



**GREEN POLYMERIC MATERIALS, INC.**

**6031 Joy Road**

**Detroit, MI 48204**

**Phone: 1-313-933-7390**

**FAX: 1-313-933-7395**

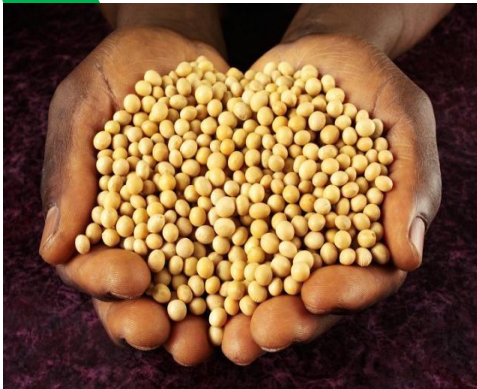
**[www.gpmaterials.com](http://www.gpmaterials.com)**

**E-MAIL: [contact@gpmaterials.com](mailto:contact@gpmaterials.com)**

# Green Polymeric Materials, Inc.

## Recycled Rubber Filled Soy Polyurethane

Using Soy and Recycled Tire Rubber To  
Enhance Clean Automotive Technologies

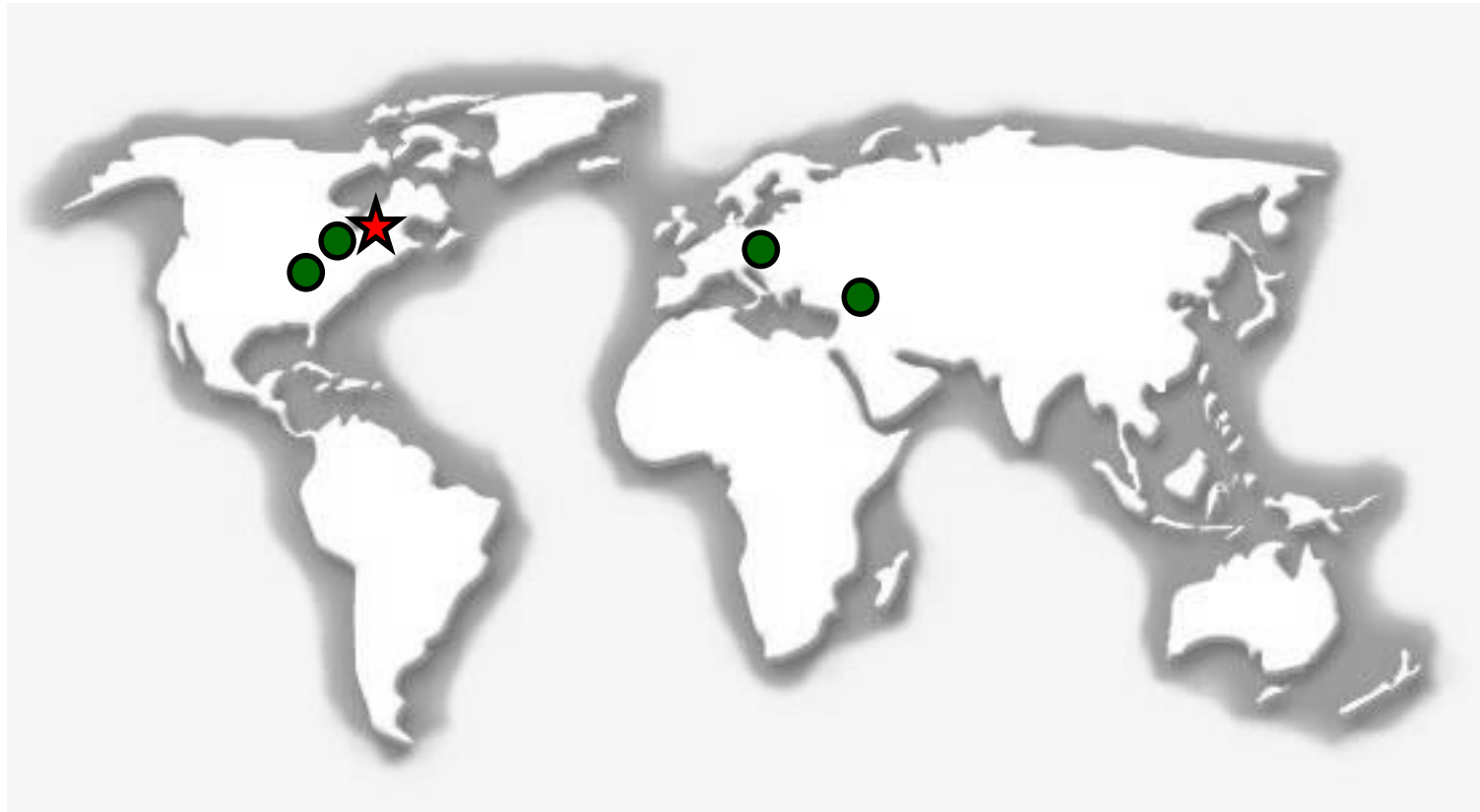


# **GPM** has been in business since 2002

- **GPM** is a manufacturer of Injection-molded Polyurethane Foam Gaskets & Seals
- 65,000 square foot facility with room to expand
- **GPM** is located in Detroit, MI USA
- **GPM** is able to prototype parts in less than five weeks
- Ambient Temperature Processing
- Positive environmental impact
- Renewable resources
- Raw Materials from annually renewable crops

# GPM is a Global Supplier

**IATF 16949 Certified**



**HVAC Seals manufactured in Michigan  
Have been supplied globally to 15 countries (Currently France and Slovakia)**

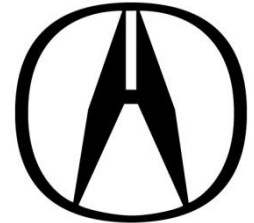
## A Selection of Models Using Or Have Used GPM Gaskets & Seals

- 
- Ford Escape
  - Ford F-150, 250, 350 trucks
  - Ford Mustang
  - Ford Flex
  - Ford Focus
  - Ford Fiesta
  - Ford Taurus
  - Ford Windstar
  - Ford Transit Connect
  - Lincoln MKS
  - Chevy Volt
  - Honda Pilot
  - Acura TL
