |
| -30                         | 51.79                            | 3.82                                | 3.17                              | 0.081                                 | 0.459                       | 0.00                     |
| -20                         | 51.69                            | 3.27                                | 2.71                              | 0.081                                 | 0.462                       | 0.00                     |
| -10                         | 51.60                            | 2.83                                | 2.34                              | 0.081                                 | 0.465                       | 0.00                     |
| 0                           | 51.50                            | 2.48                                | 2.05                              | 0.080                                 | 0.468                       | 0.00                     |
| 10                          | 51.41                            | 2.20                                | 1.81                              | 0.080                                 | 0.471                       | 0.00                     |
| 20                          | 51.31                            | 1.96                                | 1.61                              | 0.080                                 | 0.475                       | 0.00                     |
| 30                          | 51.22                            | 1.77                                | 1.45                              | 0.080                                 | 0.478                       | 0.00                     |
| 40                          | 51.12                            | 1.60                                | 1.31                              | 0.079                                 | 0.481                       | 0.00                     |
| 50                          | 51.03                            | 1.46                                | 1.20                              | 0.079                                 | 0.484                       | 0.00                     |
| 60                          | 50.93                            | 1.34                                | 1.10                              | 0.079                                 | 0.487                       | 0.00                     |
| 70                          | 50.84                            | 1.24                                | 1.01                              | 0.079                                 | 0.490                       | 0.00                     |
| 80                          | 50.74                            | 1.15                                | 0.94                              | 0.078                                 | 0.493                       | 0.00                     |
| 90                          | 50.65                            | 1.07                                | 0.87                              | 0.078                                 | 0.497                       | 0.00                     |
| 100                         | 50.55                            | 1.00                                | 0.81                              | 0.078                                 | 0.500                       | 0.02                     |
| 110                         | 50.46                            | 0.94                                | 0.76                              | 0.078                                 | 0.503                       | 0.06                     |
| 120                         | 50.36                            | 0.89                                | 0.72                              | 0.077                                 | 0.506                       | 0.16                     |
| 130                         | 50.27                            | 0.84                                | 0.68                              | 0.077                                 | 0.509                       | 0.47                     |
| 140                         | 50.17                            | 0.80                                | 0.64                              | 0.077                                 | 0.512                       | 1.37                     |
| 150                         | 50.08                            | 0.76                                | 0.61                              | 0.077                                 | 0.516                       | 4.01                     |

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