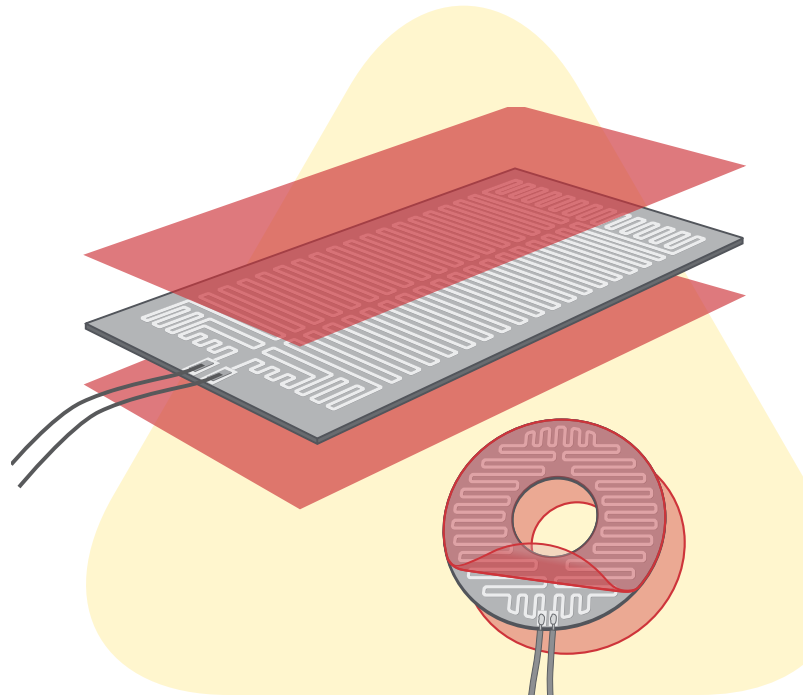


Heater Films | EV Battery Solutions

Flexible printed circuit heater films are often used to keep cells warm in the pack. This helps prevent battery issues related to low temperatures, including underperformance and potential damage during charging.

Avery Dennison offers transfer and double-coated tapes for bonding these films at critical locations in the pack.

- Conductive ink-compatible adhesives that don't negatively impact heating and durability
- Temperature-resistant adhesives that remain durable after many heating cycles
- Low-ooze options for optimized die cut and precision processing



Heater Films Tape Product Portfolio

Product	Total Construction (minus liner)				Carrier		Adhesive		Liner	Key Benefits
	Type	Caliper (mils)	Color	Relative Cost	Film Type	Caliper (mils)	Adhesive Type	Caliper (mils)	Linered	
FT 1123	Transfer Tape	2.5	Clear	\$\$	None	-	General Purpose Acrylic	2.5	•	Tacky with improved environmental resistance
HPA 1905	Transfer Tape	4.9	Clear	\$\$	None	-	High Performance Acrylic	4.9	•	High temperature resistance
FT 1165	Transfer Tape	2.0	White	\$\$	None	-	Flame Tough™ Acrylic	2.0	•	Strong flame retardancy, transfer tape

Avery Dennison EV Battery Tape Product Portfolio

The Avery Dennison EV Battery Portfolio includes a wide range of functional bonding and protection tapes, built on multiple pressure-sensitive adhesive technologies. These are engineered to make EV batteries safer, more efficient and easier to assemble.

The portfolio can help you solve for some of the most common challenges in battery design and construction.



Reducing flammability

Acrylic- and silicone-based adhesives with Flame Tough™ flame-retardant adhesive properties allow composites and materials to meet UL® 94 V-0 and other flame requirements.



