



DOWTHERM Q

Synthetic Organic Heat Transfer Fluid

DOWTHERM[®] Q heat transfer fluid contains a mixture of diphenylethane and alkylated aromatics. Compared to hot oils, it exhibits better thermal stability, particularly at the upper end of hot oil's use range, and significantly better low-temperature pumpability.

Recommended use temperature range: -35°C (-30°F) to 330°C (625°F)

Suitable applications: as an alternative to hot oils in liquid phase heat transfer applications

For health and safety information for this product, contact your Dow sales representative or call the number for your area on the second page of this sheet for a Material Safety Data Sheet (MSDS).

Typical Properties of DOWTHERM Q Fluid[†]

Composition: Mixture of Diphenylethane and Alkylated Aromatics

Color: Clear to Light Yellow

Property	SI Units	English Units
Temperature Range	-35° to 330°C	-30 to 625°F
Atmospheric Reflux Boiling Point	267°C	513°F
Flash Point ¹	120°C	249°F
Fire Point ²	124°C	255°F
Autoignition Temperature ³	412°C	773°F
Film Coefficient, W/m ² K(Btu/hr ft ² °F) ⁴	295	563
Flammability Limits of Vapor in Air		
Upper Flammability Limit, 5.5 Vol. % in Air	190°C	375°F
Lower Flammability Limit, 0.55 Vol. % in Air	135°C	275°F
Estimated Critical Temperature	489°C	912°F
Estimated Critical Pressure	24 bar	23.7 atm
Estimated Critical Volume	3.258 L/kg	0.0522 ft ³ /lb
Molecular Weight (average)		190

[†] Not to be construed as specifications

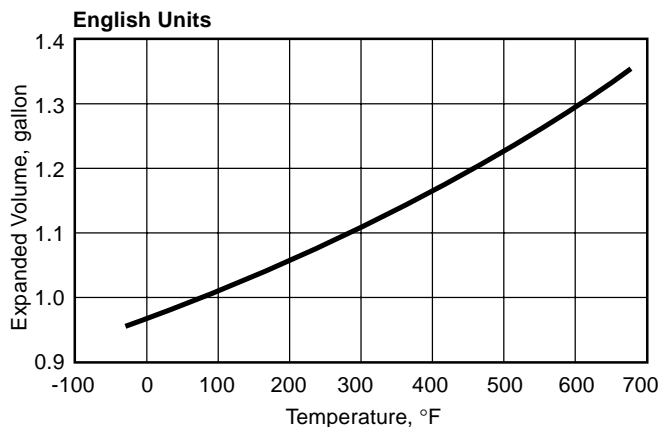
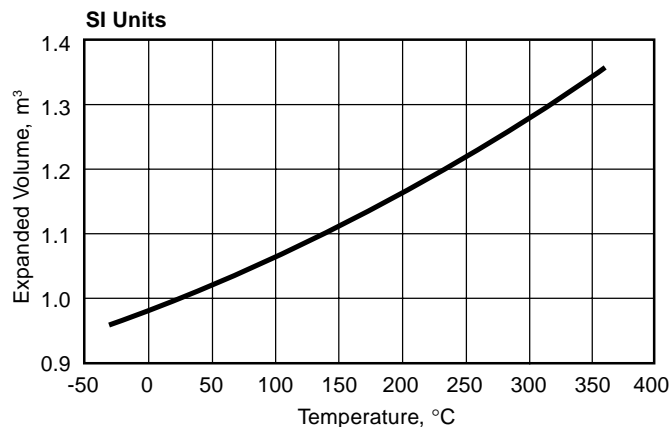
¹ Closed Cup

² C.O.C.

³ ASTM E659-78

⁴ Design Conditions: 550°F, V = 8 ft/sec, D = 1"

Thermal Expansion of DOWTHERM Q Fluid



DOWTHERM Q Synthetic Organic Heat Transfer Fluid

Saturated Liquid Properties of DOWTHERM Q Fluid (SI Units)

Temp. °C	Specific Heat kJ/kg K	Density kg/m ³	Therm. Cond. W/m K	Viscosity mPa·s	Vapor Pressure bar
-35	1.478	1011.4	0.1280	46.60	
0	1.589	980.5	0.1244	7.56	
40	1.716	950.2	0.1195	2.37	
80	1.842	920.0	0.1143	1.07	
120	1.966	889.8	0.1087	0.62	0.01
160	2.088	859.5	0.1028	0.41	0.05
200	2.208	829.3	0.0967	0.31	0.17
240	2.327	799.0	0.0905	0.24	0.51
280	2.444	768.8	0.0843	0.20	1.24
320	2.559	738.6	0.0780	0.17	2.61
360	2.672	708.3	0.0719	0.15	4.95

Saturated Liquid Properties of DOWTHERM Q Fluid (English Units)

Temp. °F	Specific Heat Btu/lb°F	Density lb/ft ³	Therm. Cond. Btu/hr ft ² (°F/ft)	Viscosity cP	Vapor Pressure psia
-30	0.353	62.84	0.0741	29.0	
0	0.366	62.05	0.0730	14.7	
50	0.387	60.74	0.0712	5.42	
100	0.409	59.43	0.0693	2.50	
150	0.429	58.12	0.0672	1.38	0.01
200	0.450	56.81	0.0650	0.88	0.03
250	0.471	55.50	0.0627	0.61	0.14
300	0.491	54.18	0.0604	0.46	0.45
350	0.511	52.87	0.0580	0.36	1.22
400	0.531	51.56	0.0555	0.30	2.88
450	0.551	50.25	0.0530	0.25	6.09
500	0.570	48.94	0.0505	0.22	11.73
550	0.589	47.63	0.0480	0.20	20.93
600	0.609	46.32	0.0455	0.18	35.05
630	0.620	45.53	0.0440	0.17	46.51

For further information, call...

In the United States and Canada: 1-800-447-4369 • FAX: 1-989-832-1465

In Europe: +32 3 450 2240 • FAX: +32 3 450 2815

In the Pacific: +886 22 547 8731 • FAX: +886 22 713 0092

In other Global Areas: 1-989-832-1560 • FAX: 1-989-832-1465

www.dowtherm.com

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