Reliable
Resilient
Recycled

AGS Basics

Basics

AGS is a 30+ year custom injection molding company specializing in the use of engineering grade materials both in **virgin and certified recycled plastics**. AGS has positioned itself to be a reliable, low-cost producer for OEM's and Tier 1 companies in North America for **structural plastic components**. Our goal is to make great parts, offer sustainable options, and save you money!

Basics

- Location: Batavia, IL – 30 minutes west of Chicago
- Machinery: 23 injection molding machines with a tonnage range from 90-940
- Engineering, tooling, and assembly expertise
- IATF 16949:2016 registered and certified minority business
- Internal laboratory to certify Injectoblend™ material
- 100% USMCA compliant = 100% sourced/made in USA

World Class Customers

World Class Results to World Class Customer Base

	2020	2021	2022	2023	2024	2025
External PPM	2.0	2.0	1.1	1.3	1.4	1.3
On-time Shipping	99.3%	99.0%	98.5%	99.5%	99.1%	99.8%
Top 3 Supplier Score	100%	100%	100%	100%	100%	100%

DR1V

HFI

MAGNA

JOHNSON CONTROLS

HUNTER Engineering Company

AFK INDUSTRIES, S.A. DE C.V.

INOAC

YAPP

Yanfeng USA Automotive Trim Systems, Inc.

LUCID

GM

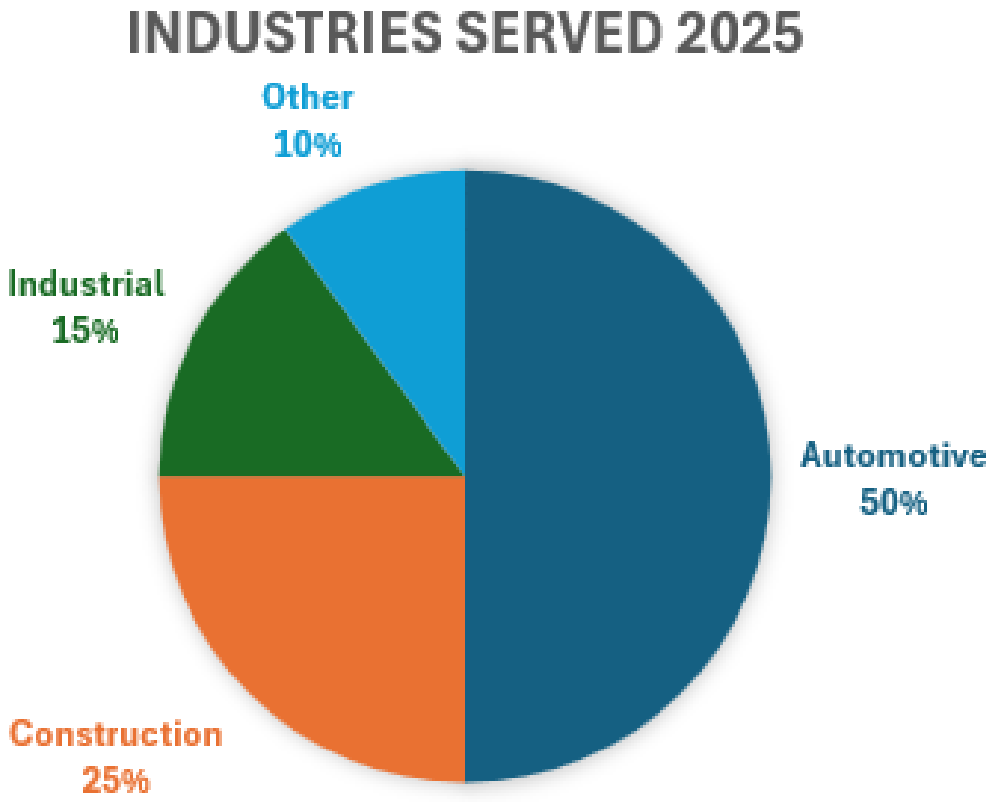
CATERPILLAR

duravent

Awards

- 2023 Advanced Filtration Systems Inc. Supplier of the Year
- GM Supplier Quality Excellence Awards 2013, 2016, 2022, 2023, and 2024.

