

Avery Dennison Performance Tapes

Bonding Study: Armacell Component Foams

featuring Avery Dennison high-performance,
low VOC acrylic FT 8299

Determining the correct adhesive when bonding to foam and other materials may be challenging, especially when seeking to provide your customer an accurate quote quickly and accurately. To help you with the adhesive selection, and the technical requirements your customer may require, Avery Dennison Performance Tapes has developed a series of adhesive bonding studies. This study highlights the performance of our FT 8299 adhesive—from our Core Series™ Portfolio—when combined with foams and other materials from industry leading manufacturers.



Bonding to Armacell Component Foams

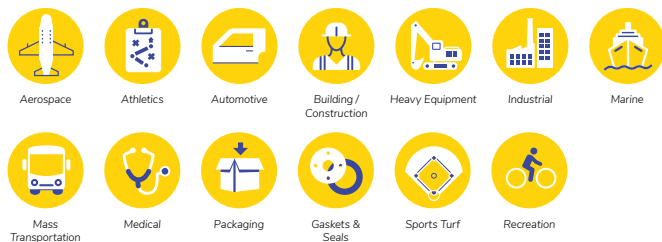
Armacell's Component Foam division is a proven leader and innovator in expanded foams. The division delivers decades of product knowledge and innovation to its partners in the aerospace, automotive, building/construction, industrial, medical, packaging and sport/leisure segments. Its product lines consist of elastomeric and polyolefin materials produced in bun, sheet and roll form as well as extruded tubes and profiles. Armacell Component Foams' innovative products are engineered for their customers' success.

Elastomeric Foam

Elastomeric Component Foam (ECF) products are high-performance foam formulations that meet stringent physical and chemical property requirements. Armacell's ECF brands include ArmaSound®, ArmaSport®, EnsoLine®, EnsoLite®, and Monarch®. It offers hundreds of expanded rubber products used extensively in industrial, transportation, building/construction and sport/recreational applications. Sixty years of foam innovation enables us to design optimized cell structures and densities for specific physical properties – custom engineered to customer needs.

Polyolefin Foam

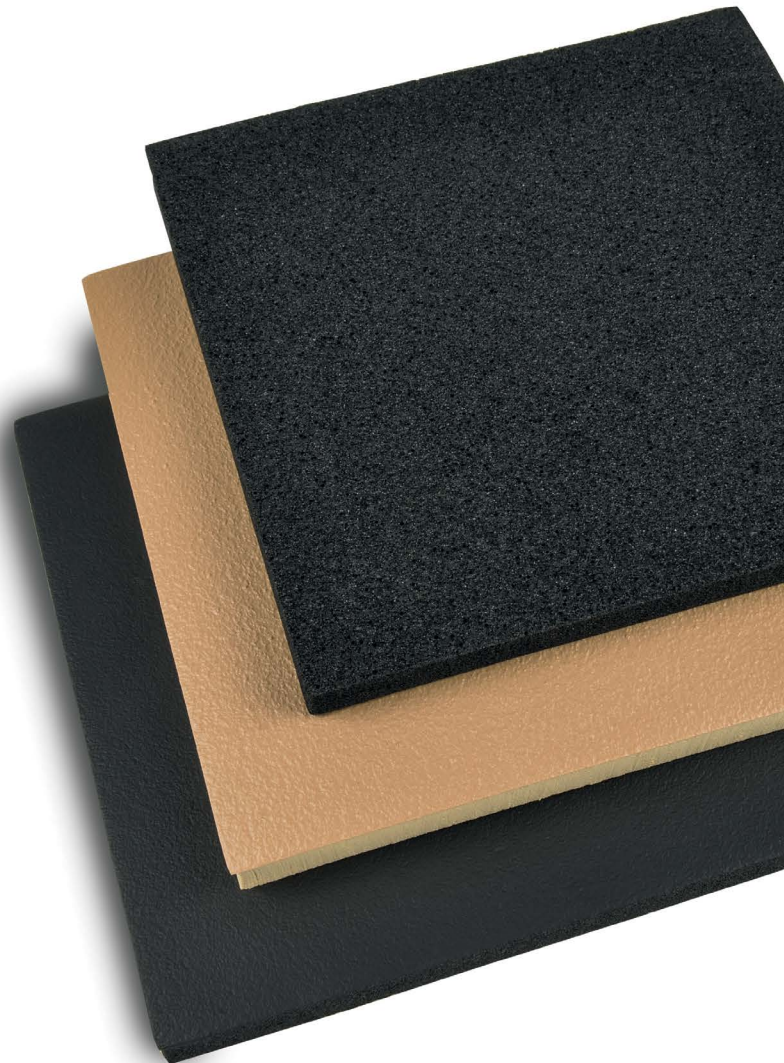
Polyolefin Component Foams (PCF) are made from thermoplastic polymers. Armacell's PCF brands include OleCell® and OleTex®. The company makes chemically cross-linked polyethylene in rolls or blocks called “buns” in formulations that vary from soft and flexible to stronger, stiffer specifications. Non-cross-linked polyethylene can be extruded into customizable profile shapes and can be used for thermoforming applications.



Armacell Component Foams and Avery Dennison Adhesive Sample Preparation

Avery Dennison FT 8299 was backed with a 2 mil PET film and trimmed to a one-inch width. Two sample sets were laminated to Armacell Component Foams.

Set	Description
1	Laminated at room temperature. 30% compression, 20 psi, 20 fpm, 72 hr recovery after lamination.
2	Laminated at 225°F, 30% compression, 20 psi, 20 fpm, 72 hr recovery at room temperature after lamination.



Armacell Component Foams and Avery Dennison Adhesive Sample Testing

Foam bonding is affected by the foam's base polymer, thickness, and cell type. Adhesion to foam is impacted by factors such as: adhesive mass, pressure, compression, lamination speed and temperature. All samples of FT 8299 were tested at 180° Peel Adhesion at 12 in/min. It was determined by this study that heat lamination is beneficial (220°F).

Armacell Monarch Product Line	Avery Dennison Adhesive Family	Avery Dennison Product Number	Performance with Armacell Component Foams Materials
• 5013	● High Performance Low VOC Acrylic	FT 8299	Best
• 5031			Best
• 3091			Best
• 8001			Best
• 9021			Best

Armacell EnsoLite Product Line	Avery Dennison Adhesive Family	Avery Dennison Product Number	Performance with Armacell Component Foams Materials
• IG1	● High Performance Low VOC Acrylic	FT 8299	Better
• IG3			Better
• IUO			Best
• MLC-Black			Best
• ECF 400			Best

Armacell OleTex Product Line	Avery Dennison Adhesive Family	Avery Dennison Product Number	Performance with Armacell Component Foams Materials
• BDJN 200	● High Performance Low VOC Acrylic	FT 8299	Best
• BKJN 200			Best
• BDJN 400			Best
• BKJN 400			Good
• CDJN 400			Better
• CKJT 550			Better
• CKJN 200			Better
• CKJN 400			Better

Good = Will bond well but may not achieve foam tear.
Better = May achieve foam tear without heat lamination.
Best = Likely to achieve foam tear at room temperature.

To identify the Avery Dennison Core Series adhesive ideal for your application, please refer to the Core Series Product Selection Tool. Using the Core Series' simple four-step adhesive selection process, you will be able to find the product that best suits your needs. The Core Series Product Selection Tool is available at tapes.averydennison.com/coreseries.

