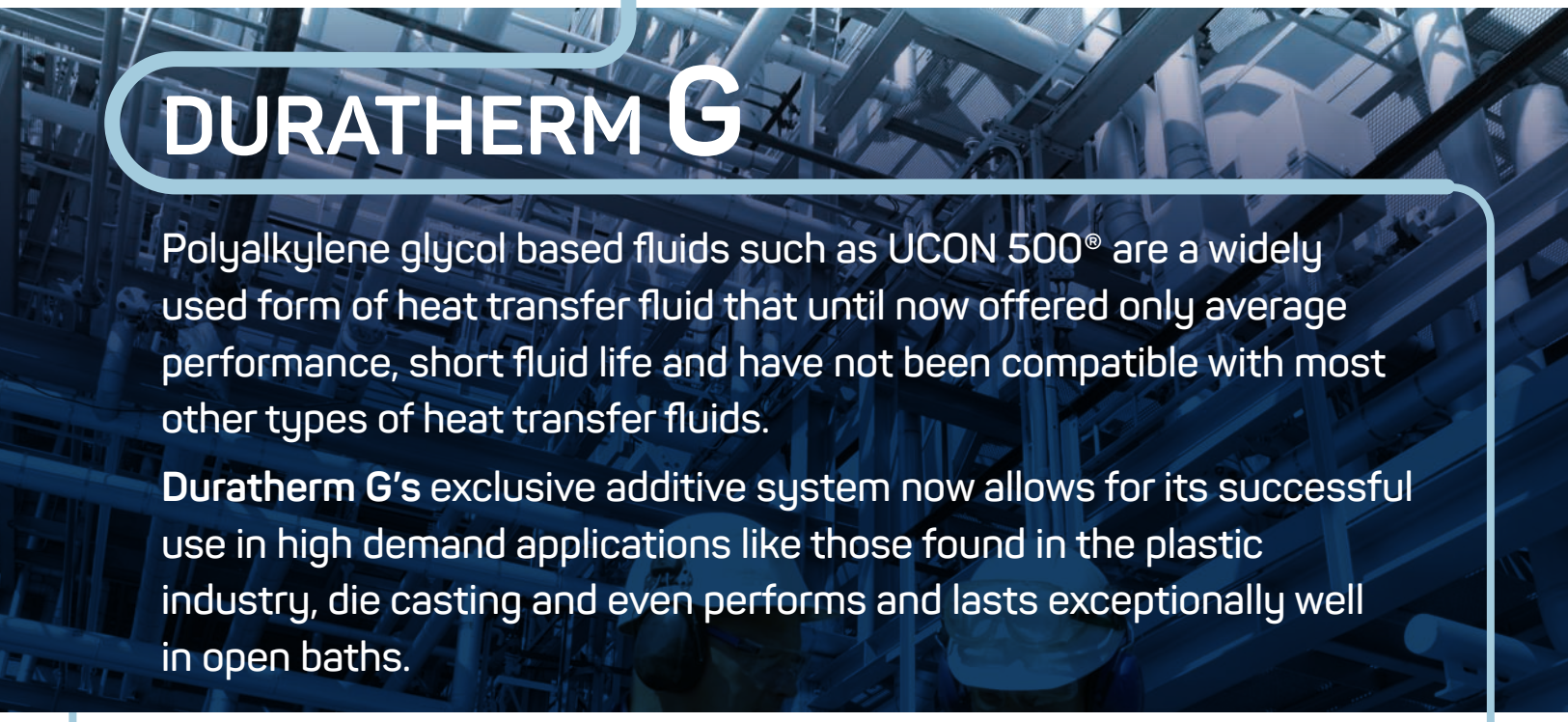
DURATHERM
Heat Transfer Fluids

DURATHERM G



Polyalkylene glycol based fluids such as UCON 500® are a widely used form of heat transfer fluid that until now offered only average performance, short fluid life and have not been compatible with most other types of heat transfer fluids.

Duratherm G's exclusive additive system now allows for its successful use in high demand applications like those found in the plastic industry, die casting and even performs and lasts exceptionally well in open baths.

APPLICATION

Duratherm G exclusive additive system now allows for its successful use in high demand applications like those found in the plastic industry, die casting and even performs and lasts exceptionally well in open baths.

