

# Designing an electric future.

With the rise of EVs, attachment tapes can be design enablers.

It's no secret that this is an especially exciting period of automotive design and manufacturing. A slew of new OEMs are joining the playing field, and companies that have been around for a century or more are looking at their own designs and processes in a new light.

The biggest disruptor is the quickly growing popularity of electric vehicles. The share of U.S. new car sales that were electric jumped from 2.5% to an estimated 5.2% in the first quarter of 2022 compared with 2021.<sup>1</sup> Crossing the 5% threshold is considered a tipping point for mass adoption.<sup>2</sup>

Globally, the story is even more dramatic: Around 20% of cars sold in China and 10% in Europe are EVs,<sup>3</sup> and global EV sales could reach 33% globally by 2028 and 54% by 2035.<sup>4</sup>

With different mechanical components, EVs enable designers to rethink everything<sup>5</sup> — so it's important to have as much design flexibility as possible.

EV market share in 2021:

**10%** **20%**  
in Europe in China

EV market share growth:

**2.5%** → **5.2%**  
U.S. 2021–2022

**33%** → **54%**  
Global 2028–2035 projected



**3M™ Acrylic Foam Tapes and 3M™ Acrylic *Plus* Tapes for attaching exterior trim and seals unlock aesthetic and performance possibilities that might not be feasible with mechanical fasteners. Attachment tapes are uniquely suited for EV design, performance and production needs.**

### **Evolving hairpin curves**

Our latest tapes' advanced foam core technology allows the tapes to fit in curved areas or tight spaces where attaching the part with clips would be difficult or impossible.

### **Material world**

New-car design often creates the need to attach or seal two materials that behave differently with temperature changes. Tapes provide impact and fatigue resistance to compensate for material expansion and contraction.

### **"The quiet future"**

EVs' quieter motors make other car noise and outside noise more noticeable. Tape attachments create less noise and vibration than metal parts, and continuous seals can help block out exterior noise as well.

### **Natural light**

Glass roofs and large sunroofs are a growing trend in EV design. Using robust sealing tapes to create a continuous, single attachment over a large area can provide a durable bond which also improves water and dust resistance.

### **Sensory overload**

All new cars, including EVs, feature more sensors than ever before. These tiny parts can be attached unobtrusively in a way that doesn't interfere with aesthetics using exterior trim attachment tapes.

### **Clean lines**

With EVs, aesthetics are an important selling point. An attachment which doesn't require holes in the material, clip towers or doghouses can provide a sleek look that doesn't detract from the design.

### **Automatic upgrade**

Rethinking an assembly line could mean introducing more automation. Our most recent lines of tapes feature strong, break-resistant liners and balanced liner release, making the tapes compatible with robotic processes.

### **A future-focused partner**

Our tapes portfolio was designed with the future in mind. As cars evolve, 3M Tapes can open up more possibilities, especially for electric vehicles.

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

<sup>1</sup> Electric Cars' Turning Point May Be Happening as U.S. Sales Numbers Start Climb. Accessed online 9/22/2022. <https://www.caranddriver.com/news/a39998609/electric-car-sales-usa/>

<sup>2</sup> US Crosses the Electric-Car Tipping Point for Mass Adoption. Accessed online 9/22/2022. <https://www.bloomberg.com/news/articles/2022-07-09/us-electric-car-sales-reach-key-milestone>

<sup>3</sup> U.S. Electric Car Sales Climb Sharply Despite Shortages. Accessed online 9/22/2022. <https://www.nytimes.com/2022/07/14/business/electric-car-sales.html>

<sup>4</sup> Electric vehicles could take 33% of global sales by 2028-AlixPartners. Accessed online 9/22/2022. <https://www.reuters.com/business/autos-transportation/electric-vehicles-could-take-33-global-sales-by-2028-alixpartners-2022-06-22/>

<sup>5</sup> For Car Designers, E.V.s Offer a Blank Canvas. Accessed online 9/22/2022. <https://www.nytimes.com/2022/03/17/business/electric-vehicle-ev-design.html>



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