



DOWTHERM MX

Synthetic Organic Heat Transfer Fluid

DOWTHERM* MX heat transfer fluid is a mixture of alkylated aromatics designed for use as an alternative to hot oils in liquid phase heat transfer systems. DOWTHERM MX fluid is suitable for use in non-pressurized systems up to temperatures of 620°F (327°C).

Recommended Use Temperature Range:

DOWTHERM MX fluid has a maximum use temperature of 625°F (330°C).

Features

- Designed for use in non-pressurized systems
- Liquid phase operation only
- Good low temperature properties allow for low temperature start-up and pumpability
- Has a high flash point
- Superior thermal stability compared to hot oils

Expansion Tank Design:

Even though DOWTHERM MX fluid can be operated in a non-pressurized system, it is recommended that the tank have an inert atmosphere. Nitrogen padding should be used on the expansion tank to exclude oxygen from the heat transfer system. The presence of oxygen will cause accelerated fluid degradation, which will considerably shorten the life of the fluid.

For additional system design information, please consult *Equipment For Systems Using DOWTHERM Heat Transfer Fluids* (Form No. 176-01335).

For safety and handling information, please refer to the product Material Safety Data Sheet.

Typical Properties of DOWTHERM MX Fluid[†]

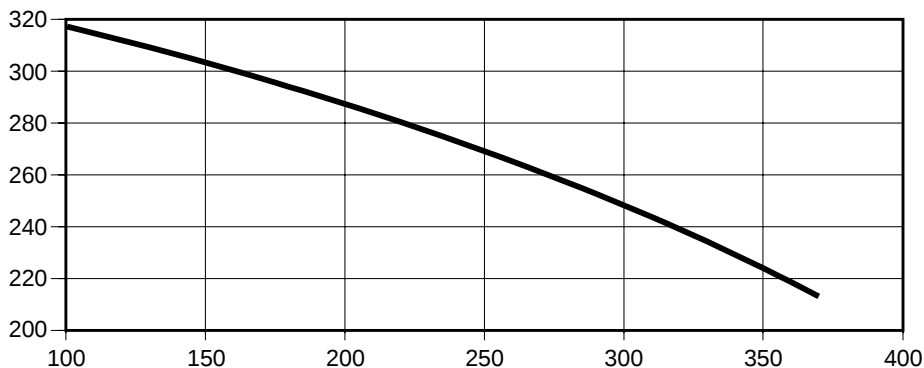
Composition: Mixture of alkylated aromatics

Color: Clear, yellow

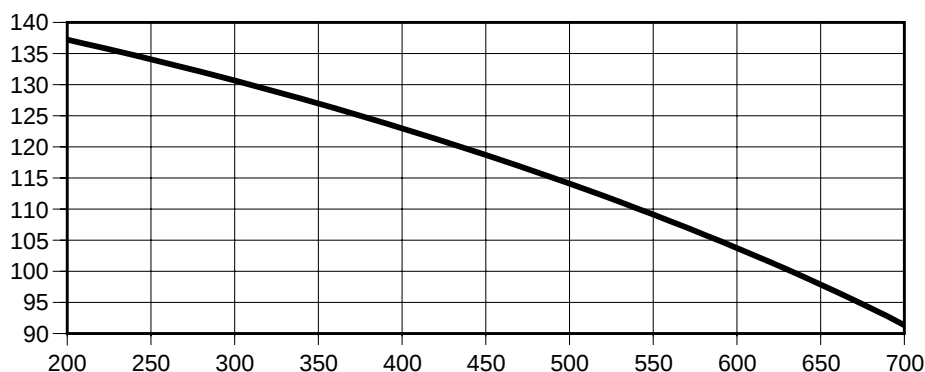
Property	SI Units	English Units
Reflux Boiling Point	328°C	623°F
Flash Point, CC ¹	165°C	329°F
Autoignition Temperature ²	420°C	788°F
Pour Point	-25°C	-13°F
Average Molecular Weight	238	238
Density at 75°F	959.5 kg/m ³	59.9 lb/ft ³
Density at 25°C	958.7 kg/m ³	59.9 lb/ft ³
Heat of Combustion	40629 kJ/kg	17479 Btu/lb
Estimated Critical Temperature	535°C	995°F
Estimated Critical Pressure	18.94 bar	18.69 atm
Estimated Critical Volume	3.42 l/kg	0.0548 ft ³ /lb

¹Setaflash ²ASTM E 659 [†]Not to be construed as specifications

Calculated Latent Heat of Vaporization for DOWTHERM MX Fluid (SI Units)



Calculated Latent Heat of Vaporization for DOWTHERM MX Fluid (English Units)



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Saturation Properties of DOWTHERM MX Fluid (SI Units)

Temperature °C	Specific Heat kJ/kg K	Density kg/m ³	Thermal Conductivity W/mK	Viscosity mPa·s	Vapor Pressure kPa
-20	1.480	989.8	0.127	213.9	0.0
40	1.675	948.2	0.121	9.44	0.0
100	1.870	905.2	0.114	2.09	0.0
160	2.065	860.4	0.108	0.85	0.6
220	2.260	813.2	0.102	0.45	6.1
280	2.455	763.0	0.096	0.28	34.4
340	2.650	708.2	0.089	0.19	128.4

Saturation Properties of DOWTHERM MX Fluid (English Units)

Temperature °F	Specific Heat Btu/lb °F	Density lb/ft ³	Thermal Conductivity Btu/hr ft ² (°F/ft)	Viscosity cP	Vapor Pressure psia
-10	0.351	61.9	0.0735	281.7	0.0
50	0.377	60.5	0.0715	32.3	0.0
110	0.403	59.0	0.0695	8.45	0.0
170	0.429	57.6	0.0675	3.40	0.0
230	0.455	56.0	0.0655	1.75	0.0
290	0.481	54.5	0.0635	1.05	0.0
350	0.506	52.9	0.0615	0.70	0.2
410	0.532	51.3	0.0595	0.50	0.6
470	0.558	49.6	0.0575	0.37	1.8
530	0.584	47.8	0.0555	0.29	4.6
590	0.610	46.0	0.0535	0.23	10.1
650	0.636	44.0	0.0514	0.19	19.9

For further information, call...

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