  - BMW Z3 Roadster
  - BMW X5 SUV
  - Nissan Pathfinder
  - Nissan Altima
  - Nissan Maxima
  - Jeep Liberty
  - Saturn Vue














## Meeting Stringent HVAC Specifications








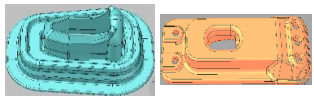
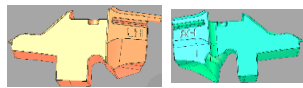

- Ford: WSS-M2D477-A2, WSD-M99D57-B, WSK-M2D417-A, WSK-M2D419-A, ES8G13-19A672-AA
- ASTM D-1056, ASTM D-3574, ASTM E-1050, ASTM D-5132, ASTM D-1171
- SAE J18, SAE J369, SAE J1756
- ISO 34, ISO 37
- GM: GMW-15473, GMW-16515, GM-6438M, GM-6086M
- Visteon: VAM Foam2A1B-MD000001
- Mahle/Delphi: SD2-209
- Nissan: NES-M7070
- Chrysler: MS-AY-338<S>
- Toyota Gosei: TSM1501G-2A2
- BMW: TL 8350151 Versions - 01, 02, 03, 05, 11, 12



## GPM CURRENT PRODUCTION PARTS INFORMATION










GPM PART	OEM	MODEL	TIER 1	APPLICATION	START DATE
	FORD	ESCAPE & FOCUS	HANON SYSTEMS & DTS	GASKET FOR HVAC	2010
	FORD	TAURUS & EXPLORER	DTS	DRAIN SEAL FOR HVAC	2011
	FORD	TAURUS & EXPLORER	DTS	TXV GASKET FOR HVAC	2011
	FORD	TAURUS & EXPLORER	MAGNA MIRRORS	SIDEVIEW MIRROR	2011
	FORD	FIESTA	HANON SYSTEMS	GASKET FOR HVAC	2012
	FORD	ESCAPE & FOCUS	HANON SYSTEMS & DTS	GASKET FOR HVAC	2014
	FORD	F-150	DTS	DRAIN SEAL FOR HVAC	2018
	FORD	F-250 & F-350	GDC	HOOD MUCKET	2018
	NISSAN	ALTIMA & MAXIMA	CALSONIC KANSEI	GROMMET COOLER FOR HVAC	2011
	NISSAN	PATHFINDER	CALSONIC KANSEI	GROMMET COOLER FOR HVAC	2011
	NISSAN	TITAN	CALSONIC KANSEI	GROMMET COOLER FOR HVAC	2015