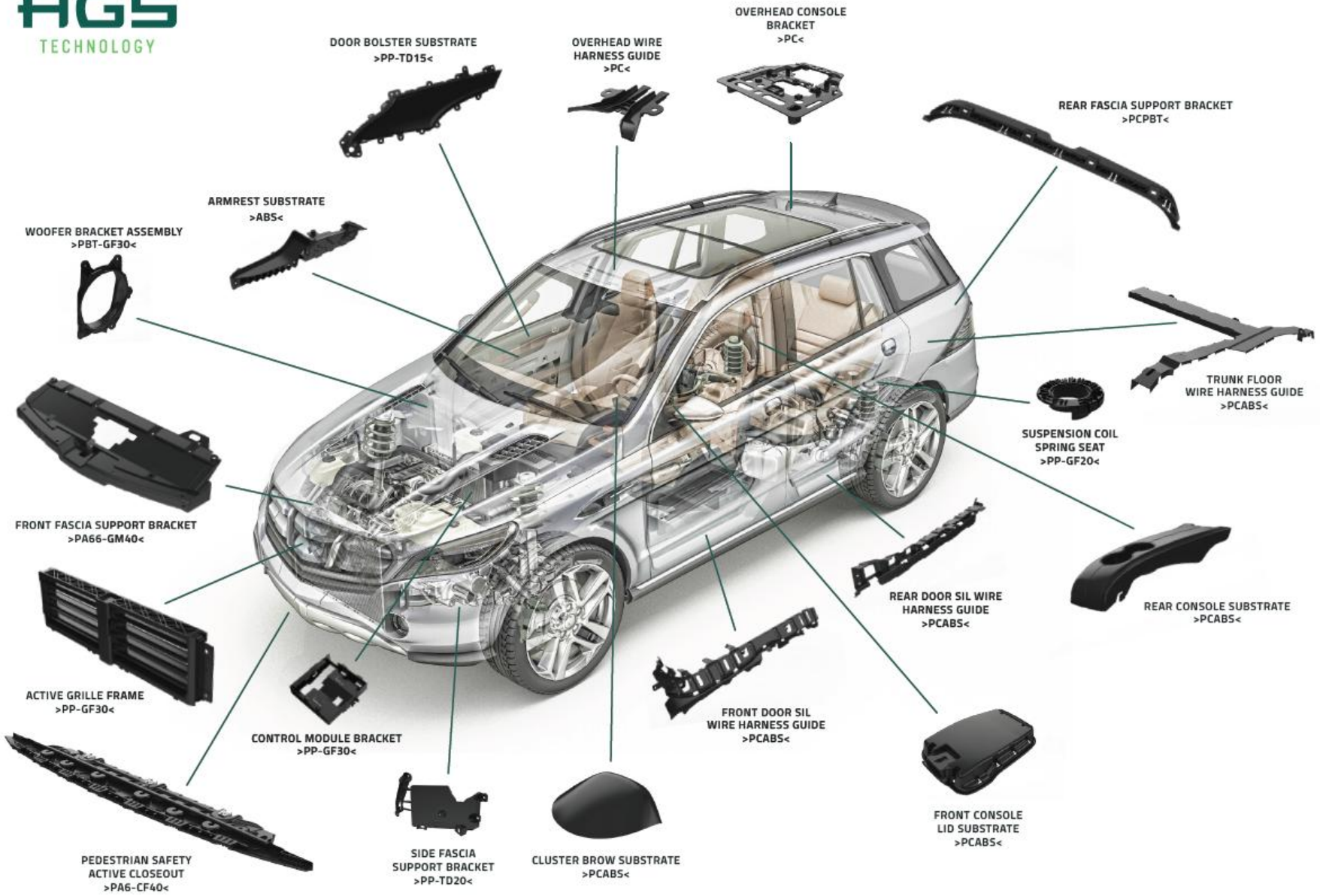
Sales and Capacity



- Open capacity for growth with current capital equipment
- Space for 4+ injection mold additional presses in current footprint
- Option for expanded footprint on current site
    - Up to 50% manufacturing floorspace expansion

