

AGS TECHNOLOGY CASE STUDY: DOES THIS NEW PANEL MAKE ME HEAVIER?



PRODUCT PROFILE

Industry: Automotive (Under the Hood)
Application: Corvette Grand Sport Air Management Panel Assembly
Material Description: Polypropylene Copolymer
Requirements: • Low Weight • Impact Strength • Chemical Resistance

CUSTOMER ISSUE

Late in the design of the new Grand Sport, the Corvette engineering team realized that the existing C6 air management panel assembly would not properly mate with the Grand Sport's distinctively wider, special louvered front fenders.

AGS INJECTION MOLDING SOLUTION

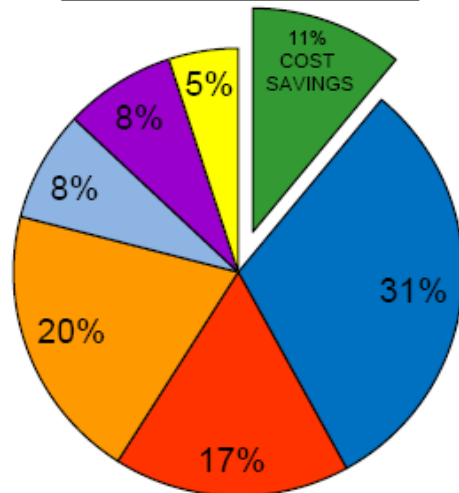
Under compressed timing, AGS Technology managed the tool build and submitted PPAP using AGS Injectoblend™ FPP135. With its inherent low specific gravity, this 100% recycled polypropylene copolymer kept part cost and weight to a minimum much to the delight of the value/performance obsessed Corvette engineering team.



PANEL ASSEMBLY COST SAVING EXAMPLE

Piece Part Cost Savings = \$0.12
 Percent Cost Saving = 11%

**Air Management Panel Assembly Piece Part Price
 AGS Injectoblend™ FPP135**



- Cost Savings
- Recycled Raw Material
- Machine
- Labor
- Components
- SG&A
- Profit

AGS Technology Inc.

To find out more about how you can take advantage of AGS Technology's unique injection molding capability using Injectoblend™ materials call (847) 534-6600.

Typical Properties of AGS Thermoplastics

INJECTOBLEND™ FPP135

Polypropylene Copolymer

FPP135 is available in a variety of viscosities and other modifications.
 Further information and details are available upon request

Properties	Test Method	English (U.S.)	Units (System)	Metric (S.I.)	Units (System)
PHYSICAL					
Specific Gravity, solid	D 792	-	0.91	-	0.91
Mold Shrinkage, 0.125" (3.2mm)	D 955	%	1.3 - 2.0	%	1.3 - 2.0
MECHANICAL					
Tensile Strength @ Yield, 73°F (23°C)	D 638	psi	3,900	MPa	27
Tensile Elongation @ Yield, 73°F (23°C)	D 638	%	6	%	6
Flexural Strength, 73°F (23°C)	D 790	psi	4,000	MPa	28
Flexural Modulus, 73°F (23°C)	D 790	psi	145,000	MPa	1,000
Izod Impact, notched, 73°F (23°C), 0.125" (3.2mm)	D256	ft-lb/in	2.0	J/m	107
Dart Impact, -22°F (-30°C), 0.125" (3.2mm)	GM9300P	ft-lb	4.5	J	6.1
THERMAL					
Deflection Temperature, unannealed	D 648				
		264 psi (1.82 MPa), Load	°F	126	°C
		66 psi (0.45 MPa), Load	°F	185	°C
CLTE, 20 °C - +75 °C (68 °F - +167 °F)	D 696	in/in/°F	5.5 E-5	m/m/°C	9.9 E-5
Thermal Oxidative Stability, 150°C	D 3012	hours	350	hours	350
FLAMMABILITY					
UL 94 Flame Class, 0.058" (1.47mm)	UL 94	-	HB	-	HB
GM	ISO 3795	mm/min	< 100	mm/min	< 100

The values shown on the data sheet are typical values that have been obtained on typical AGS materials, are not intended for specification purposes and are provided without any warranty or guarantee. Each user of the material should make his own test to determine the suitability of the material for his use. Therefore, it is understood and agreed that the customer assumes and hereby releases AGS Technology, Inc. from all liabilities, incurred in connection with the use of AGS products, technical assistance and information.