

2006 Corvette: Technical Article: 2006 Corvette Incorporates Reformulated "pop-free" SMC

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By Composites World Magazine Staff | August 2006

The 2006 Chevrolet *Corvette* from automaker General Motors (GM) features several components molded from a reformulated sheet molding compound (SMC) developed to reduce part reject rates previously caused by paint "pops" — flaws in Class A automotive finishes that result when SMC outgasses moisture when painted parts pass through paint curing ovens. The car's outer door panels, roof bow and tonneau are compression molded from Meridian Automotive Systems' (Dearborn, Mich.) Meridian SLI-323, an SMC that incorporates AOC's (Collierville, Tenn.) Atryl TCA (Tough Class-A) resin and 28 percent fiberglass. The largest of the parts are the exterior door panels, which measure 4 ft by 2 ft (122 cm by 61 cm) but weigh only about 10 lb/4.5 kg each.

OC's Atryl TCA resin was chosen because it affords parts molded from this SMC a smooth, Class A finish, using conventional molding techniques. Mike Dettre, AOC's closed molding business manager, says that the parts for this year's *Corvette* model are not powder-primed. "They may be for future models, but this year's model will be conventionally primed." Dettre notes that the *Corvette*'s previous SMC formulation used a different resin, but was reformulated with Atryl resin to reduce edge "pop" and improve paint properties.

Meridian reports that the improved formulation has led to a decrease in the number of rejects attributed to material-related paint defects. The parts are molded at Meridian's facility in Shelbyville, Ind.

GM also uses Meridian's SLI-323 compound to mold the front roof panel, tonneau and fuel filler door for the Cadillac *XLR*.

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