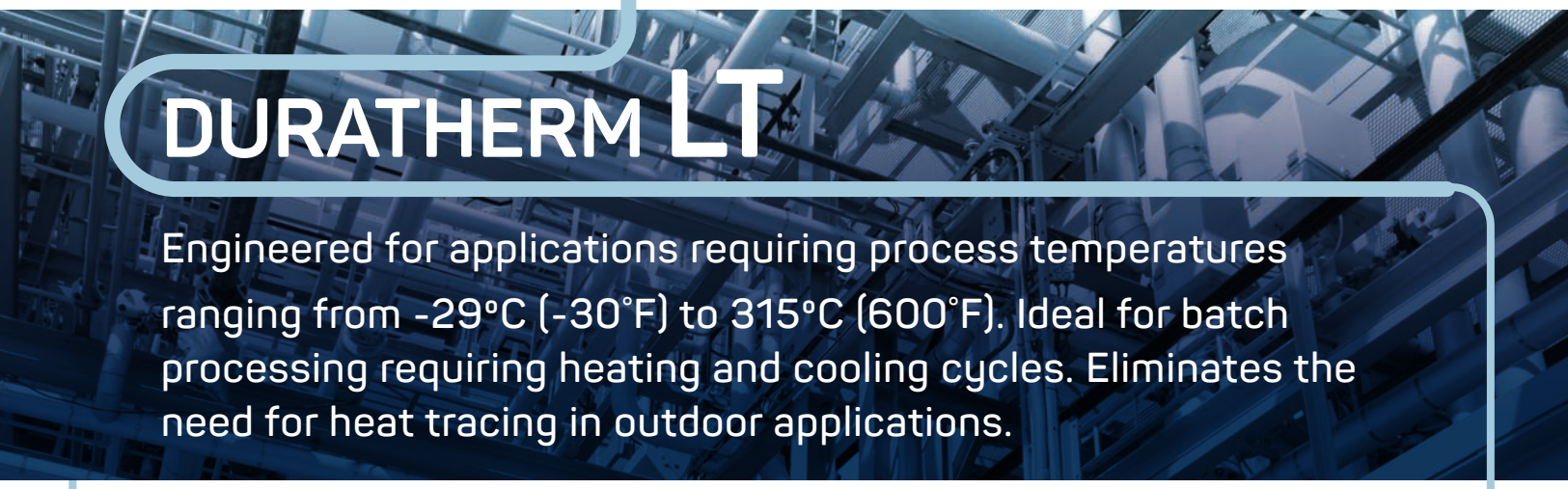
DURATHERM
Heat Transfer Fluids



DURATHERM LT

Engineered for applications requiring process temperatures ranging from -29°C (-30°F) to 315°C (600°F). Ideal for batch processing requiring heating and cooling cycles. Eliminates the need for heat tracing in outdoor applications.

APPLICATION

Duratherm LT is an oxidative and thermally stable, high performance, long lasting, environmentally friendly heat transfer fluid. **Duratherm LT** is engineered with a broad temperature range offering precise temperature control between -29°C (-30°F) and 315°C (600°F).

Duratherm LT is ideal for batch processing requiring heating and cooling cycles and eliminates the need for heat tracing in outdoor applications.

THE DIFFERENCE

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

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.

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 LT** is engineered to give unsurpassed levels of protection and service life.

ENVIRONMENTAL

Duratherm LT 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, **Duratherm LT** 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.

www.durathermfluids.be

DURATHERM LT

- Maximum temperature: 315°C / 600°F
- Flash point 165°C / 329°F
- Non-toxic/non-hazardous
- Runs longer, keeps systems cleaner
- Low- to high- temperature capable
- Great for batch processing
- Includes free fluid analysis and tech support

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TEMPERATURE RATINGS

Maximum Bulk/Use Temp.	315°C	600°F
Maximum Film Temp.	332°C	630°F
Pour Point ASTM D97	-58°C	-72°F

SAFETY DATA

Flash Point ASTM D92	165°C	329°F
Fire Point ASTM D92	188°C	370°F
Autoignition ASTM E-659-78	357°C	675°F

