

AmpCool® Dielectric Coolants

Heat Transfer Fluids for Immersive Cooling of Batteries, Chargers, Invertors and Electronics

Engineered Fluids' AmpCool AC-100 family of Dielectric Coolants are designed specifically for immersion cooling of batteries, chargers, invertors, and associated electronics used in grid storage, fixed, mobile and vehicular applications. AmpCool features the broadest material compatibility index, highest dielectric strength, zero environmental impact, and best health and safety ratings available.

PRODUCT OVERVIEW:

Engineered Fluids' AmpCool Dielectric Coolants solve the high-performance cooling, insulation challenges posed by today's electric vehicle, marine and electrical power charging, and storage technologies.

These applications require efficient and effective cooling of batteries cells during charge and discharge regimes. AmpCool is the only product designed specifically for use as both as a dielectric coolant for batteries and charging systems. AmpCool is so effective that battery C rates and typically be reduced by more than 1/2 and still remain within manufactures charge/discharge temperature recommendations.

Power storage solutions for both fixed and mobile applications require high capacity and fast and high-level discharge rates to provide acceptable performance for consumers. All battery chemistries benefit from efficient and effective removal of heat, which is a key factor in these systems' reliability, longevity, and safety. In addition, AmpCool Coolants are compatible with all materials commonly used in prismatic, pouch, and cylindrical cells and are compatible with all battery chemistries.

Engineered Fluids' AmpCool Dielectric Coolants are biodegradable, nontoxic, non-halogenated, food grade and 100% ozone safe. AmpCool contains no sulfur, metals, or other impurities. AmpCool Dielectric Coolants deliver safe, reliable, dielectric protection with outstanding high-temperature oxidation stability.

In addition, the use and manufacture of AmpCool Dielectric Coolants release no toxic waste or vapors into the workplace or environment, making Engineered Fluids' AmpCool coolants easy to transport, use, and clean up.

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CHARACTERISTICS OF AMPCOOL DIELECTRIC COOLANTS

Product ID	AC-110	AC-120	AC-130	AC-140
Typical Application	General purpose battery and charger cooling	High performance low viscosity, battery, and charger cable cooling	Cooling of high temperature invertors, chargers, and generators	High fire resistance battery and charger cooling
Appearance	Clear			
Fluid Behavior	Non-Compressible, Isotropic, Newtonian			
Dielectric Strength	>60kV			
Resistivity (ohm-cm)	>1x10 ¹⁴			
Dielectric Constant	2.080	2.100	2.100	2.130
Refractive Index n _D ²⁰	1.441	1.453	1.448	1.462
Pour Point (°C)	-57	-69	-49	-52
Flash Point (°C)	193	232	268	280
ISO 4460 Particle Cnt.	10/10/2012	10/10/2012	10/10/2012	10/10/2012
Total Sulfur (ppm)	0	0	0	0
Density, g/cc @ 15.6°C	0.82	0.82	0.83	0.84
Coefficient of Thermal Expansion, volume/°C	0.00067	.00065	0.00065	0.00063
Kinematic 0°C	41.10	109.40	288.00	600.00
Viscosity 40°C	8.11	16.00	36.10	67.00
(cSt) 100°C	2.22	3.60	6.80	9.53
Thermal 0°C	0.1455	0.1478	0.1518	0.1600
Conductivity 40°C	0.1403	0.1459	0.1508	0.1584
(W/m*K) 100°C	0.1325	0.1430	0.1495	0.1561
Specific 0°C	2.0608	2.0575	2.0502	2.0460
Heat 40°C	2.2121	2.2060	2.2030	2.1912
(kJ/kg°C) 100°C	2.4390	2.4288	2.4180	2.4090
Global Warming Potential	0	0	0	0
Biodegradability	>95%	>70%	>72%	>50%
Materials Compatibility Warranty	Yes	Yes	Yes	Yes
Product Operational Warranties (Yrs) ¹	0, 5, 10	0, 5, 10	0, 5, 10	0, 5, 10
Shelf Life (Yrs) ²	25	25	25	25

1) See product specific warranty statement for terms and conditions.

2) Shelf Life duration is stated for a sealed original steel container, Shelf life period is included in the warranty period.

Need more information? Please contact us at
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Proudly Manufactured
in the United States

