

AGS TECHNOLOGY CASE STUDY: INJECTOBLEND™ MOLDED PARTS HELP NARROW THE GAP

PRODUCT PROFILE

Industry: Automotive (Exterior)
Application: Bracket-Rear Center
Material Description: High Impact ABS to meet General Motors GMP.ABS.005 specification
Requirements: • Impact Strength • Rigidity • Dimensional Stability

CUSTOMER ISSUE

General Motors was committed to introduce the first retractable hardtop convertible for less than \$30,000. In addition, GM Quality Engineering was being challenged to hold tighter gap tolerances between all exterior sheet metal and plastic panels.

AGS INJECTION MOLDING SOLUTION

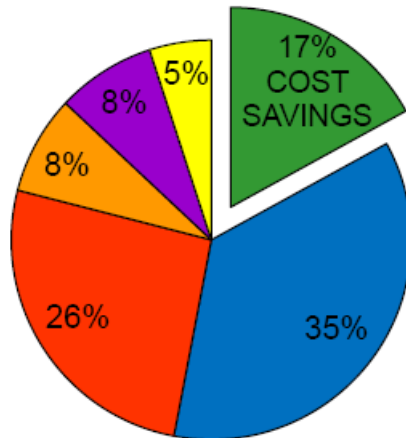
AGS Technology recommended Injectoblend™ FABS002 during the technical review for the Pontiac G6 RHT Bracket-Rear Center. This AGS grade of material meets all requirements of General Motors GMP.ABS.005 specification. GM issued a GM7001 line callout for the Injectoblend™ FABS002 material and awarded the injection molding business to AGS Technology. AGS' unique injection molding process not only provides a 17% piece part cost savings, but continues to meet GM Quality Engineering's more stringent standards for tighter gap tolerances.



G6 BRACKET-REAR CENTER COST SAVING EXAMPLE

Piece Part Cost Savings = \$0.25
Percent Cost Savings = 17%

Bracket-Rear Center Piece Part Price
AGS Injectoblend™ FABS002



- Cost Savings
- Recycled Raw Material
- Machine
- Labor
- 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™ FABS002

High Impact ABS

FABS002 is available in black color only. 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	-	1.04	-	1.04
Mold Shrinkage, 0.125" (3.2mm)	D 955	%	0.4-0.8	%	0.4-0.8
Water Absorption, 73°F (23°C), 24 hrs	D 570	%	-	%	-
Melt Flow Rate @ 230°C / 3.8kg, nominal	D 1238	g/10min	6	g/10min	6
MECHANICAL					
Tensile Strength @ Yield, 73°F (23°C)	D 638	psi	5,700	MPa	39
Tensile Elongation @ Break, 73°F (23°C)	D 638	%	40	%	40
Flexural Strength, 73°F (23°C)	D 790	psi	9,000	MPa	62
Flexural Modulus, 73°F (23°C)	D 790	psi	300,000	MPa	2,070
Shear Modulus, 73°F (23°C)	D 4065	psi	-	MPa	-
Izod Impact, notched, 73°F (23°C), 0.125" (3.2mm)	D256	ft-lb/in	6.0	J/m	320
Izod Impact, notched, -22°F (-30°C), 0.125" (3.2mm)	D256	ft-lb/in	2.0	J/m	107
Izod Impact, notched, 73°F (23°C), 4 mm	ISO 180	-	-	kJ/m²	-
Instrumented Impact Total Energy, 73°F (23°C), 0.125" (3.2mm)	D 3763	ft-lb	26.5	J	36
THERMAL					
Deflection Temperature, unannealed	D 648	°F	169	°C	76
264 psi (1.82 MPa), Load		°F	190	°C	88
66 psi (0.45 MPa), Load					
CLTE, -40 °C - +80 °C (-40 °F - +176 °F)	D 696	in/in/°F	4.9 E-5	m/m/°C	8.8 E-5
FLAMMABILITY					
UL 94 Flame Class, 0.058" (1.47mm)	UL 94	-	HB	-	HB

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.