

Armcoltherm® 650

Temperature: from -60°C to 340°C

It is a high-performance organic synthetic heat transfer oil, due to its good viscosity characteristics, it has super self-purification, can be used as a low-temperature refrigerant, and is an ideal heat transfer medium in the heating and cooling process. It is very suitable for use in cold areas, without heat tracing, excellent thermal stability, very suitable for long-term use above 300 °C, and no obvious change after several years, especially suitable for styrene ethylbenzene unit, PBAT, phthalic anhydride and other industries.

Property	Unit	Result
Appearance	Visual	Clear liquid
Composition	-	Benzyltoluene
Average molecular weight	-	184
Recommended bulk temperature	°C	340
Maximum extended use temperature	°C	360
Maximum film temperature	°C	380
Flash point	°C	147
Autoignition temperature	°C	495
Normal boiling point	°C	280
Pour point	°C	-79
Coefficient of thermal expansion CC/CC	°C	0.000981
Density @20°C	kg/m ³	993
Viscosity, Kinematic @40°C	mm ² /s	2.50
Viscosity, Kinematic @-20°C	mm ² /s	17.8
Liquid heat capacity @300°C	kJ/kg.k	2.60
Liquid thermal conductivity @300°C	W/m.k	0.100
Vapor pressured @300°C	Kpa	161
Pseudocritical temperature	°C	499
Pseudocritical pressure	bar	35.2
Pseudocritical density	kg/m ³	336.7

Temperature		Density	Specific Heat		Thermal Conductivity		Viscosity	Vapor Pressure			Fluid Enthalpy
°F	°C	kg/m ³	kcal/kg•°C	kJ/kg•K	Kcal/m•hr•°C	W/m•k	mm ² /s	kgf/cm ²	kPa	psia	kJ/kg
-76	-60	1062	0.299	1.25	0.124	0.144	1986	-	-	-	-63.1
-40	-40	1040	0.330	1.38	0.121	0.140	156	-	-	-	-33.5
20	-20	1024	0.353	1.48	0.118	0.137	17.8	-	-	-	-3.1
32	0	1011	0.369	1.56	0.116	0.135	7.22	-	-	-	28.7
68	20	993	0.389	1.63	0.114	0.132	4.10	-	-	-	61.8
104	40	981	0.404	1.69	0.112	0.130	2.50	-	-	-	96.5
140	60	967	0.421	1.76	0.109	0.127	1.88	-	-	-	133.0
176	80	952	0.435	1.82	0.108	0.125	1.48	-	-	-	169.2
212	100	938	0.452	1.89	0.105	0.122	1.11	0.002	0.20	0.029	207.1
248	120	922	0.469	1.96	0.103	0.120	0.87	0.006	0.58	0.084	246.9
284	140	906	0.486	2.03	0.102	0.118	0.70	0.014	1.41	0.20	288.4
320	160	891	0.498	2.08	0.100	0.116	0.60	0.033	3.21	0.46	329.5
356	180	872	0.518	2.16	0.098	0.114	0.54	0.066	6.50	0.94	373.2
392	200	858	0.533	2.23	0.096	0.111	0.47	0.127	12.5	1.81	417.9
428	220	840	0.550	2.30	0.094	0.109	0.42	0.236	23.1	3.35	466.0
464	240	822	0.570	2.37	0.091	0.106	0.38	0.410	40.2	4.93	512.5
500	260	805	0.586	2.45	0.090	0.104	0.36	0.688	67.5	9.79	562.4
536	280	785	0.605	2.53	0.088	0.102	0.32	1.07	105	15.2	611.7
572	300	766	0.622	2.60	0.086	0.100	0.29	1.64	161	23.3	663.2
608	320	746	0.670	2.68	0.084	0.098	0.27	2.43	238	34.5	716.5
644	340	725	0.651	2.72	0.082	0.095	0.25	3.26	320	46.4	772.5
680	360	702	0.665	2.78	0.080	0.093	0.23	4.90	481	69.8	833.9
716	380	680	0.673	2.81	0.078	0.091	0.21	7.10	695	100	865.1

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

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