

AUTOMOTIVE INDUSTRY CASE STUDIES

Central to MFG's identity is our association with composites for automobile that goes back to the 1950's. In fact, MFG pioneered mass-production of fiberglass automobile panels with General Motors' famous 1953 Corvette.

Today MFG is focused on leveraging the intrinsic qualities of composites for advanced structural and under-the-hood components. Our ability to develop new, advanced material formulas that meet specific objectives gives your team access to cutting edge technology on an outsource basis.

Although various processes are used for automotive parts, our proprietary [PRiME process](#) has become a standard in the industry for structural and quality-critical parts. Using pre-placed reinforcement and various production innovations, PRiME produces lighter, more efficient, and sometimes more effective parts.

As a longstanding partner to market leaders in the automotive industry, MFG is resourced and staffed to meet the needs of manufacturers in the areas of quality assurance, JIT delivery and project management.

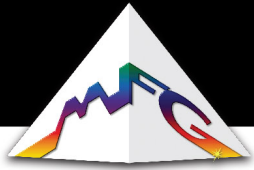
Our team of engineers is ready to help you add value, improve performance or reduce cost on your project.

Floorboards

- **Vehicle:** Corvette, Cadillac – XLR
- **Process and material:** Unique compression molded balsa core
- **Special genius:** Balsa cores are commonly used in low volume processes but this is the only product that we know of that uses this core in a high volume process.
- **Secondary services:** Simple drilling
- **Customer satisfaction criteria:** Economical part with superior stiffness, crash-worthiness and vibration properties as compared to steel stamping. MFG has been a supplier to the Corvette programs since 1954.

Underbodies

- **Vehicle:** Corvette, Viper, Solstice, Cadillac - XLR
- **Process and material:** Compression molded with the [PRiME process](#).
- **Special genius:** MFG is the premium supplier of the preform process. Pre-placed reinforcement allows designs that use materials closer to their dimensional limits - resulting in lighter, more efficient, and more effective parts.
- **Secondary services:** Drilling, assembly of various hardware, in-line sequencing and JIT.



MFG Innovative Composite Materials

Engineered Composite Solutions • 1948-Today

- **Customer satisfaction criteria:** Economical part that provides superior stiffness, strength, crash-worthiness and part consolidation as compared to steel stamping. Compared to SMC (Sheet Molding Compound), PRIME is superior in property consistency across a given part. In-line sequencing allows the customization options and reduces inventory at customer facility. Supplier to the Corvette programs since 1954.

Wheelhouses

- **Vehicle:** Corvette, Cadillac - XLR
- **Process and material:** Compression molded with the [PRiME process](#) and SMC. Three molded parts assembled into a finished product.
- **Special genius:** MFG is the premium supplier of the preform process. Pre-placed reinforcement allows designs that use materials closer to their dimensional limits - resulting in lighter, more efficient, and more effective parts.
- **Secondary services:** Drilling, assembly of various hardware, in-line sequencing and JIT.
- **Customer satisfaction criteria:** Economical part that provides superior stiffness, strength, crash-worthiness - as compared to steel stamping. Compared to SMC it is superior in property consistency across a given part. In line sequencing allows the customer to customize options and reduces inventory at their facility. Supplier to the Corvette programs since 1954.

Plenums

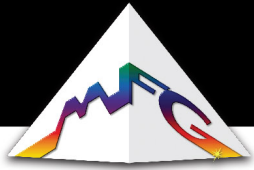
- **Vehicle:** Corvette, Cadillac - XLR
- **Process and material:** Compression molded with the [PRiME process](#).
- **Special genius:** MFG is the premium supplier of the preform process.
- **Secondary services:** Drilling, assembly of various hardware
- **Customer satisfaction criteria:** Economical part with superior stiffness, strength, crash-worthiness and part consolidation - as compared to steel stamping. Compared to SMC it is superior in property consistency across a given part. Supplier to the Corvette programs since 1954.

Undershields

- **Vehicle:** GM – K2XX and GMT900 truck
- **Process and material:** DLFT (direct long fiber thermoplastic) – compression molded
- **Special genius:** Extended long fiber (cut roving rather than pre-chopped) which was developed with GM and customer specification written around our material.
- **Secondary services:** Drilling, assembly of various hardware
- **Customer satisfaction criteria:** Economical part with provides superior stiffness and strength - as compared to unfilled thermoplastic.

Electric Vehicle Battery Enclosure

- **Customer:** Wrightspeed
- **Process and material:** Twin wall, vacuum resin-infused product incorporating high thermal resistance core material.



MFG Innovative Composite Materials

Engineered Composite Solutions • 1948-Today

- **Special genius:** Customer had demanding space, structural and thermal requirements. Vehicle design constraints required that 600 lbs. of batteries be contained between narrow structural members while maintaining an extremely high R-value. The MFGW solution provided a highly structural enclosure with integrated vacuum insulation that reduced the wall thickness to only ¼ required for conventional materials, permitting customer to better utilize allowable vehicle space.
- **Secondary services:** Product design, tooling design and fabrication, prototype production parts.
- **Customer satisfaction criteria:** MFG-West was able work with customer provided concepts and convert these into a fully capable product design.

We welcome the opportunity to discuss how MFG could be of service to you.

For more information on MFG visit <http://www.moldedfiberglass.com>