Automotive Applications

AGS TECHNOLOGY



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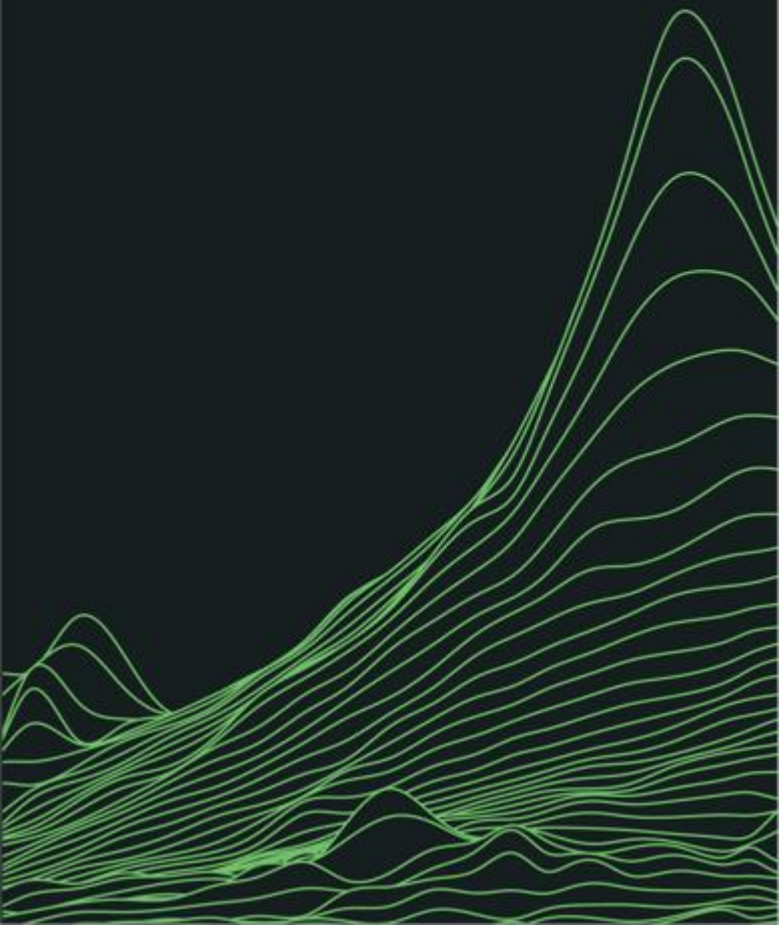
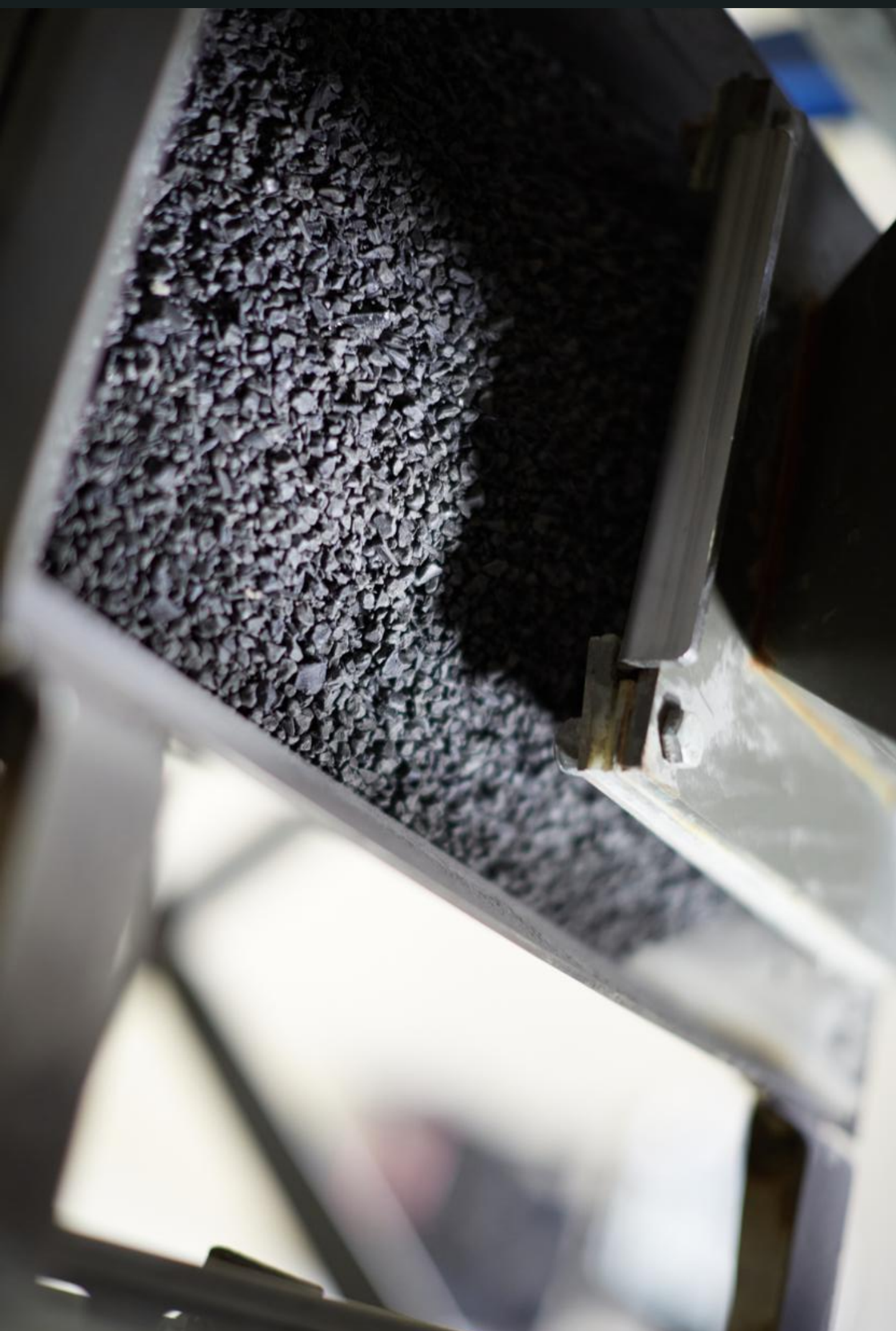
World-Class Injection Molders