## GPM CURRENT SERVICE PARTS INFORMATION

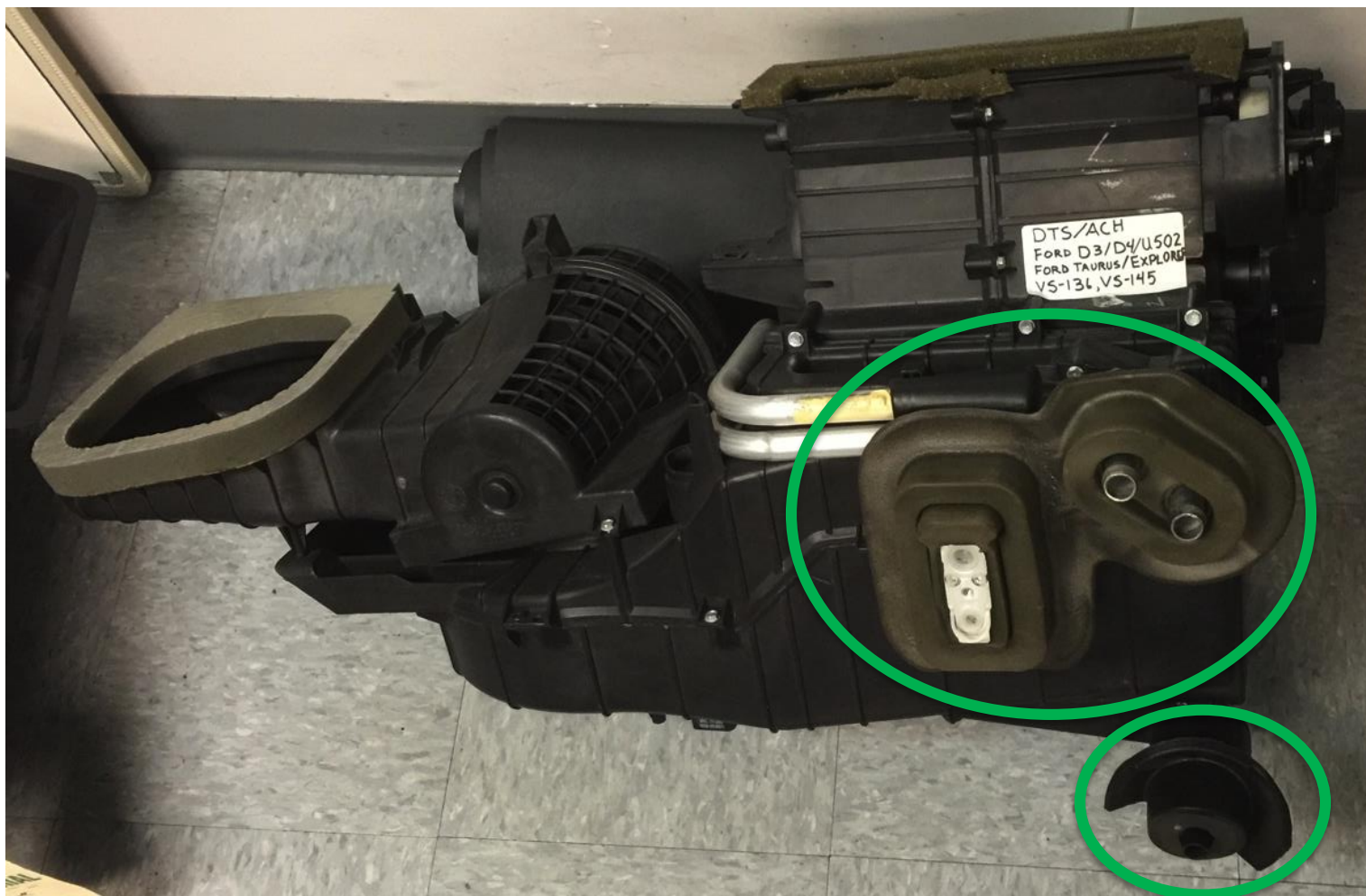
GPM PART	OEM	MODEL	TIER 1	APPLICATION
	FORD	TRANSIT	HANON SYSTEMS	GASKET FOR HVAC
	FORD	TRANSIT	HANON SYSTEMS	GASKET FOR HVAC
	FORD	ESCAPE	HANON SYSTEMS	GASKET FOR HVAC
	FORD	ESCAPE	HANON SYSTEMS	GASKET FOR HVAC
	FORD	ESCAPE	HANON SYSTEMS	GASKET FOR HVAC
	FORD	FUSION	HANON SYSTEMS	GASKET FOR HVAC
	FORD	FIESTA	HANON SYSTEMS	GASKET FOR HVAC
	FORD	FIESTA	HANON SYSTEMS	GASKET FOR HVAC
	GENERAL MOTORS	CHEVY VOLT	FABSOL	HOOD MUCKET
	GENERAL MOTORS	CHEVY SONIC	MAHLE/DEL PHI	FOD GASKET