THERMAL PROPERTIES

Thermal Expansion Coefficient	0.1016 %/°C	0.0564 %/°F
Thermal Conductivity	W/m K	BTU/hr F ft
38°C / 100°F	0.145	0.084
260°C / 500°F	0.127	0.073
316°C / 600°F	0.122	0.071
Heat Capacity	kJ/kg K	BTU/lb F
38°C / 100°F	2.166	0.518
260°C / 500°F	2.930	0.700
316°C / 600°F	3.122	0.746

PHYSICAL PROPERTIES

Appearance: colorless, clear and bright liquid		
Viscosity ASTM D445		
cSt at 40°C / 104°F	7.98	
cSt at 100°C / 212°F	2.34	
cSt at 316°C / 600°F	0.52	
Density ASTM D1298	Kg/m3	lb/ft3
38°C / 100°F	805.71	50.31
260°C / 500°F	653.78	40.81
316°C / 600°F	615.47	38.44
Vapor Pressure ASTM D2879	kPa	psi
38°C / 100°F	0.00	0.00
260°C / 500°F	26.16	3.79
316°C / 600°F	70.90	11.72
Distillation Range ASTM D2887	10%	324°C (616°F)
	90%	399°C (750°F)
Average Molecular Weight	395	

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

DURATHERM LT

PROPERTY VS. TEMPERATURE CHART
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)
-30	852.24	280.49	239.04	0.151	1.932	0.00
-20	845.40	125.77	106.33	0.150	1.967	0.00
-10	838.55	64.59	54.17	0.149	2.001	0.00
0	831.71	36.93	30.72	0.148	2.036	0.00
10	824.87	23.00	18.97	0.147	2.070	0.00
20	818.02	15.34	12.55	0.147	2.104	0.00
30	811.18	10.82	8.78	0.146	2.139	0.00
40	804.34	7.98	6.42	0.145	2.173	0.01
50	797.49	6.11	4.87	0.144	2.208	0.01
60	790.65	4.82	3.81	0.143	2.242	0.02
70	783.81	3.91	3.06	0.143	2.276	0.03
80	776.96	3.24	2.51	0.142	2.311	0.05
90	770.12	2.73	2.10	0.141	2.345	0.09
100	763.28	2.34	1.79	0.140	2.380	0.15
110	756.43	2.03	1.54	0.139	2.414	0.23
120	749.59	1.79	1.34	0.138	2.448	0.34
130	742.75	1.59	1.18	0.138	2.483	0.52
140	735.90	1.43	1.05	0.137	2.517	0.77
150	729.06	1.29	0.94	0.136	2.552	1.12
160	722.22	1.18	0.85	0.135	2.586	1.59
170	715.37	1.08	0.78	0.134	2.620	2.22
180	708.53	1.00	0.71	0.134	2.655	3.07
190	701.69	0.93	0.65	0.133	2.689	4.17
200	694.84	0.87	0.61	0.132	2.724	5.61
210	688.00	0.82	0.56	0.131	2.758	7.45
220	681.16	0.77	0.53	0.130	2.792	9.77
230	674.31	0.73	0.49	0.129	2.827	12.68
240	667.47	0.69	0.46	0.129	2.861	16.30
250	660.63	0.66	0.44	0.128	2.896	20.74
260	653.78	0.63	0.41	0.127	2.930	26.16
270	646.94	0.61	0.39	0.126	2.964	32.71
280	640.10	0.58	0.37	0.125	2.999	40.59
290	633.25	0.56	0.36	0.124	3.033	47.92
300	626.41	0.54	0.34	0.123	3.068	56.01
310	619.57	0.53	0.33	0.123	3.102	64.75
315	615.47	0.52	0.32	0.122	3.122	70.90

