

Armcoltherm® 690

Temperature: from -30°C to 350 °C

It is a high-performance organic synthetic heat transfer oil with a wide range of applications, with a maximum oil film temperature of 380°C, suitable for forced circulation liquid phase heating system, and the boiling point is higher than the upper limit of the operating temperature. It is especially suitable for polyester chemical fiber, spandex, petrochemical industry, engineering plastics, pesticides/pharmaceutical intermediates, silicones, refrigerants, coal chemicals, resins, fine chemicals and other fields.

Property	Unit	Result
Appearance	Visual	Clear liquid
Composition	-	Dibenzyltoluene
Average molecular weight	-	272
Maximum bulk temperature	°C	350
Maximum film temperature	°C	380
Flash point	°C	200
Autoignition temperature	°C	462
Normal boiling point	°C	390
Pour point	°C	-34
Coefficient of thermal expansion CC/CC	°C	0.000784
Density @20°C	kg/m ³	1044
Viscosity, Kinematic @40°C	mm ² /s	16.5
Viscosity, Kinematic @100°C	mm ² /s	3.18
Liquid heat capacity @300°C	kJ/kg.k	2.59
Liquid thermal conductivity @300°C	W/m.k	0.098
Vapor pressured @300°C	Kpa	13.3
Pseudocritical temperature	°C	587
Pseudocritical pressure	bar	24.4
Pseudocritical density	kg/m ³	331.3

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
-22	-30	1083	0.323	1.35	0.118	0.137	2350	-	-	-	-35.5
20	-20	1070	0.340	1.42	0.116	0.135	895	-	-	-	-4.2
32	0	1055	0.356	1.49	0.115	0.133	261	-	-	-	26.0
68	20	1044	0.373	1.56	0.113	0.131	47.3	-	-	-	56.5
104	40	1029	0.390	1.63	0.110	0.128	16.5	-	-	-	88.5
140	60	1015	0.409	1.71	0.108	0.125	8.02	-	-	-	122.1
176	80	1002	0.426	1.78	0.106	0.123	4.76	-	-	-	157.1
212	100	989	0.443	1.85	0.103	0.120	3.18	-	-	-	193.2
248	120	975	0.459	1.92	0.102	0.118	2.29	0.0003	0.025	0.004	231.1
284	140	961	0.478	2.00	0.099	0.115	1.74	0.0007	0.065	0.009	270.1
320	160	947	0.495	2.07	0.097	0.112	1.37	0.002	0.156	0.023	311.5
356	180	933	0.512	2.14	0.095	0.110	1.11	0.004	0.347	0.050	353.3
392	200	919	0.531	2.22	0.092	0.107	0.92	0.007	0.723	0.105	396.2
428	220	904	0.548	2.29	0.090	0.104	0.77	0.014	1.42	0.206	441.3
464	240	890	0.567	2.37	0.088	0.102	0.66	0.027	2.65	0.385	488.4
500	260	874	0.584	2.44	0.085	0.099	0.57	0.048	4.72	0.685	536.1
536	280	859	0.603	2.52	0.083	0.096	0.50	0.082	8.07	1.171	586.2
572	300	843	0.620	2.59	0.084	0.098	0.44	0.136	13.3	1.930	637.3
608	320	827	0.639	2.67	0.078	0.091	0.39	0.215	21.1	3.062	689.0
644	340	810	0.658	2.75	0.076	0.088	0.36	0.334	32.7	4.745	743.1
680	360	792	0.675	2.82	0.074	0.086	0.33	0.502	49.2	7.139	799.0
716	380	775	0.658	2.75	0.072	0.084	0.31	0.870	85.3	12.377	856.1

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

The information and recommendations contained in this product data sheet are based on the date of its publication and are accurate and reliable to the best of Armco knowledge and belief. Please contact Armco to ensure that this document is the latest version currently available from Armco. The information and recommendations are for the user consideration and verification. It is the user responsibility to satisfy the user requirements that the product is suitable for a particular purpose. If the purchaser repackages this product, the user is responsible for ensuring that the correct health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe handling procedures should be provided to operators and users. Changes to this document are strictly prohibited. This document may not be reproduced or retransmitted in whole or in part, except to the extent required by law. The term; is used for convenience, or one or more of any affiliated companies they directly or indirectly manage.

copyright©2023 ARMCOLTHERM® are registered trademarks of Armco Corporation and its subsidiaries.

