

AGS TECHNOLOGY CASE STUDY: INJECTOBLEND™ MOLDED PARTS PROVE RAM TOUGH



PRODUCT PROFILE

Industry:	Automotive (Exterior)
Applications:	Chrysler DS/DJ Brackets-Front End Module (FEM)
Material Description:	Glass Reinforced Polypropylene to Meet Chrysler MSDB500
Requirements:	• Tensile Strength • Rigidity • Dimensional Stability

CUSTOMER ISSUE

A major Tier 1 supplier to Chrysler with design responsibility for front end modules was looking for an innovative injection molding company to provide cost-effective material recommendations and manage tool builds for several FEM brackets on the new Dodge Ram truck.

AGS INJECTION MOLDING SOLUTION

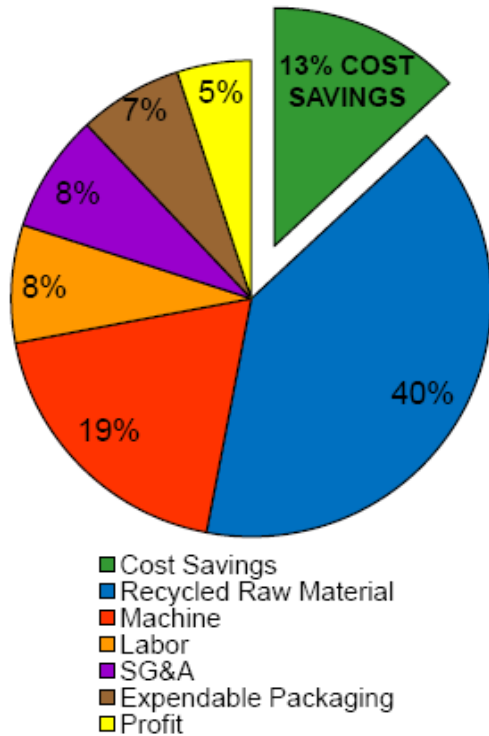
AGS Technology recommended and placed several grades of Injectoblend™ glass reinforced polypropylene material in the FEM Brackets. AGS managed all tool builds and supported part requirements for prototype through launch. AGS continues to injection mold the production volume. The Tier 1 customer currently benefits with a minimum 10% cost savings on each bracket since V1 and for each of the next five years when compared to an equivalent virgin material.



DS/DJ BRACKET-FRT HDLP COST SAVING EXAMPLE

Piece Part Cost Savings = \$0.075
 Percent Cost Savings = 13%

DS/DJ Bracket-Front Headlamp Piece Part Price
 AGS Injectoblend™ FPP230



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™ FPP230

Polypropylene Copolymer, 30% Glass Fiber Reinforced

FPP230 is available with internal and external lubricants and other modifications.
 Further information and details are available upon request

Properties / Reported DAM	Test Method	English (U.S.)	Units (System)	Metric (S.I.)	Units (System)
PHYSICAL					
Specific Gravity, solid	D 792	-	1.12	-	1.12
Mold Shrinkage, 0.125" (3.2mm)	D 955	%	0.3 - 0.6	%	0.3 - 0.6
Fiberglass Content	D 2584	%	30	%	30
MECHANICAL					
Tensile Strength @ Yield, 73°F (23°C)	D 638	psi	10,000	MPa	69
Tensile Elongation @ Break, 73°F (23°C)	D 638	%	5	%	5
Flexural Strength, 73°F (23°C)	D 790	psi E3	15	MPa	103
Flexural Modulus, 73°F (23°C)	D 790	psi E3	710	MPa	4,900
Izod Impact, notched, 73°F (23°C), 0.125" (3.2mm)	D 256	ft-lb/in	1.1	J/m	60
Gardner Impact 73°F (23°C), 0.125" (3.2mm)	D 3029	in-lb	7	J	0.8
THERMAL					
Deflection Temperature, unannealed					
		264 psi (1.82 MPa), Load	D 648	°F	293
		66 psi (0.45 MPa), Load		°F	310
				°C	145
				°C	154
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.