## GPM CURRENT SERVICE PARTS INFORMATION

GPM PART	OEM	MODEL	TIER 1	APPLICATION
	GENERAL MOTORS	OPEL MERIVA	MAHLE/DEL PHI	FOD GASKET
	BMW	X5 {LHD}	MAGNA MIRRORS	SIDEVIEW MIRROR
	BMW	X5 {RHD}	MAGNA MIRRORS	SIDEVIEW MIRROR
	FORD	FOCUS	FICOSA	SIDEVIEW MIRROR
	FORD	FOCUS	FICOSA	SIDEVIEW MIRROR
	FORD	MKS	MAGNA MIRRORS	SIDEVIEW MIRROR
	FORD	FLEX	MAGNA MIRRORS	SIDEVIEW MIRROR
	FORD	TAURUS	MAGNA MIRRORS	SIDEVIEW MIRROR
	HONDA	PILOT	MAGNA MIRRORS	SIDEVIEW MIRROR

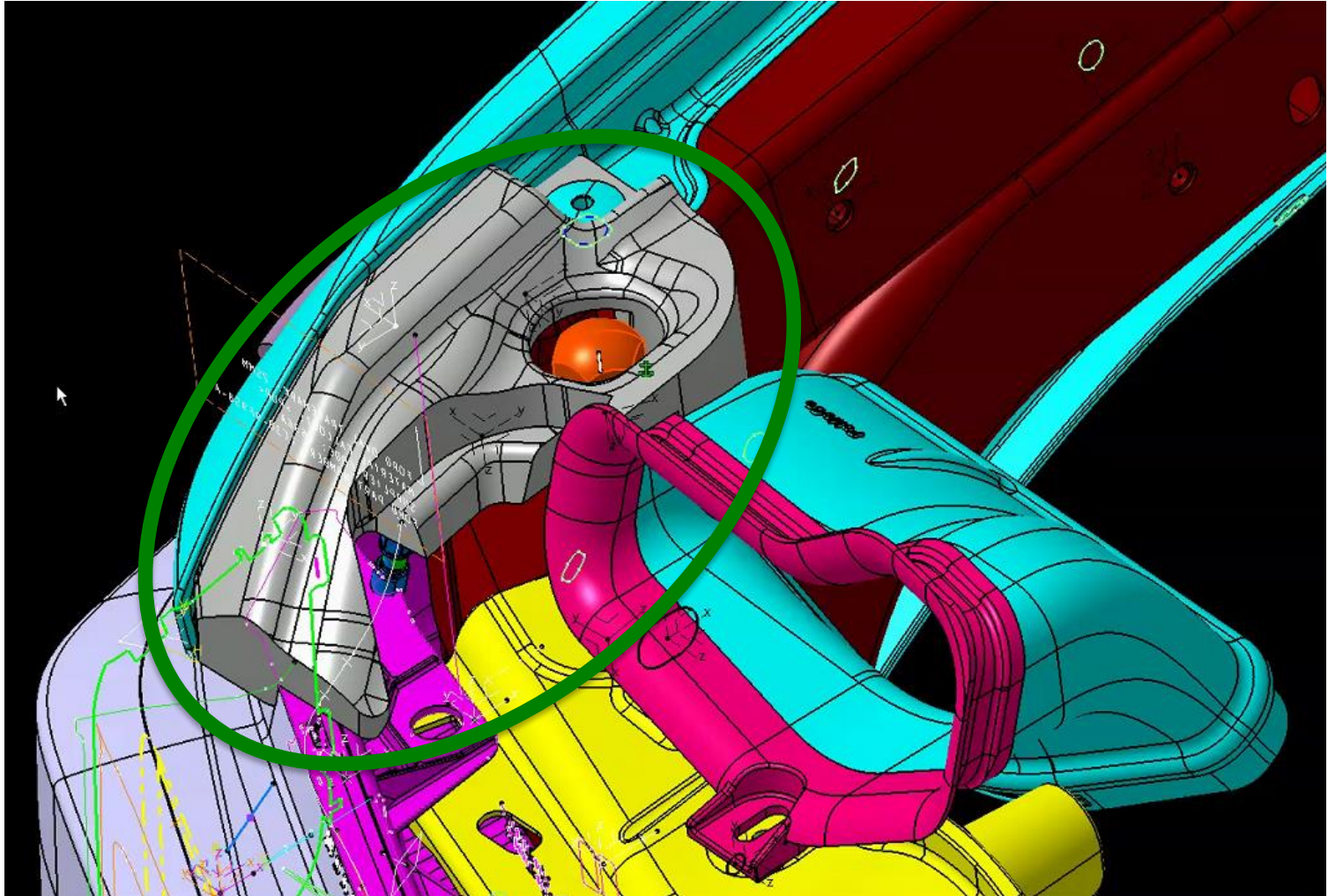
# Application: HVAC Gaskets/Seals



# Application: Sideview Mirror Gaskets/Seals

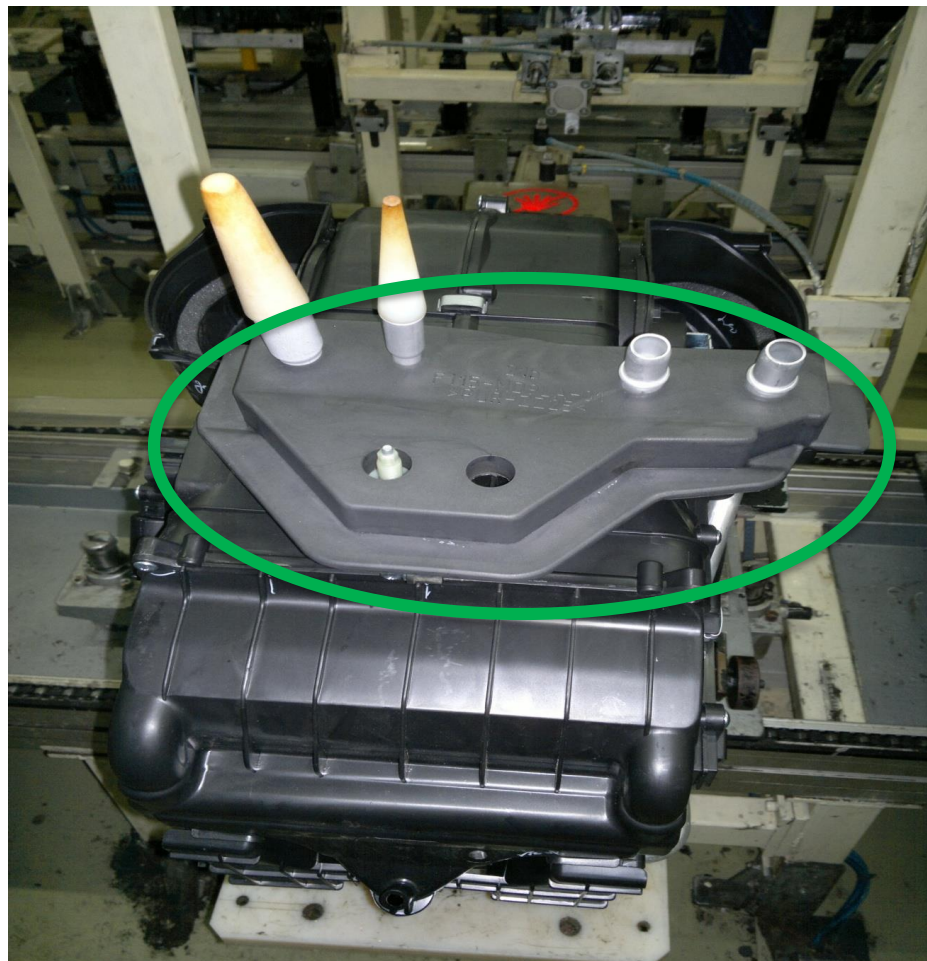


# Application: Hood Mocket Gaskets/Seals





## GPM Seal during assembly at Customer (Easy To Install)



# Functionality of GPM Seals

- Sealing
- Durability
- Dimensional Stability
- NVH
- Odor/Anti Bacterial
- Environmental



## Physical Properties

- **Compression Set**
- **Compression Deflection**
- **Tensile Strength**
- **Tear Strength**
- **Bio-renewable Content**
- **Flammability**
- **Sound Transmission Loss**
- **Density**
- **Fogging**
- **Ozone**
- **Cold Flexibility**
- **Recycled Content**
- **Fluid Resistance**
- **Hardness**
- **Fungal Resistance**

# Engine Compartment Fluid Resistance at 70°C For 168 Hours

## Identical Part Following Immersion in Transmission Fluid

Polar Versus Non-Polar Chemistries - “Like Dissolves Like”