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PROPERTY VS. TEMPERATURE CHART
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)
-30	53.39	422.35	361.45	0.087	0.458	0.00
-20	53.16	254.59	216.91	0.087	0.463	0.00
-10	52.92	161.60	137.07	0.087	0.467	0.00
0	52.68	107.32	90.62	0.086	0.472	0.00
10	52.44	74.15	62.33	0.086	0.476	0.00
20	52.21	53.04	44.38	0.086	0.481	0.00
30	51.97	39.12	32.59	0.086	0.486	0.00
40	51.73	29.64	24.58	0.085	0.490	0.00
50	51.49	23.00	18.99	0.085	0.495	0.00
60	51.26	18.23	14.98	0.085	0.499	0.00
70	51.02	14.72	12.04	0.085	0.504	0.00
80	50.78	12.09	9.84	0.084	0.508	0.00
90	50.55	10.07	8.16	0.084	0.513	0.00
100	50.31	8.51	6.86	0.084	0.518	0.00
110	50.07	7.27	5.84	0.084	0.522	0.00
120	49.83	6.28	5.02	0.083	0.527	0.00
130	49.60	5.48	4.36	0.083	0.531	0.00
140	49.36	4.82	3.82	0.083	0.536	0.00
150	49.12	4.28	3.37	0.082	0.540	0.00
160	48.88	3.82	3.00	0.082	0.545	0.01
170	48.65	3.44	2.68	0.082	0.550	0.01
180	48.41	3.11	2.41	0.082	0.554	0.01
190	48.17	2.83	2.19	0.081	0.559	0.01
200	47.93	2.59	1.99	0.081	0.563	0.02
210	47.70	2.38	1.82	0.081	0.568	0.02
220	47.46	2.20	1.67	0.081	0.572	0.03
230	47.22	2.03	1.54	0.080	0.577	0.04
240	46.99	1.89	1.42	0.080	0.582	0.05
250	46.75	1.77	1.32	0.080	0.586	0.05
260	46.51	1.65	1.23	0.080	0.591	0.06
270	46.27	1.55	1.15	0.079	0.595	0.08
280	46.04	1.46	1.08	0.079	0.600	0.10
290	45.80	1.38	1.01	0.079	0.604	0.13
300	45.56	1.31	0.96	0.079	0.609	0.15
310	45.32	1.24	0.90	0.078	0.613	0.19
320	45.09	1.18	0.85	0.078	0.618	0.23
330	44.85	1.13	0.81	0.078	0.623	0.28
340	44.61	1.08	0.77	0.077	0.627	0.34
350	44.37	1.03	0.73	0.077	0.632	0.40
360	44.14	0.99	0.70	0.077	0.636	0.48
370	43.90	0.95	0.67	0.077	0.641	0.56
380	43.66	0.91	0.64	0.076	0.645	0.67
390	43.43	0.88	0.61	0.076	0.650	0.79
400	43.19	0.85	0.59	0.076	0.655	0.93
410	42.95	0.82	0.56	0.076	0.659	1.08
420	42.71	0.79	0.54	0.075	0.664	1.26
430	42.48	0.77	0.52	0.075	0.668	1.46
440	42.24	0.74	0.50	0.075	0.673	1.69
450	42.00	0.72	0.49	0.075	0.677	1.95
460	41.76	0.70	0.47	0.074	0.682	2.24
470	41.53	0.68	0.45	0.074	0.687	2.57
480	41.29	0.67	0.44	0.074	0.691	2.93
490	41.05	0.65	0.43	0.073	0.696	3.34
500	40.81	0.63	0.41	0.073	0.700	3.79
510	40.58	0.62	0.40	0.073	0.705	4.30
520	40.34	0.60	0.39	0.073	0.709	4.86
530	40.10	0.59	0.38	0.072	0.714	5.48
540	39.87	0.58	0.37	0.072	0.719	6.17
550	39.63	0.57	0.36	0.072	0.723	6.92
560	39.39	0.56	0.35	0.072	0.728	7.72
570	39.15	0.55	0.34	0.071	0.732	8.72
580	38.92	0.54	0.33	0.071	0.737	9.72
590	38.68	0.53	0.33	0.071	0.741	10.72
600	38.44	0.52	0.32	0.071	0.746	11.72

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