

MORE STYLE, LESS WEIGHT: 2013 FIAT 500L REAR QUARTER WINDOW

SOLUTION STORY: LEXAN™ GLAZING

HIGHLIGHTS

- 2K injection compression molded with LEXAN GLX143 (clear) resin (PC) and CYCOLOY™ XCM (black) resin (PC/ABS) for improved dimensional tolerances
- First PC glazing application in the United States to use 2K ICM
- Up to 35% weight savings vs. glass
- Aero spoiler integration with assembly reduction
- Avoids gaps between components
- Enhanced styling, 3D design not feasible with glass
- Ideation and CAE support from SABIC





FULL STORY

Fiat Chrysler Automobiles (FCA) expressed interest in a polycarbonate (PC) glazing solution for the rear fixed side windows of its 500L multi-purpose vehicle (MPV).

FCA faced specific challenges in the design of the glazing part with the adjacent aerodynamic spoiler. Those issues included: gaps between the two components, different color tones and assembly issues.

The solution: integration of the rear fixed side window with the spoiler, made possible with SABIC's PC glazing materials and design support.

SABIC collaborated with FCA from the early stages of the program on the part design and provided technical support throughout development, including predictive engineering.

TWO-SHOT APPROACH, ONE SEAMLESS PART

The window uses two-shot injection compression molding to create a seamless part.

The first material, LEXAN GLX resin, the first-shot material, delivers high cleanliness, weatherability, easy processing and compatibility with protective coatings. The second-shot material, black CYCOLOY XCM resin (PC/ABS blend) serves as a fade-out band, presents uniform color across the window and spoiler, provides structural functions and contributes to superior dimensional stability in combination with LEXAN GLX resin.

HEAVY ON STYLING, LIGHT ON WEIGHT

The rear fixed windows with LEXAN glazing from SABIC gave FCA the freedom to create the distinctive and desired shape, supporting both the styling of the vehicle and its aerodynamic efficiency and fuel economy. At the same time, each molded window shed 35 percent in weight compared to a conventional glass solution.

These high-performance SABIC materials help reduce weight by about 35 percent, improve aerodynamic efficiency and achieve the desired styling vs. glass.

CONTACT US

Reach out and talk to us about LEXAN glazing solutions. Email us at automotivesolutions@sabic.com.