**GPM, Inc. CI-2433**  
**Resistance to Transmission Fluid**



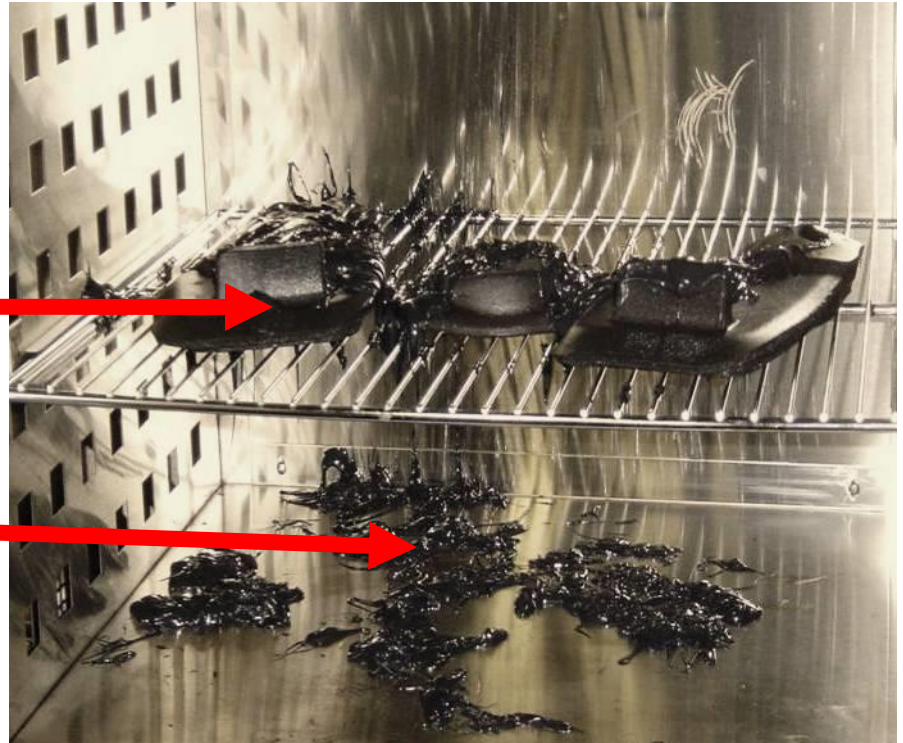
**Vulcanized EPDM**



# Heat Resistance

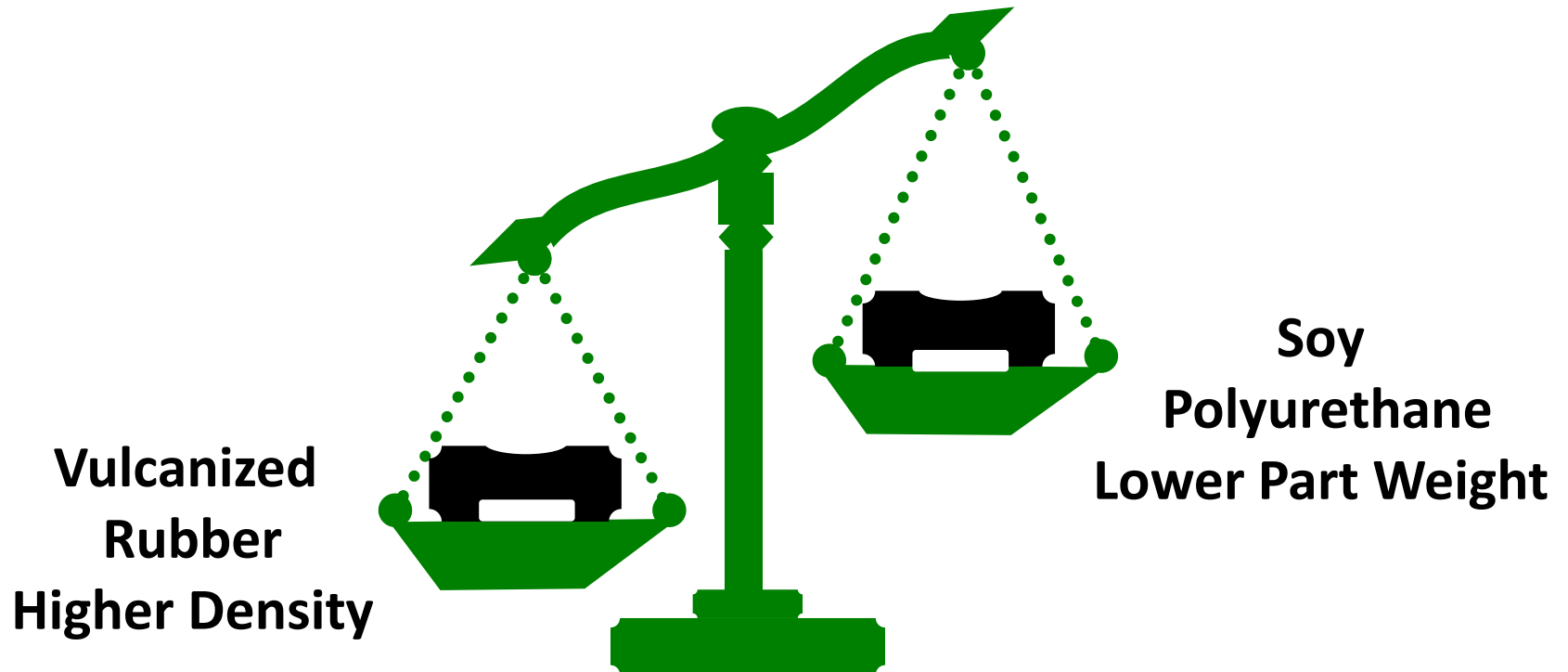
**GPM Polyurethane Seals**

**HVAC Plastic Case (Melted)**



- Dash Seals withstand 10 minutes @ 275°C (~525°F)
- HVAC Plastic Case melts @ 175°C (~350°F)

