

Avery Dennison
Performance Tapes
Battery energy storage
systems portfolio

Tapes for enhanced safety and easier assembly

Battery energy storage systems portfolio

The Avery Dennison battery energy storage systems (BESS) portfolio includes a range of functional bonding and protection tapes, built on multiple pressure-sensitive adhesive (PSA) technologies. These solutions are engineered to make energy storage systems batteries and containers safer, more efficient and easier to assemble.



PSA tapes and the BESS portfolio

PSA tapes are a proven technology currently used in a wide and growing range of industries with exacting standards, including EV battery, general automotive, aerospace, building and construction, medical and transportation.

Avery Dennison products are backed by our superior customer service and technical support staff. You can be confident you will get an adhesive tape tailored to your specific BESS application. This portfolio features:

- **Single coated, double coated and transfer tape constructions**, with a variety of liner options for optimized release and efficient processing
- **Acrylic adhesive chemistries** with a range of performance for adhesion, shear, tack and environmental resistance
- **Functional additives and films** for specific battery component needs, such as flame-retardant additives for enhanced fire safety or dielectric films for electrical insulation
- **Designed for and certifiable** to BESS manufacturer and system integrator specifications

Avery Dennison portfolio advantages for BESS

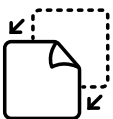
The BESS portfolio can help you solve some of the most common battery system design and performance challenges



- **Reducing flammability:** Acrylic- and rubber-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 liquid adhesives and mechanical fastening methods while offering a thinner profile, lighter weight, repositionability and instant bond

Visit tapes.averydennison.com/bess to review the full breadth of battery energy storage systems portfolio solutions.

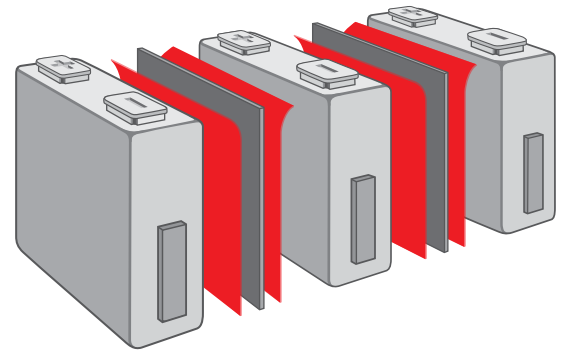
Applications

- Thermal runaway protection
- Electrical insulation
- Enclosure and seal bonding
- Wire fixation
- General bonding

Thermal runaway protection

Avery Dennison offers a variety of thermal runaway tape solutions for bonding and encapsulating mica, ceramic fiber and aerogel materials for cell, module and pack level uses.

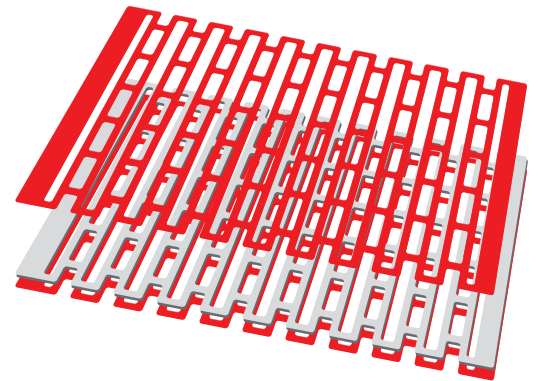
- Flame-retardant adhesives that enable composites and materials to meet UL[®] 94 V-0 and other flame requirements
- Single- and double-coated filmic tapes for fiber encapsulation and dielectric strength
- Easy release liners and pattern coating for preventing cohesive failure of delicate fibrous based materials



Electrical insulation

Electrical insulation products for cooling components, structural components, busbar and cell connection systems and heat spreaders featuring Volt Tough™ products—a portfolio of electrically insulative, single-sided filmic tapes.

