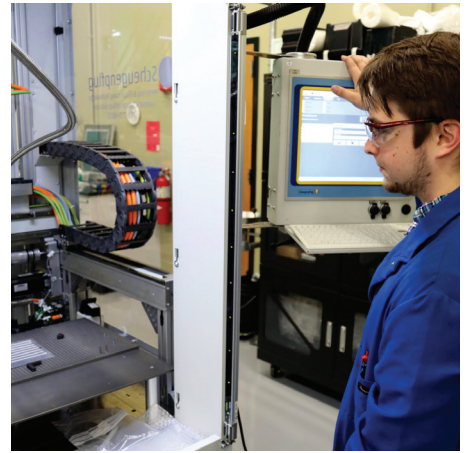


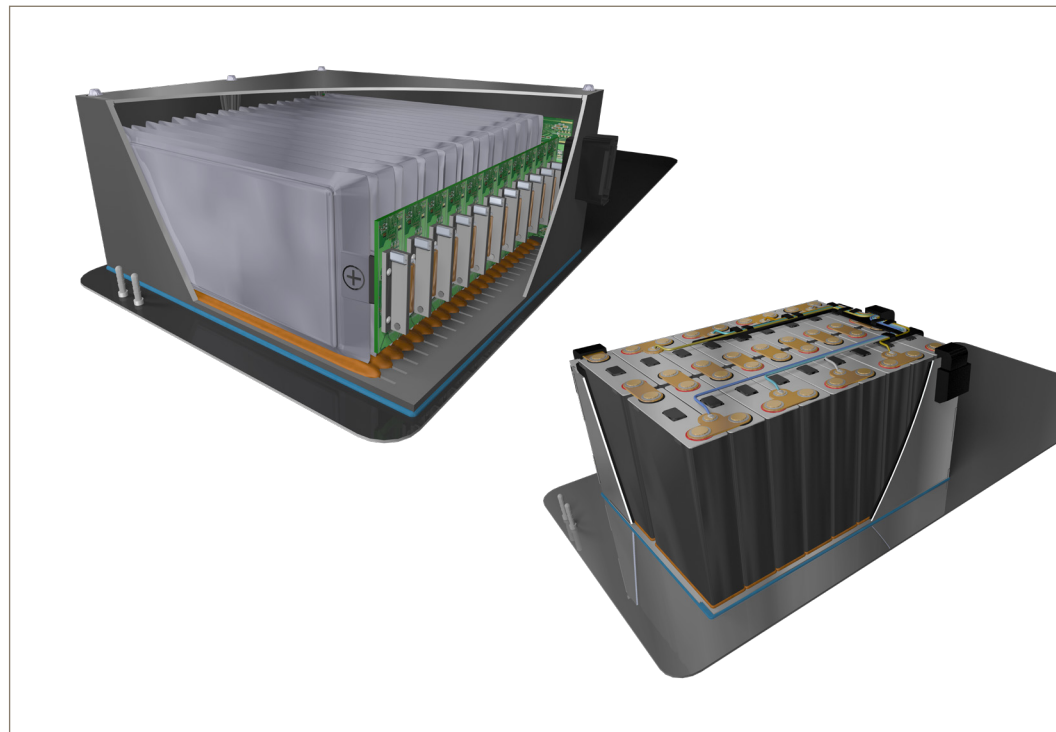
CoolTherm® Materials

Battery Packs Application



Heat can be a real drain - As battery technologies evolve to have increased energy density, the ability to manage heat during charge and discharge cycles is crucial for optimizing performance. CoolTherm® gap fillers, adhesives and encapsulants are fully customizable and compatible with cylindrical, pouch and prismatic battery cells. Our dedicated application engineers will work with you to ensure your project's specific performance requirements, cost targets and deadlines are met quickly.

With CoolTherm tailored thermal management materials and our responsive technical experts at your fingertips, get ready to achieve a different kind of cool.



Pouch Battery Pack (Left), Prismatic Battery Pack (Right)

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CoolTherm solutions allow you to manage heat in your battery pack by providing a tailored solution for your cell type.



ENGINEERING YOUR SUCCESS.

Gap Fillers:

Get the best performance out of your batteries by filling in surface imperfections with a thermally conductive gap filler designed with electric vehicle applications in mind. They are a stay-in-place solution and cure as a gel, easing the stresses caused by thermal differences and flex.

- **Low Outgas Options:** We offer low ppm siloxane solutions for sensitive electronic applications.
- **Protect Against Shock:** Our gap fillers remain tacky and soft to dampen vibration.

GAP FILLERS	PRODUCT	CHEMISTRY	THERMAL CONDUCTIVITY (W/m·K)	SHORE HARDNESS (OO)	DENSITY (g/cm ³)
	CoolTherm® SC-1200	Silicone	2.0	82	2.9
	CoolTherm SC-3500	Silicone	3.5	80	3.3
	CoolTherm SC-1600	Silicone	3.7	89	3.3
	CoolTherm SC-3000LD	Silicone	3.0	65	2.4
	CoolTherm UR-2002	Urethane	2.0	78	2.7
	CoolTherm UR-2000	Urethane	2.0	D55	2.6

ADHESIVES	PRODUCT	CHEMISTRY	THERMAL CONDUCTIVITY (W/m·K)	LAP SHEAR STRENGTH (MPa)
	CoolTherm TC-2002	Acrylic	1.0	15.8
	Maxlok™ T6	Acrylic	—	19.3
	LORD® 5206	Acrylic	—	18.4
	LORD AC-902 LC	Acrylic	—	15

ENCAPSULANTS	PRODUCT	CHEMISTRY	THERMAL CONDUCTIVITY (W/m·K)	VISCOSITY (cP @25°C)	DENSITY (g/cm ³)
	CoolTherm SC-305	Silicone	0.7	4,000	1.5
	CoolTherm SC-309	Silicone	1.0	3,600	1.7
	CoolTherm SC-252	Silicone	2.5	18,000	2.9
	CoolTherm SC-320	Silicone	3.2	22,000	3.1
	CoolTherm SC-324	Silicone	4.0	30,000	3.2

Adhesives:

Formulated for standard MMD equipment, our adhesives provide your application with structural integrity. Our thermally conductive adhesives not only provide mechanical rigidity but also a thermal connection where heat is a problem.

- **Improve Design Flexibility:** No longer constrained by mechanical fixtures and given the ability to bond a wide variety of substrates, you are free to discover the possibilities.
- **Reduce Complexity:** Reduce the need for fasteners, thereby simplifying your battery pack design.

Encapsulants:

Thermally connect your cells to the heat sink by encapsulating the entire pack and minimize design gaps by taking advantage of high dielectric strength.

- **Improve Performance:** Our encapsulants facilitate optimum heat transfer because of their high thermal conductivity and low viscosity.
- **Protect Electronics:** Potting and encapsulants provide protection from dust and moisture and can reduce vibration.
- **Reduce Component Stress:** Parker LORD encapsulants exhibit low shrinkage upon curing.
- **Two-Component**
- **Low Outgas Options**
- **Room Temperature and Heat Curing**
- **Electrically Isolative**
- **1:1 Mix Ratio**

- **Two-Component**
- **Bond a Wide Variety of Substrates**
- **Room Temperature and UV Curing Options**
- **Variable Cure Speeds**
- **Electrically Isolative**

- **Two-Component**
- **Room Temperature and Heat Curing**
- **Electrically Isolative**
- **1:1 Mix Ratio**