30 Years of Innovation and Adjustments

- At our core, AGS deeply understands material applications and properties whether the material is virgin, compounded, or recycled.
- Adjustments to machinery to improve processing:
  - Heavy duty vacuum loaders from bulk material handling industry
  - Oversized drying hopper increases residence time – hygroscopic
  - High heat desiccant dryer maximizes removal of moisture
  - Longer L/D barrel with custom mixing screw maximizes distribution
  - Proprietary nozzle filter screens unmelt and improves dispersion
  - iMFLUX® processing technology automatically adjusts to viscosity
- AGS invests in training in our plant to exceed expectations: Promolder® trained Supervisors and operator training

What is Injectoblend™



Injectoblend Is A Great Option

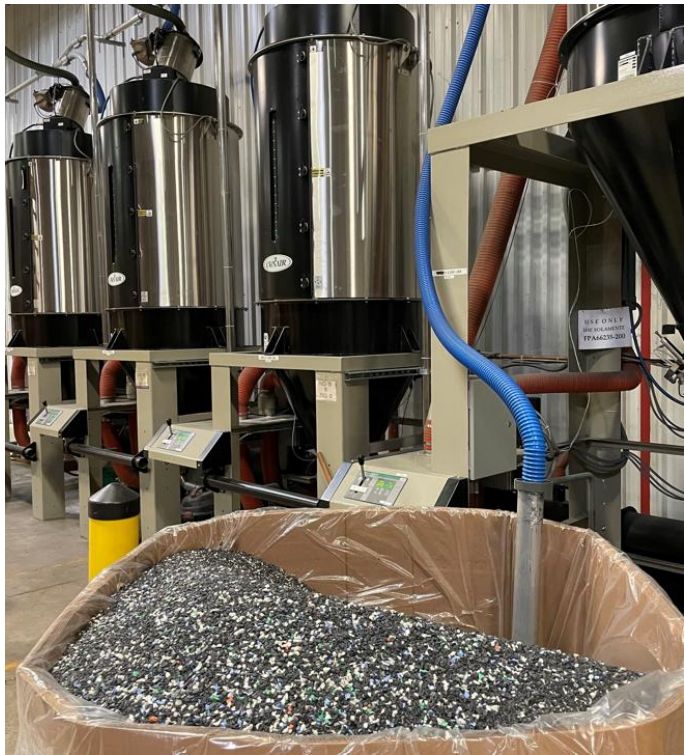
While AGS has decades of processing material from virgin or reprocessed suppliers, AGS also has a proprietary option. Customers seeking recycled content, cost savings, or both; Injectoblend™ may be the answer.