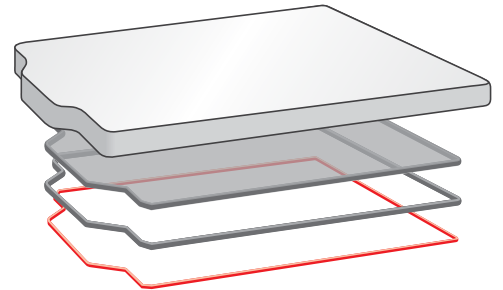
- Conformable options for curved geometries
- High abrasion-resistant options
- Color options for vision inspection systems
- Flame-retardant options for UL[®] 94 and other flame requirements
- Dielectric breakdown strength options ranging from 5kV to 8+kV



Enclosure and seal bonding

Enclosure and sealing are critical for preventing water and dust intrusion, and unwanted noise, vibration and harshness, and for protecting pack enclosures from contact with metal structures. Avery Dennison offers transfer and double-coated tapes for bonding various gasket materials, including rubbers, foams and fibers.

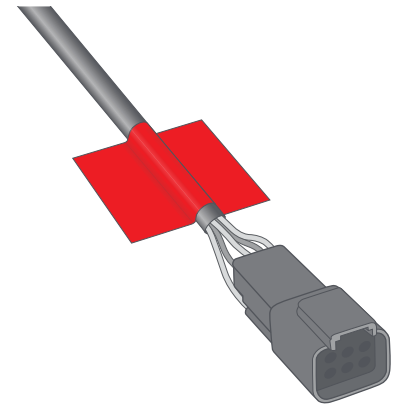
- Tapes add durability, ingress protection, and buzz, squeak and rattle reduction
- Thin, instant bonding solution for gasket materials
- Double-coated tapes add dimensional stability to gaskets, preventing stretch upon application



Wire fixation

As BESS manufacturers and system integrators design units, wire fixation solutions that manage dense electrical architectures, meet strict performance criteria and streamline space-constrained designs are imperative. Avery Dennison offers tapes that serve as functional, space-efficient alternatives to traditional mechanical fasteners.

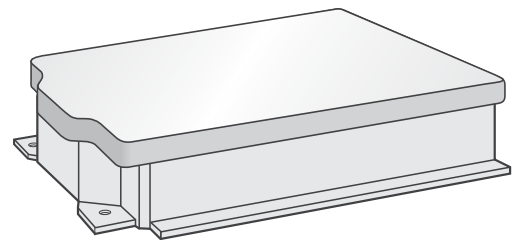
- Single-coated, heavy tack tape construction for thinner gauge wires
- Single-coated, extreme temperature tape for very high-heat areas



General bonding

Avery Dennison offers a portfolio of functional bonding and protection tapes built on multiple pressure-sensitive adhesive technologies. These multifunctional products have a long track record and are relied upon by OEMs and suppliers across multiple industries.

- Acrylic foam bonding tapes for enhanced gap filling
- Acrylic constructions with multiple carriers and ability to bond to multiple foam types



BESS product portfolio

Thermal runaway protection products

Product	Total construction (minus liner)				Carrier		Adhesive		Liner	Key benefits
	Type	Caliper (mils)	Color	Relative cost	Film type	Caliper (mils)	Adhesive type	Caliper (mils)		
FT 8383EZ	Double coated	3.3	Clear	\$	PET	0.5	Rubber	1.4 / 1.4	•	Economical, PET carrier for dimensional stability
FBA 8960	Double coated	4.0	Clear	\$\$	PET	0.5	General purpose acrylic	1.4 / 2.1	•	Tacky with enhanced environmental resistance
HPA™ 1905	Transfer tape	4.9	Clear	\$\$	N/A	N/A	High performance acrylic	4.9	•	Used for sense lines, conductive inks, PCB and FCB bonding
FM 2333	PE Foam tape	36.0	White	\$\$	XLPE	34.0	General purpose acrylic	2.3 / 2.3	•	Excellent for mica bonding

Electrical insulation products

Product	Type	Adhesive type	Facestock	AC Breakdown voltage (kV)	Caliper mils (micron)	Color	Cost	Key benefits
ES 1421	Single coated	Acrylic	PET	>8	3.3 (85)	Multiple	\$	Used for prismatic cell wrap and general electrical insulation
ES 1474	Single coated	Acrylic	PET	>5	2.9 (74)	White	\$	Modified for TIMs to have primerless adhesion
FT 0032	Single coated	Acrylic	Volt Tough™ Stretch	>8	6.2 (157)	Blue	\$\$	High tear resistance, stampable
ES 3507	Single coated	Acrylic	Ceramic-rubber hybrid	>5	9.0 (229)	Black	\$\$\$	Rated for 800°C, high temperature resistance