COMPATIBILITY

Duratherm G thermal fluid not only outperforms most other fluids it also contains a unique and proprietary additive that makes it compatible with the more commonly used petroleum based fluids.

This allows for a worry free transition across different fluid chemistries and eliminates any need for special procedures. We've also reduced odors and improved fluid clarity when compared to other glycol thermal fluids.

LASTS LONGER

In the thermal 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.

Duratherm G thermal fluid contains our proprietary blend of anti-oxidants, corrosion inhibitors, metal deactivators, seal and gasket extenders etc. to ensure a long trouble free service life in even the most demanding, extreme oxidation applications.

www.durathermfluids.com.au

DURATHERM G

- Maximum temperature: 260°C / 500°F
- Flash point 248°C / 480°F
- Ideal for open bath systems
- Extreme oxidation resistance
- Non-toxic/non-hazardous
- Alternative to Ucon 500®
- Includes free fluid analysis and tech support

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TEMPERATURE RATINGS

Maximum Bulk/Use Temp.	260°C	500°F
Maximum Film Temp.	287°C	550°F
Pour Point ASTM D97	-40°C	-40°F

SAFETY DATA

Flash Point ASTM D92	248°C	480°F
Fire Point ASTM D92	284°C	505°F
Autoignition ASTM E-659-78	373°C	690°F

THERMAL PROPERTIES

Thermal Expansion Coefficient	0.0679 %/°C	0.0377 %/°F
Thermal Conductivity	W/m K	BTU/hr F ft
38°C / 100°F	0.181	0.105
121°C / 250°F	0.173	0.100
260°C / 500°F	0.160	0.092
Heat Capacity	kJ/kg K	BTU/lb F
38°C / 100°F	1.976	0.472
121°C / 250°F	2.063	0.493
260°C / 500°F	2.207	0.528

PHYSICAL PROPERTIES

Appearance: clear liquid, very slight yellow tint		
Viscosity ASTM D445		
cSt at 40°C / 104°F	42.10	
cSt at 121°C / 250°F	5.16	
cSt at 260°C / 500°F	1.23	
Density ASTM D1298	kg/m3	lb/ft3
38°C / 100°F	920.28	57.46
121°C / 250°F	896.85	55.99
260°C / 500°F	857.61	53.54
Vapor Pressure ASTM D2879	kPa	psi
38°C / 100°F	0.20	0.04
121°C / 250°F	0.93	0.16
260°C / 500°F	3.40	0.51
Distillation Range ASTM D2887	10%	367°C (694°F)
	90%	513°C (957°F)

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

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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)
-40	942.31	19283.44	18170.94	0.189	1.895	0.00
-30	939.48	5429.06	5100.52	0.188	1.906	0.00
-20	936.66	1874.94	1756.18	0.187	1.916	0.00
-10	933.84	763.63	713.10	0.186	1.926	0.01
0	931.01	355.66	331.13	0.185	1.937	0.04
10	928.19	184.88	171.60	0.184	1.947	0.07
20	925.37	105.20	97.35	0.183	1.958	0.11
30	922.54	64.51	59.51	0.182	1.968	0.15
40	919.72	42.10	38.72	0.181	1.978	0.21
50	916.90	28.94	26.54	0.180	1.989	0.27
60	914.07	20.79	19.00	0.179	1.999	0.34
70	911.25	15.49	14.11	0.178	2.010	0.41
80	908.43	11.91	10.82	0.177	2.020	0.50
90	905.60	9.41	8.52	0.176	2.030	0.59
100	902.78	7.60	6.86	0.175	2.041	0.69
110	899.96	6.26	5.64	0.174	2.051	0.80
120	897.13	5.25	4.71	0.173	2.062	0.92
130	894.31	4.47	4.00	0.172	2.072	1.04
140	891.49	3.86	3.44	0.171	2.082	1.18
150	888.66	3.36	2.99	0.170	2.093	1.32
160	885.84	2.97	2.63	0.169	2.103	1.47
170	883.02	2.64	2.33	0.168	2.114	1.62
180	880.19	2.37	2.08	0.167	2.124	1.79
190	877.37	2.14	1.88	0.166	2.134	1.96
200	874.55	1.95	1.70	0.166	2.145	2.14
210	871.72	1.78	1.55	0.165	2.155	2.33
220	868.90	1.64	1.42	0.164	2.166	2.53
230	866.08	1.52	1.31	0.163	2.176	2.73
240	863.25	1.41	1.22	0.162	2.186	2.95
250	860.43	1.31	1.13	0.161	2.197	3.17
260	857.61	1.23	1.06	0.160	2.207	3.40