AGS can produce an Injectoblend™ for you! In production, we 100% certify every production lot to your unique specifications in our internal laboratory

Over half of AGS customers utilize Injectoblend™ and many of them consider it a competitive advantage

AGS has off-the shelf recycled options:

- Injectoblend 20 – 20% Recycled Content
- Injectoblend 35 – 35% Recycled Content
- Injectoblend 50 – 50% Recycled Content
- Injectoblend 100 – 100% Recycled Content

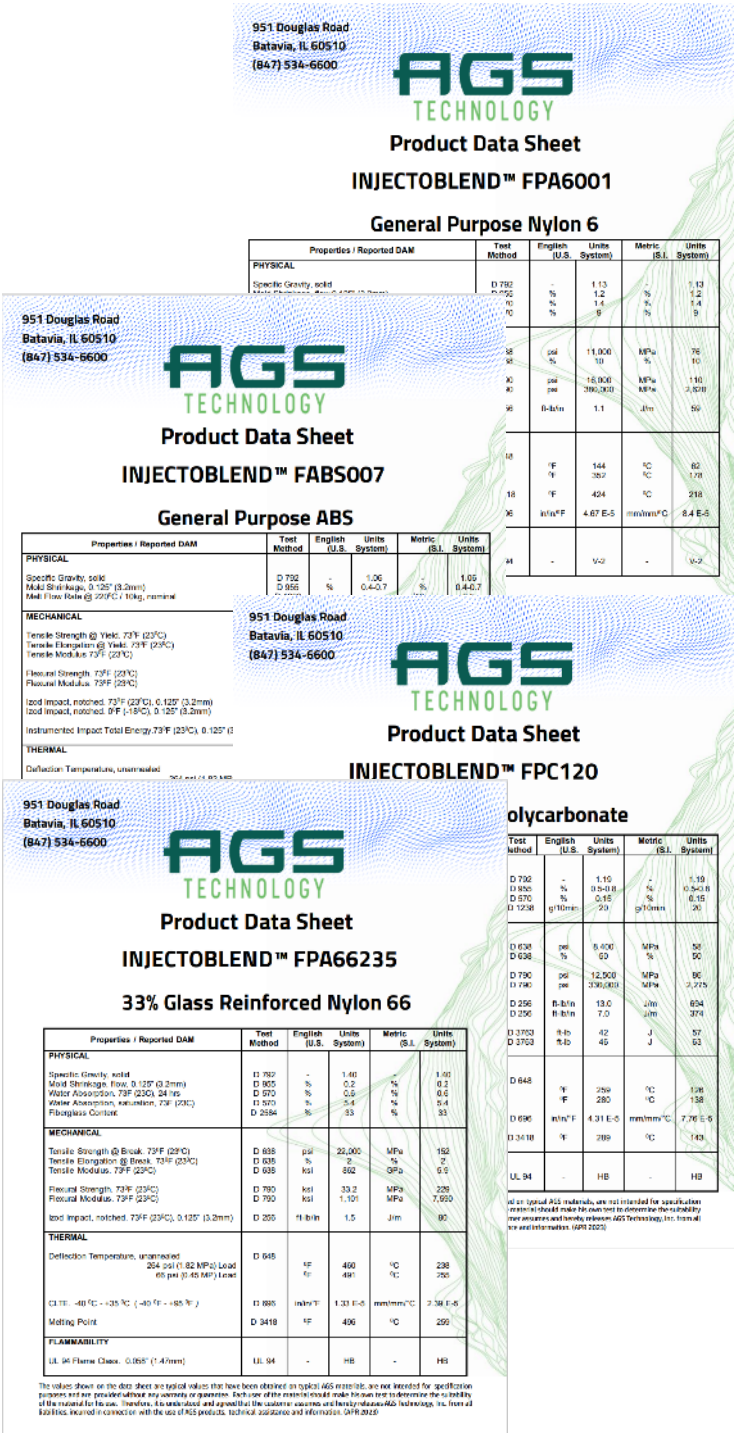


Injectoblend Is A Great Option

Many Certified Injectoblend™ Materials:

- ABS
- PC/ABS
- Polycarbonate
- Nylon PA66 or PA6
- Polypropelyne
- Polystyrene
- Acetal
- Polyethylene (HD or LD)
- Any of the above with glass or talc

Which Material is right for your application? Work with AGS to find the right material for you OR have us design an Injectoblend™ just for you and your application!