## Positive Environmental Impact



**Component Weight Reduction (about 40%)**

# Positive Environmental Impact



**Scrap Tires**

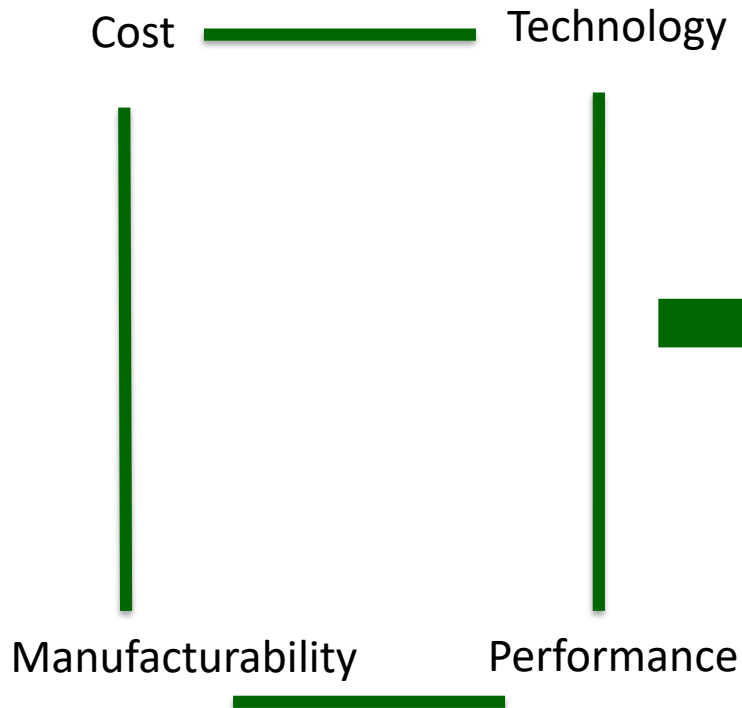


**Rubber Filled  
Soy Polyurethane**



**Recycled Rubber Granules**

## The Old Automotive Balancing Act



## The New Automotive Balancing Act





IATF-16949 : 2016 Certified

# ABS Quality Evaluations

## Certificate Of Conformance

This is to certify that the Quality Management System of:

**Green Polymeric Materials, Inc.**

6031 Joy Road  
Detroit, MI 48204  
U.S.A.


has been assessed by ABS Quality Evaluations, Inc. and found to be in conformance with the requirements set forth by:

**IATF 16949:2016**

The Quality Management System is applicable to:

**MANUFACTURER OF CUSTOM FORMULATED POLYMERIC MATERIALS AND COMPONENTS. EXCLUDING  
PRODUCT DESIGN, IATF 16949:2016 CLAUSE 8.3**

Certificate No: 52860  
Effective Date: 14 March 2018  
Expiration Date: 13 March 2021  
Revision Date: 27 March 2019  
IATF No: 0294543

  
Dominic Townsend, President



Validity of this certificate is based on the successful completion of the periodic surveillance audits of the management system defined by the above scope and is contingent upon prompt, written notification to ABS Quality Evaluations, Inc. of significant changes to the management system or components thereof.

ABS Quality Evaluations, Inc. 1701 City Plaza Drive, Spring, TX 77389, U.S.A.  
Validity of this certificate may be confirmed at [www.abs-qe.com/cert\\_validation](http://www.abs-qe.com/cert_validation).

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# MMSDC Certified Minority Business

THIS CERTIFIES THAT

**Leading Edge Polymers, Inc.**  
dba Green Polymeric Materials, Inc.

 **NMSDC**  
National Minority Supplier  
Development Council

\* Nationally certified by the: **MICHIGAN MINORITY SUPPLIER DEVELOPMENT COUNCIL**

\* NAICS Code(s): 326150; 339991

\* Description of their product/services as defined by the North American Industry Classification System (NAICS)

04/05/2019  
\_\_\_\_\_  
**Issued Date**

04/01/2020  
\_\_\_\_\_  
**Expiration Date**

  
Adrienne Trimble

  
Michelle Sourie Robinson, President & CEO

MI04329  
\_\_\_\_\_  
**Certificate Number**

By using your password (NMSDC issued only), authorized users may log into NMSDC Central to view the entire profile: <http://nmsdc.org>

*Certify. Develop. Connect. Advocate.*

\* MBEs certified by an Affiliate of the National Minority Supplier Development Council, Inc.®

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