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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)
-40	58.83	19283.44	18182.03	0.109	0.453	0.00
-30	58.73	9273.42	8729.20	0.109	0.454	0.00
-20	58.63	4779.58	4491.58	0.109	0.456	0.00
-10	58.53	2619.29	2457.35	0.108	0.457	0.00
0	58.43	1515.75	1419.66	0.108	0.459	0.01
10	58.34	920.69	860.88	0.108	0.460	0.01
20	58.24	583.94	545.08	0.108	0.461	0.01
30	58.14	384.93	358.71	0.107	0.463	0.01
40	58.04	262.67	244.37	0.107	0.464	0.02
50	57.95	184.88	171.71	0.107	0.465	0.02
60	57.85	133.80	124.06	0.106	0.467	0.03
70	57.75	99.29	91.91	0.106	0.468	0.03
80	57.65	75.36	69.64	0.106	0.470	0.04
90	57.55	58.38	53.86	0.105	0.471	0.04
100	57.46	46.07	42.42	0.105	0.472	0.04
110	57.36	36.96	33.98	0.105	0.474	0.05
120	57.26	30.10	27.63	0.104	0.475	0.06
130	57.16	24.86	22.78	0.104	0.476	0.06
140	57.06	20.79	19.01	0.104	0.478	0.07
150	56.97	17.58	16.05	0.103	0.479	0.08
160	56.87	15.02	13.69	0.103	0.481	0.08
170	56.77	12.96	11.79	0.103	0.482	0.09
180	56.67	11.28	10.24	0.102	0.483	0.10
190	56.57	9.89	8.97	0.102	0.485	0.11
200	56.48	8.74	7.91	0.102	0.486	0.11
210	56.38	7.77	7.03	0.102	0.488	0.12
220	56.28	6.96	6.28	0.101	0.489	0.13
230	56.18	6.26	5.64	0.101	0.490	0.14
240	56.08	5.67	5.10	0.101	0.492	0.15
250	55.99	5.16	4.63	0.100	0.493	0.16
260	55.89	4.71	4.22	0.100	0.494	0.17
270	55.79	4.32	3.86	0.100	0.496	0.18
280	55.69	3.98	3.55	0.099	0.497	0.19
290	55.60	3.68	3.28	0.099	0.499	0.20
300	55.50	3.41	3.04	0.099	0.500	0.21
310	55.40	3.18	2.82	0.098	0.501	0.23
320	55.30	2.97	2.63	0.098	0.503	0.24
330	55.20	2.78	2.46	0.098	0.504	0.25
340	55.11	2.61	2.30	0.097	0.505	0.26
350	55.01	2.45	2.16	0.097	0.507	0.28
360	54.91	2.31	2.04	0.097	0.508	0.29
370	54.81	2.19	1.92	0.096	0.510	0.30
380	54.71	2.07	1.82	0.096	0.511	0.32
390	54.62	1.97	1.72	0.096	0.512	0.33
400	54.52	1.87	1.63	0.095	0.514	0.35
410	54.42	1.78	1.55	0.095	0.515	0.36
420	54.32	1.70	1.48	0.095	0.517	0.38
430	54.22	1.62	1.41	0.095	0.518	0.39
440	54.13	1.55	1.35	0.094	0.519	0.41
450	54.03	1.49	1.29	0.094	0.521	0.43
460	53.93	1.43	1.24	0.094	0.522	0.44
470	53.83	1.38	1.19	0.093	0.523	0.46
480	53.73	1.32	1.14	0.093	0.525	0.48
490	53.64	1.28	1.10	0.093	0.526	0.49
500	53.54	1.23	1.06	0.092	0.528	0.51

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