AGS Laboratory

AGS Laboratory

AGS Lab Can Test 100% Key Performance Specs

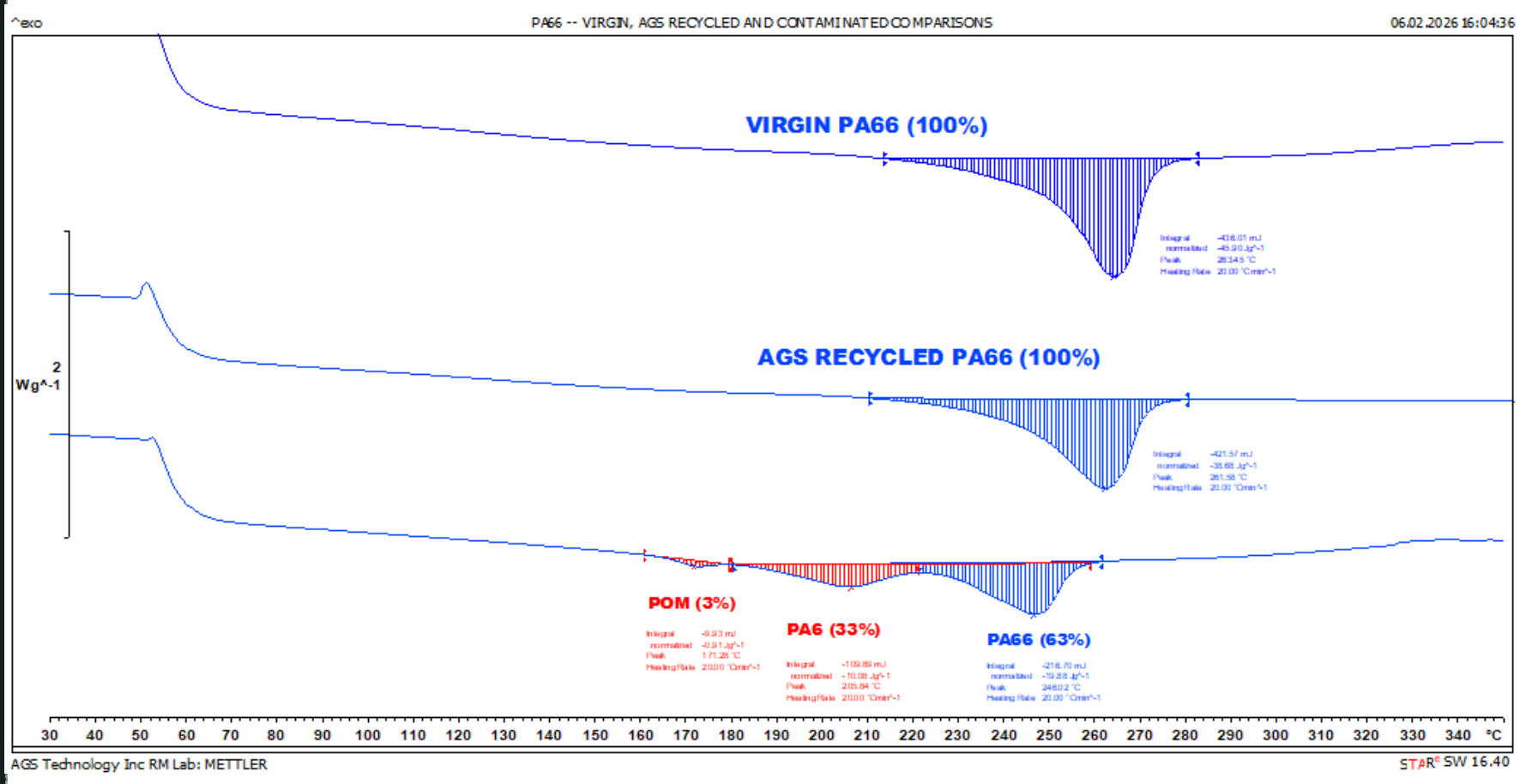
Equipment

- Impact – Izod, Charpy, Gardner
- Tensile – Strength, Elongation %
- Flexural – Modulus, Strength
- Heat Deflection Temperature
- Viscosity – MFR, RV
- Specific Gravity – Density
- Ash Filler Content
- Color Booth and Color Spectrophotometer
- Desiccant Conditioning Chamber
- 3D Measurement Scanner
- Differential Scanning Calorimeter (DSC)