Boosting dielectric strength

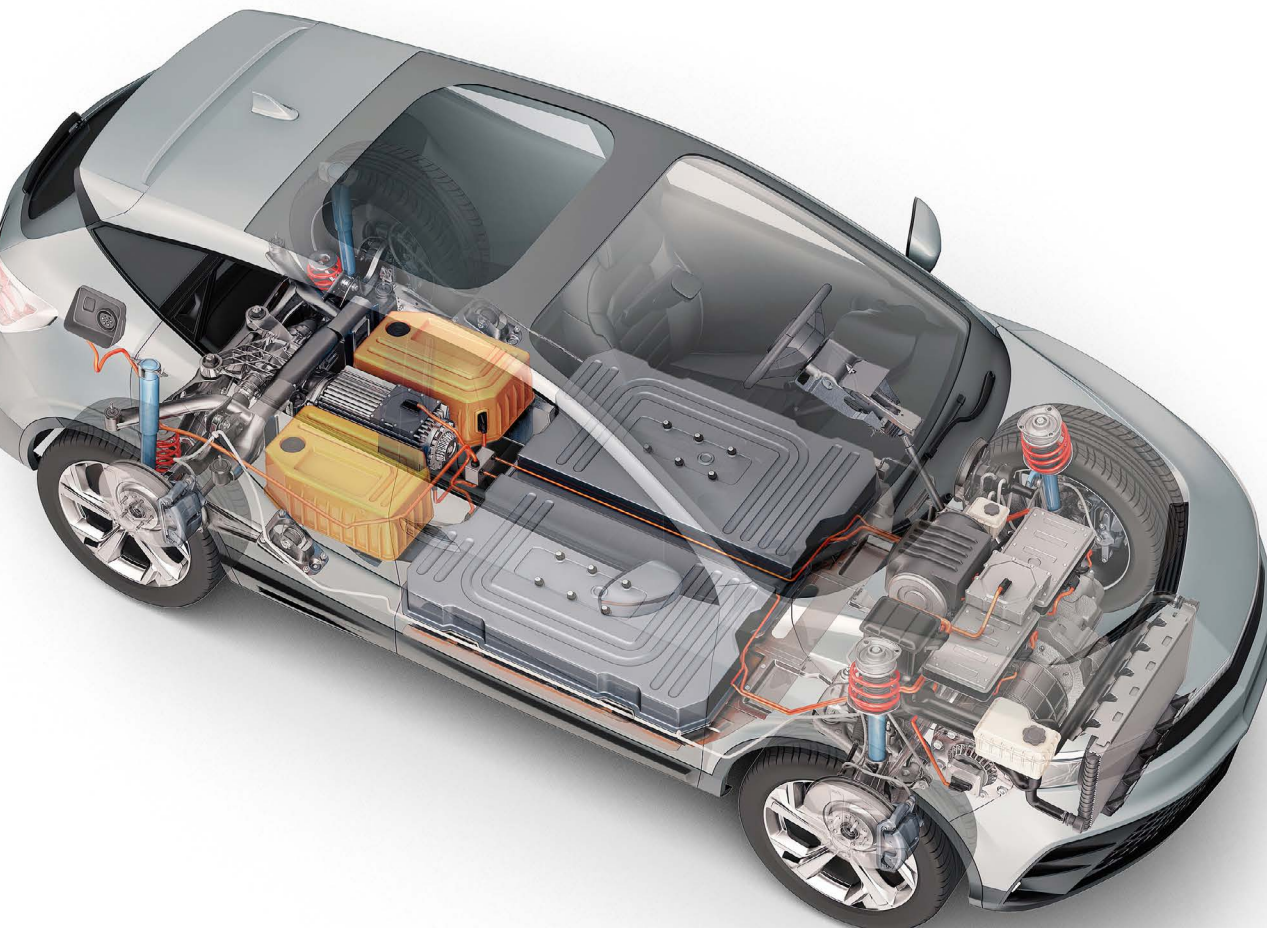
Single-coated Volt Tough™ tapes and double-coated tapes which incorporate dielectric films. Our materials and adhesives are tested for breakdown voltage and dielectric strength requirements using GB/T 1408.1-2016 and ASTM D3755 test methods.



Optimizing design and assembly

Functional tapes can replace mechanical fastening methods while offering a thinner profile, lighter weight, repositionability and instant bond.

Visit tapes.averydennison.com/evbattery to review the full breadth of EV Battery Tape Portfolio solutions.



Go beyond bonding with Avery Dennison: Expansive product selection, plus customization and testing capabilities

The Avery Dennison EV Battery portfolio offers multi-functional solutions that draw from our expansive portfolio of pressure-sensitive tapes and adhesives. We have a long track record in the automotive segment and are relied upon by OEMs and tier suppliers across the industry. Our products meet OEM specifications for a wide range of applications.

Beyond bonding means we also welcome the opportunity to collaborate with automotive OEMs and tier suppliers to develop custom tape solutions. You'll enjoy access to testing facilities and pressure-sensitive adhesive experts who understand the challenges engineers face. We can work together to produce one-of-a-kind products that give you the advantage you seek.

Collaboration

- Global reach
- New product development for custom solution applications
- Business development and specification support for emerging applications
- Application engineering and technical support

Testing

- ISO 17025 certified laboratory
- Online tool offering easy access to our database of OEM certifications
- Industry-standard and custom application testing
- Traditional pressure-sensitive adhesive bulk property testing (peel, tack and shear)
- Environmental conditioning (temperature, humidity, UV, chemical and more)
- Flame performance and dielectric strength testing at the tape and composite level



09/2023

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