

Reinventing automotive attachments.

Imagine optimized production and performance with tapes.

Vehicle designs are evolving, and so are attachment methods. When it's time to create or update a design, OEMs have decisions to make. Every part requires a choice from a menu of attachment methods. Design, production and performance considerations must all be weighed carefully. You need tight, durable bonds even with small spaces, curvatures, low-surface-energy substrates, thin plastic materials and so on. Switching from clips or ultrasonic welding to tapes for key applications can solve challenges and let your designs soar.

Acrylic foam tapes can replace other attachment methods in many applications, from sensors to insignia and other exterior trim. They can be ideal to achieve:



Proven Results

Tapes have a history of successful real-world and lab-tested performance.






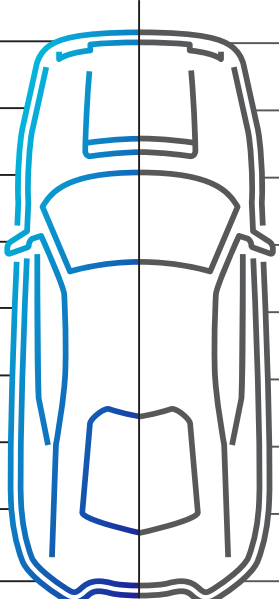















Creative Freedom

Tapes can overcome challenges when clips or ultrasonic welding might impede your design.



Collaboration

With 3M, you get more than a materials supplier; you get support and expertise.

 Tapes	vs	Other 
 Better aesthetics; fit in tight spaces		 Often require unsightly clip towers
 Compatible with a wide range of substrates		 Incompatible with materials that can't be punched
 Ideal for plastic-to-plastic attachment		 Ultrasonic welding can cause read-through
 Easy differentiation of trim levels		 Harder to swap out trim with clips
 Better able to withstand shear force		 More susceptible to shear force
 Allows for late-breaking design changes		 Can't be used for last-minute design changes
 Single attachment across large areas		 Multiple attachments needed for larger parts
 Quieter interiors/improved acoustics		 More noise in interiors

Dispelling the myths and mysteries about tape.

Despite the many advantages of tapes, engineers and designers sometimes hesitate to adopt them into their design and production process.



OEMs have voiced several concerns as we assist them throughout the design, product specification and production process. We provide science-backed guidance to help them switch with confidence.

How do I know what tape is right for the job?

As auto bodies and parts evolve, designers may encounter materials with challenging surfaces and shapes. It's important to choose a tape that's formulated to work well with them. In other words, one tape doesn't fit all. When it comes to automotive attachment needs, 3M has tapes to suit virtually any substrate, including low surface energy (LSE) materials. We advise customers during the selection process to make sure they have the right tape for their needs.

I've always used clips — it's what I'm comfortable with.

Mechanical fasteners and ultrasonic welding have their place and always will, but they also have their limitations. There is no single attachment method that's universal, but tapes can enable flexibility and innovative design. The pace of disruption in the automotive industry is only increasing, so now is an ideal time to look at all aspects of design and manufacturing with fresh eyes.

Other decision-makers in my company don't trust tapes.

Changing attachment methods isn't a decision to take lightly. That's why 3M helps provide rigorous testing of any proposed tape application. At times, starting with a combination of clips and tapes can provide peace of mind for stakeholders while demonstrating the advantages of tapes.

Tapes are complex to apply.

It can seem so at first, but the requirements for proper adhesion boil down to two things: a clean surface to adhere to and full contact with the surface. With the right processes in place, both become a routine part of production. At 3M, we provide in-person consultation throughout the vehicle development and production cycle, as well as online design guidelines to ensure our customers set themselves up for success.

Tapes offer significant design and production benefits, and performance you can count on. From design to commercialization to purchasing and production, 3M supports OEMs and tiers through all parts of the process. With deep industry knowledge, a long history of continual

innovation and an evolving product portfolio, 3M helps our customers solve new challenges by rethinking automotive attachments. We're always looking ahead and will continue to forge the future of automotive design, along with our industry partners.



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[3M.com/rethinkattachment](https://www.3m.com/rethinkattachment)

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