Enclosure and seal bonding products

Product	Type	Adhesive type	Thickness microns (mils)	Maximum service temperature (°F)	Key benefits
AFB™ 6111G	Double coated foam	Acrylic	1100 (43.3)	150	Conformable acrylic foam for bonding and sealing
FT 8299	Double coated tissue	Acrylic	125 (4.9)	165	Excellent for laminating to various sealing foams, including EPDM
FM 2316	Double coated PE foam	Acrylic	1710 (67.3)	105	Thick PE foam tape, excellent for mounting stationary materials



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BESS product portfolio (continued)

Wire fixation products

Product	Type	Adhesive type	Thickness without liner (mils)	Thickness without liner (µm)	Key benefits
FT 0013	Single coated PET, self wound	Acrylic	2.7	69	Ultra-thin, linerless tape designed to maximize manufacturing efficiency and fixation performance
ES 3507	High-temperature ceramic rubber	Acrylic	11.0	229	Rated for 800°C, high temperature resistance

General bonding products

Product	Total construction (minus liner)				Carrier		Adhesive		Liner	Key benefits
	Type	Caliper (mils)	Color	Relative cost	Film type	Caliper (mils)	Adhesive type	Caliper (mils)		
FT 8299	Double coated	4.9	Off-white	\$\$	Tissue	1.0	General purpose acrylic	2.0 / 2.0	•	Excellent for laminating to various sealing foams, including EPDM
FM 2316	Double coated	67.3	White	\$\$	XLPE	34.0	General purpose acrylic	2.3 / 2.3	•	Thick PE foam tape, excellent for mounting stationary materials
AFB™ 6111G	Double coated	43.3	Gray	\$\$\$	Acrylic foam	43.3	Acrylic	-	•	High shear strength and gap filling

For more information about the BESS portfolio, visit tapes.averydennison.com/bess.



Performance
Tapes

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

The Avery Dennison BESS portfolio offers multi-functional solutions that draw from our expansive portfolio of pressure-sensitive tapes and adhesives. What “beyond bonding” means to us is that we welcome the opportunity to collaborate with BESS manufacturers and system integrators 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 address your challenges.

Collaboration

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

Testing

- ISO 17025 certified laboratory
- 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



About Avery Dennison

Avery Dennison Corporation (NYSE: AVY) is a global materials science and digital identification solutions company. We are Making Possible™ products and solutions that help advance the industries we serve, providing branding and information solutions that optimize labor and supply chain efficiency, reduce waste and mitigate loss, advance sustainability, circularity and transparency and better connect brands and consumers. We design and develop labeling and functional materials, radio-frequency identification (RFID) inlays and tags, software applications that connect the physical and digital and offerings that enhance branded packaging and carry or display information that improves the customer experience. Serving industries worldwide – including home and personal care, apparel, general retail, e-commerce, logistics, food and grocery, pharmaceuticals and automotive – we employ approximately 35,000 employees in more than 50 countries. Our reported sales in 2025 were \$8.9 billion. Learn more at www.averydennison.com.

About Avery Dennison Performance Tapes

Avery Dennison Performance Tapes is a world-class operation focused on developing and manufacturing high performance pressure-sensitive adhesives and tapes for a broad range of applications in automotive, EV charging stations, electronics, building and construction, specialty industrial and personal care segments. The organization has 50 years of experience supplying standard and customized pressure-sensitive materials designed to deliver innovative solutions for customers' needs across the globe. Worldwide manufacturing facilities ensure a global presence supported by local sales, technical and customer service throughout the regions. Learn more at www.tapes.averydennison.com.

To learn more or to place an order, contact your sales representative, or visit: tapes.averydennison.com

For more information on technical performance and printing recommendations, please refer to the respective datasheets. Please note that the Avery Dennison product range and service offering can be subject to changes. For an accurate overview, please check our website tapes.averydennison.com or contact your local Avery Dennison sales representative.

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