AGS Laboratory

Lab Equipment Highlight: Differential Scanning Calorimeter (DSC)

Three different materials analyzed by the DSC below: the top is virgin resin, the middle is AGS recycled material, and the bottom is mixed material / rejected



Is AGS a Compounder?

How AGS is Different

Compounder

"Traditional Recyclers"

Process:

1. Plastic regrind feedstocks
2. Processed in extruder
3. Reprocessed pellets end-product

How AGS is Different

The AGS Way

"The Future of Recycling"

Process:

1. Plastic regrind feedstocks
2. Processed in injection molding machine
3. Molded parts are the end-product

Benefits:

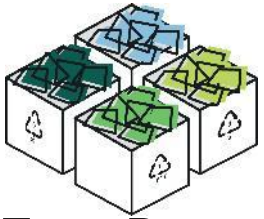
- Eliminates a manufacturing step
- Eliminates a heat history
- Eliminates finger pointing

AGS Proprietary Injectoblend™ Process

AGS 6-Step Process

Step One: Sourcing

Develop long-term sourcing strategy for every resin, secure material, visit suppliers, and provide feedback. Seek suppliers in PIR/PCR that add value. All materials are sampled.



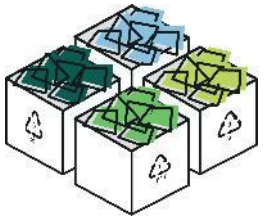
Step Two: Processing

Material is negotiated and shipped to AGS, where material is cleaned, sorted, mixed/homogenized, and tested. Test results must meet or exceed sample from step one.

AGS 6-Step Process

Step Three: Characterizing

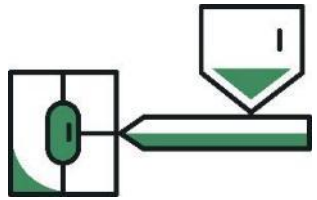
We review the material test results and prepare the material for formulation based on internal performance specifications.



Step Four: Formulating

Formulations are created using approved lots of characterized material to meet customer end-use specifications. Certified Injectoblend™ material is approved for molding.

AGS 6-Step Process



Step Five: Molding

Specially modified equipment; blenders, dryers, injection molding machines, and predictive software consistently deliver precise, shot-to-shot repeatability of molded parts.

Step Six: Quality Control

Final parts are inspected to customer specifications before shipment. AGS has full lot traceability from part back to the material source.

Optimizing Value

Optimizing Value

The Ideal Scenario

Injectoblend™ Candidate ≥ $1.00/lb
Engineering resins like PA6, PA66, PP, PC/ABS, ABS, PC, POM, etc. Adding glass or talc to any resin as well.

Material Intensive Parts/Molds
The more material AGS uses, the higher the cost savings to you. Large parts or high cavitation are best.

Cross-polymer Substitution
AGS can help you consider options depending on your application and our knowledge of available streams.

Closed-loop Recycling Candidates
For those wanting to use their own material back into their own parts, we have closed-loop options to help.

Case Study

Material Intensive Example: Water Tank Base

Application:
Tank base held heavy metal water tank.

The Customer Challenge:
4-pound tank base was failing in high-heat ABS because of heat deflection in extreme heat environments with filled water tanks. The resin supplier was also implementing a price increase.

AGS Solution:
AGS Engineers, working closely with the customer determined that certified recycled Injectoblend™ PC/ABS would be a better alternative and implemented this cross-polymer substitute.

