

Armcoltherm® SF-5



Armcoltherm SF-5 is a Silicone Fluid Heat Transfer Fluid, a specifically engineered, exceptionally stable, and enduring silicone polymer tailored for utilization in high temperature liquid phase Heat transfer fluid systems, with a recommended operating temperature range of -40°F to 838°F (-40°C to 430°C) and its thermal stability is excellent, so it is very difficult to produce carbon deposition and thermal cracking.

Property	Unit	Result
Appearance	Visual	Clear liquid
Composition	-	Polydimethylsiloxane
Maximum bulk temperature	°C	430
Maximum film temperature	°C	450
Flash point	°C	175
Autoignition temperature	°C	379
Normal boiling point	°C	370
Pour point	°C	-65
Density @20°C	kg/m³	942.9
Viscosity, Kinematic @-40°C	mPas	39.91
Viscosity, Kinematic @25°C	mPas	9.03
Viscosity, Kinematic @40°C	mPas	7.51
Viscosity, Kinematic @100°C	mPas	3.40
Liquid heat capacity @400°C	kJ/kg.k	2.367
Liquid thermal conductivity @400°C	W/m.k	0.0682
Vapor pressured @400°C	Kpa	1295.63
Estimated Critical ConstantsTc	°C	460
Estimated Critical ConstantsPc	bar	4.5
Estimated Critical ConstantsVc	l/kg	2.8

Temperature	Density	Specific Heat	Thermal Conductivity	Viscosity	Vapor Pressure
°C	kg/m ³	kJ/kg•K	W/m•k	mm ² /s	kPa
-40	1003	1.441	0.1552	39.91	-
-30	992	1.453	0.1521	30.61	-
-20	982	1.466	0.0149	23.93	-
-10	972	1.480	0.0146	19.06	-
0	962	1.495	0.1431	15.41	-
10	952	1.510	0.1402	12.64	0.01
20	943	1.527	0.1374	10.51	0.01
30	934	1.544	0.1347	8.84	0.03
40	924	1.562	0.0132	7.51	0.08
50	915	1.580	0.1293	6.45	0.16
60	906	1.598	0.1268	5.58	0.31
70	897	1.618	0.1243	4.88	0.56
80	888	1.637	0.1218	4.30	0.97
90	879	1.657	0.1194	3.81	1.60
100	870	1.677	0.1171	3.40	2.56
110	861	1.697	0.1148	3.05	3.94
120	852	1.718	0.1126	2.76	5.88
130	843	1.739	0.1104	2.51	8.54
140	834	1.760	0.1083	2.29	12.10
160	825	1.782	0.1063	2.10	16.75
160	815	1.803	0.1043	1.94	22.72
170	806	1.825	0.1024	1.79	30.26
180	796	1.847	0.1005	1.67	39.61
190	786	1.869	0.0987	1.55	51.07
200	776	1.892	0.0097	1.46	64.91
210	766	1.914	0.0953	1.37	81.44
220	756	1.937	0.0937	1.28	100.97
230	745	1.960	0.0921	1.22	123.79
240	734	1.983	0.0906	1.16	150.23
250	723	2.007	0.0892	1.11	180.60
260	713	2.031	0.0878	1.05	215.20
270	704	2.055	0.0864	1.00	254.34
280	693	2.079	0.0850	0.95	298.33
290	682	2.103	0.0836	0.90	347.44
300	671	2.127	0.0822	0.85	401.95
310	660	2.151	0.0808	0.80	462.13
320	650	2.175	0.0794	0.75	528.23
330	639	2.199	0.0780	0.70	600.50
340	628	2.223	0.0766	0.64	679.15
350	618	2.247	0.0752	0.59	764.39
360	609	2.271	0.0738	0.54	856.41

370	599	2.295	0.0724	0.49	955.39
380	588	2.319	0.0710	0.44	1061.50
390	577	2.343	0.0696	0.39	1174.87
400	568	2.367	0.0682	0.34	1295.63
410	557	2.391	0.0668	0.28	1423.89
420	547	2.415	0.0654	0.23	1540.96
430	538	2.439	0.0640	0.18	1661.75
440	528	2.463	0.0626	0.13	1782.54
450	518	2.487	0.0612	0.08	1903.33

*The above data are based on laboratory testing and not all product data are the same.

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