

Gorilla Glass debuts in car windshields

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Chemically toughened glass already keeps cell phone screens (mostly) crack-free, and now this type of glass is starting to make its mark in the auto industry in car windshields. According to an article in *Chemical & Engineering News* (C&EN), the weekly newsmagazine of the American Chemical Society, Gorilla Glass and similar strong, transparent materials could soon make an appearance in even more consumer products.

C&EN Senior Correspondent Mitch Jacoby reports that chemically strengthened glass is not a new concept. A century ago, a French artist and chemist named Edouard Benedictus accidentally came upon the idea when he knocked over a glass beaker containing nitrocellulose and found that the glass shards stayed together. Inspiration struck, and Benedictus developed a safety-glass laminate composed of two layers of plate glass that sandwiched a cellulose film—a concept still in use today in modern bulletproof or "ballistic" glasses. These products involve several layers of glass and polymers laminated together. They're strong and durable, but much too heavy, thick and expensive for most everyday consumer applications.

Enter chemically toughened glasses. These materials are made by immersing glass in a molten salt bath that causes potassium ions to replace some of the sodium ions on the glass surface. The glass in EpiPen injectors, Gorilla Glass and Dragontail are current examples. Corning and Ford recently teamed up to create light-weight hybrid windshields with a layer of Gorilla Glass, and last year marked the debut of the new material in the GT sports car. Experts predict that the hybrid [glass](#) could someday make its way into wearable electronic devices,

hurricane-resistant windows for buildings and tough pharmaceutical vials.

More information: "Chemically strengthened glass finds a new application," cen.acs.org/articles/96/i3/Chemically-strengthened-glass-finds-a-new-application

Provided by American Chemical Society

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