

Composite Truck Box

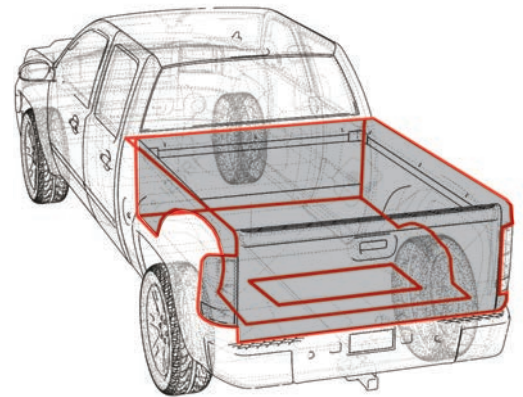
inquiry

Automotive designers and engineers are always looking for innovative solutions for product improvement, especially as it relates to strength, reducing weight, consolidating parts and cost savings. The truck box is a main selling feature of a pick-up and therefore must meet strict performance standards. This highly visible part needs to be extremely durable to support heavy loads and withstand corrosive substances, all while maintaining a high grade appearance, despite consistent use and relentless exposure to UV and other environmental elements. As it is one of the larger parts in a truck's design, it presents a significant opportunity to reduce weight, add durability and enhance the truck's appearance.



idea

Traditionally, truck boxes have been made from steel or aluminum because of their high load bearing capabilities. However, both materials scratch, dent and corrode. With metals, maintaining a high grade appearance may require the costly installation of a secondary bed liner to absorb heavy loads and mitigate environmental factors. Composite materials are the replacement solution to traditional metals. With multiple dynamic performance features, composites are becoming the material of choice for innovative designers and engineers.



innovation

Using IDI's FortiumTM material (specifically STC 2055-UV) results in a truck box that is inherently resistant to environmental elements, is UV stable, is rust and dent resistant, strong, and reduces weight, all while retaining a high grade appearance without the need of a bed liner. Depending on the design, composite materials can allow for the production of the truck box composed of one continuous piece or assembled from multiple pieces, resulting in overall part consolidation. The strength, performance and flexibility offered by IDI's FortiumTM composites make them an excellent material choice for innovative customers seeking to go beyond the value limitations of conventional materials.

- High Strength
- Impact Resistant
- Highly Moldable

FORTIUM - STC-2055
Tough, Molded-In Black
Sheet Molding Compound (SMC)

	STC-2055-UV	STC-2055
Glass Fiber Content	47%	47%
Flexural Strength Test Method: ASTM D790	242 MPa	242 MPa
Flexural Modulus Test Method: ASTM D790	11.4 GPa	11.4 GPa
Tensile Strength Test Method: ASTM D638	138 MPa	138 MPa
Tensile Modulus Test Method: ASTM D638	12.6 GPa	12.6 GPa
Impact Strength, UnNotched Izod Test Method: ASTM D256	114 kJ/m ²	114 kJ/m ²
Moisture Absorption Test Method: ASTM D570	0.55 %	0.55 %
Specific Gravity Test Method: ASTM D792	1.75	1.75
Shrinkage Test Method: ASTM D955	-0.034 %	-0.034 %
Gel Time Test Method: DSC	63 s	63 s
Cure Time Test Method: DSC	107 s	107 s
UV Stability Test Method: Various	Very High	N/A ²

¹ Preliminary production samples, subject to change per customer and production requirements.

² Not designed for UV performance. Design intent – matched 2055-UV mechanicals for low-exposure components.

The information on this sheet is a guide. The stated values reflect an average of several tests conducted on Composites International's (CI's) goods. These values were obtained under ideal conditions and may not be replicated in any particular test, part, or application. Because the values achieved in actual parts depend considerably on part design, molding conditions, and testing methods, no guarantee is made or implied regarding values to be obtained in any specific test, part, or application. CI makes no warranty or representation as to the suitability of any of its goods for use in any application. CI relies on customer to conduct its own tests and judge for itself the suitability of CI's goods.

12/2020



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