The Bottom Line:
$25,000 savings due to $1 per part savings
Injectoblend™ PC/ABS was 12% less expensive
Eliminated field failure with PC/ABS
Feed stream was recycled auto bumper scrap
Avoided increased price of high-heat ABS

Case Study

Injectoblend™ Savings: Spring-seat Support

Application:
General Motors' high-volume part in the suspension system

The Customer Challenge:
The launch team was seeking VA/VE cost savings in program targeted this part using Asahi Kasei's virgin homopolymer 20% glass-reinforced polypropylene.

AGS Solution:
AGS provided multiple options of material with multiple streams of sources and four percentages of recycled content. VA/VE Engineers agreed Injectoblend 100 FPP220-200 was perfect for these parts and application which provided100% recycled content.

The Bottom Line:
Tier One was able save 25% on this part
AGS makes millions of these parts annually
No reduction in part performance
Recycling credit for 800,000+ lbs/year

Case Study

Closed-loop Recycling: Stone Shield

Application:
General Motors needed to add a stone protection shield with an integrated handle on its 26- and 34-gallon tanks.

The Customer Challenge:
The Tier One customer had a surplus amount of fuel tank regrind being generated from its blow molding operation.

AGS Solution:
AGS worked closely with the customer to develop a program with customer supplied fuel tank regrind is cleaned, blended, and tested to verify conformance to specifications. AGS utilized 100% of the supplier regrind. AGS also re-verifies toughness with Gardner drop impact tests on samples of molded parts throughout each production run.

The Bottom Line:
AGS utilized customers' scrap material
Customer reduced part cost on finished part

Case Study

Sustainability Goals Met: Wire Channel Guides

Application:
Wire channel guides made from 100% recycled material

The Customer Challenge:
An upstart automotive-battery electric vehicle (BEV) company wanting sustainable material, was looking for a molder with experience with recycled material.

AGS Solution:
Knowing this customer was insistent on maintaining properties for performance, AGS Engineers worked with the BEV team to find a material with ample supply, performance, and improved cost to virgin resin. Injectoblend100 FABSPC003 was perfect for this application.

The Bottom Line:
Properties of impact strength and heat resistance were met
100% recycled material was secured from multiple sources
Costs were reduced by nearly 10%

Case Study

Injectoblend™ Savings: Filter Cores

Application:
High volume filter cores for large industrial filtration assemblies

The Customer Challenge:
A global world-class filtration customer was facing cost pressure on their assembled product.

AGS Solution:
AGS Technology replaced virgin PA66 with 33% glass with Injectoblend25 FPA66235 which resulted in immediate cost savings on transferred tools.

The Bottom Line:
Costs initially were reduced 10%.
Over the years, the customer has moved to Injectoblend100, which has allowed them to reduce costs another 10-20% on top of the original savings.
Exceeding vigorous performance specifications remains the same with over 10 million filters shipped a year.

Case Study

Meeting LTA Cost Downs: Overhead Console

Application:
Overhead console for General Motors (GM)

The Customer Challenge:
A major Tier 1 supplier to GM was expected to provide annual lifetime productivity givebacks (LTA) without sacrificing performance.

AGS Solution:
AGS Engineers worked closely with the Tier 1 Engineers to replace virgin PC/ABS with Injectoblend100 FABSPC003. The material is approved under GMP.ABS+PC.002, complies with FMVSS302, and passed all component validation testing requirements.

The Bottom Line:
Cost savings of 30% were achieved
Material exceeds heat resistance and impact testing
Part ran with this Tier 1 for over 10 years

Case Study

Emergency Launch Saved: Wrapped Substrate

Application:

A wrapped armrest core for the Chrysler Pacifica bucket seats

The Customer Challenge:

A major Tier 1 supplier to Stellantis was in the middle of launching with their customer. The virgin 40% long glass fiber polypropylene that was specified in the print was failing cross-load strength test requirement during product validation.

AGS Solution:

AGS Engineers worked closely with the Tier 1 Engineers to substitute the original material with Injectoblend100 FPA66235. By using ASTM D4000 callout by Stellantis Engineering, the inherently stronger material was 100% recycled 33% glass-filled PA66 that easily passes the product validation tests.

The Bottom Line:

Cross-polymer substitution to stronger material with no cost penalty.

Customer was kept launch schedule without having to make new tools due to similar shrink values.

Stellantis was awarded an SPE Innovation Award in the Environmental category.

AGS

TECHNOLOGY