

FACT SHEET

VEHICLE ESCAPE TOOL EVALUATION



Background

In 2017, there were nearly 21,000 crashes in which a vehicle caught fire or was partially or fully submerged in water in the U.S, resulting in 1,800 deaths. Accidents like these are fatal if occupants are trapped and unable to exit their vehicle. Escape tools are intended to aid occupants in an emergency by breaking through side windows to create a way to exit the vehicle.

The majority of vehicle side windows are made from tempered glass, which shatters when broken. But an increasing number of vehicles are being built with laminated side window glass, which is nearly impossible to break.

AAA conducted research to evaluate the effectiveness of a variety of vehicle escape tools to break both tempered and laminated side window glass.

To understand the performance of vehicle escape tools on laminated and tempered glass, AAA pursued the following line of inquiry:

How effective are different types of vehicle escape tools at breaking tempered and laminated side window glass?

Key Findings

A total of six tools were tested, three spring-loaded and three hammer-style.



Window-Breaking

- **Tempered glass** — 4 of the 6 tools were successful in breaking the tempered glass.
 - All three spring-loaded tools tested passed all attempts to break the glass with only one tool failing one attempt of three.
 - Two of the three hammer-style tools failed all three attempts to break the glass.
- **Laminated glass** — none of the six tools tested were successful in breaking the laminated glass, indicating it is nearly impossible to break without specialized equipment.
 - Four of the six tools successfully cracked the laminated glass, but none of them broke through.



Demonstration of an escape tool being used to break the window of a sinking car. Professional diver, do not attempt.

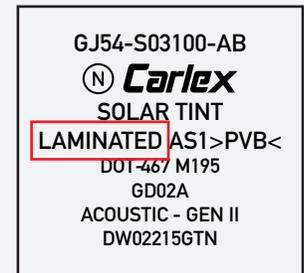
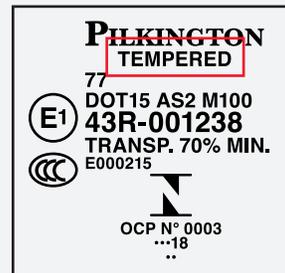
Methodology

Details regarding the methodology and test procedures can be found in the full report here.

AAA Recommendations

Prepare ahead of time:

- Memorize the type of glass the vehicle windows are made of — tempered or laminated. Do this by checking for a label located in the bottom corner of the side window (see photo).



- Always keep an escape tool in the car that is easily accessible.
- Plan an exit strategy ahead of time and communicate it to everyone in the car. This will help avoid confusion in an emergency. Also, have a backup plan in case an escape tool can't be used or doesn't work.

If trapped in a vehicle, remember there is a S-U-R-E way out:

- **Stay calm**, but work quickly and cautiously to ensure everyone gets out safely.
- **Unbuckle seat belts** and make sure everyone is ready to leave the car when it's time.
- **Roll down or break windows** (tempered). Remember if the car is sinking in water, once the window is open the water will rush into the car at a faster rate.
- **Exit the vehicle quickly** and move everyone to safety.
- Call 911 – while this is typically the first step in an emergency, if a vehicle is sinking in water or is on fire, it is best to try to escape first.