

GDC

GDC, INC.



enduraprene[™]
the eco-friendly, ultra-durable TPE



Sonozorb[™]
the sound solution



With four manufacturing facilities located in Indiana, GDC, Inc. is located to serve all major industrial markets.



Company Background



- Founded in 1955
- Supplier to Automotive Industry; OEM's, Tier 1, and Tier 2
- Automotive Represents 90% of Sales
- TS 16949 and ISO 14000 registered.
- 1999 Governor's Award for Recycling Recipient
- 2008 Governor's Award for Recycling Recipient

Certified Diversity Business



Women's Business Enterprise National Council
in partnership with
Women's Business Enterprise Council - Great Lakes
certifies that the criteria for certification as a

Women's Business Enterprise
(WBE)
has been met by

GDC Inc.



Expiration Date: 06/06/2010
Certificate Number: 2005106357
SIC Code(s): 3999
NAICS Codes: 325212

Authorized by Michelle Horvath, President
Women's Business Enterprise Council - Great Lakes

Product Segments



- Air/water Deflectors
- Duct Seals
- Interior Trim
- Anti-Squeak/Rattle
- Gaskets
- NVH Sound Deadener
- Foam Seals
- Cup Holder Cushions
- Engine Cover Foam
- Fuel Tank Isolators
- Extrusions
- Diaphragms
- EMI/ RFI Shielding
- Carpet Inserts
- Adhesives
- Gimp Seals

Engineering Support



- Material Development, Analysis, and Selection
- Functional Testing
- Performance Testing
- CAD Design (UG, AutoCAD)
- Efficient Material Utilization (CAD assist)
- OEM Specification Research
- Compound Development
- Acoustical Testing

Processes

- Flat Bed Die Cutting
- Lamination
- Assembly
- Thermoforming
- Rotary Die Cutting
- Extrusion
- Molding
- Compounding



Rotary Die-Cutting

- High-Speed
- Multi-layer Designs
- Selective adhesive placement
- Economical Large volume runs
- Tight tolerances



Slitting and Laminating

Automated/CNC slitting and laminating equipment help drive down costs and allow for more innovative products.



Thermoforming/Compression Molding



- Fully-Automated Cell.
- Large Work Envelope.
- Flexible Capabilities - Recycled Rubber Baffles to Interior Soft Trim components.



Specialty Awards



GDC, Inc. Was awarded the 1999 and 2008 Governor's Award for Excellence in Recycling.

Our Recycled rubber and foam products have been well received in industrial applications

Acoustical Products

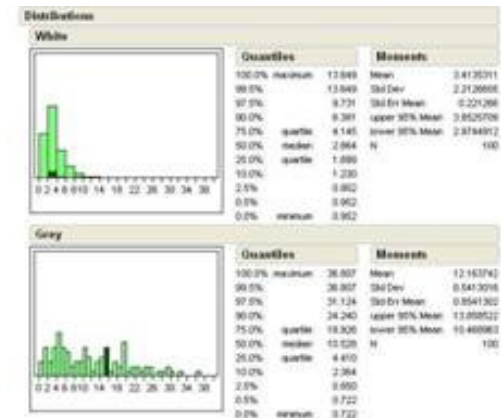
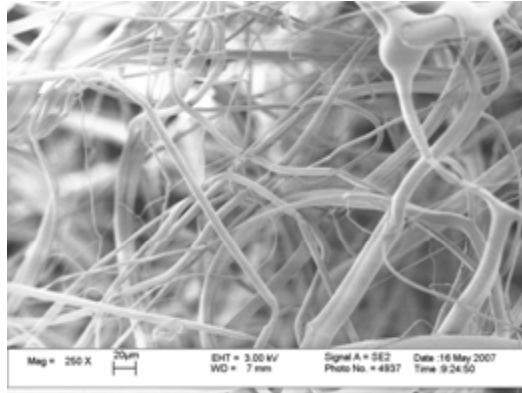
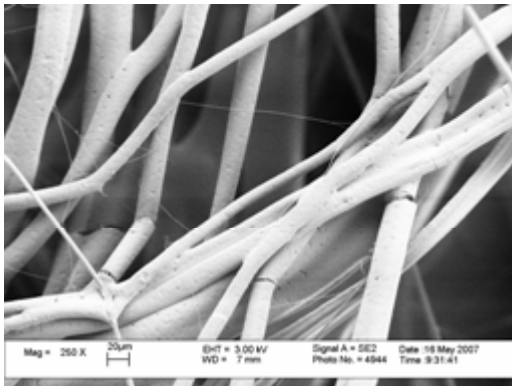


The Sonozorb™ Advantages (Acoustics)

- **Better performance.**
- **Aesthetically appealing.** Sonozorb's all white material looks much more professional than chopped fibers
- **Hydrophobic.** PP based Sonozorb will not absorb water or rot like organic based cotton shoddy.
- **Mold and Mildew resistant.** Same reason as above.
- **Alternative uses.** Because of the excellent properties listed above, Sonozorb may be used for non tradition applications such as mirror gaskets, and engine cover sound absorbers
- **No adhesive option.** Sonozorb can be sonically welded, vibration welded or heat staked, thus eliminating costly messy adhesives
- **100% recyclable.** Sonozorb is pure virgin polypropylene and can be 100% recycled
- **Compressible.** Material will conform to highly irregular surfaces such as support ribs. You can use thicker material for better sound performance and still not have to worry about the tight areas between parts
- **Lighter.** Sonozorb is lighter typically than shoddy.
- **Cleanliness.** There are no loose fibers to act as an irritant to workers and customers.

Sonozorb™ Technology

More fine fiber per area for a more tortuous path for sound absorption



GDC's one up high speed cutting eliminates crushing which maintains loft and allows sufficient space between fibers for better attenuation

Tunable scrim that restricts air flow but still allowing air to pass through

Sealed edges improves sound absorption and eliminates fiber migration

Improved fiber durability insures acoustical performance for the life of the vehicle

Contoured shapes allow for maximum loft and thickness in a varying environment

Product Timeline

2000

GDC recognizes a need for better performing, low cost sound pad



2001

GDC partners with material supplier to develop Sonozorb



2002

GDC qualifies Sonozorb for automotive applications



2003

Sonozorb passes OEM Test Specifications



2004

Sonozorb implemented in production

2005

GDC implements XT product into production for tuned scrim applications

2009

Sonozorb HL and Sonozorb HLW launches into production

Current Production Applications



Toyota Sienna
Lincoln MKT
Ford Expedition
Nissan Titan
Ford Taurus
Chevy Equinox
Ford Edge
Lincoln MKX
GMC Torrent
Ford Escape
Mercury Mariner
Ford Fusion



Current Development Programs

Chevy Volt
Ford Fiesta

Ford Explorer
Mazda Tribute

Mercedes M-Class

Product Applications



IP Silencer
A Pillar
B Pillar
C Pillar
Panel
Head Liner
Package Tray
Consoles



GDC, Inc.



Enduraprene™ Overview



- ❖ **GDC's recycled rubber technology is vertically integrated back to compounding of raw materials.**
- ❖ **This provides a flexible and competitive product line**
- ❖ **Product range includes soft/quiet to rigid/durable**
- ❖ **HDPE, polypropylene, TPO, and ABS based rubber composites**

Enduraprene™ Technology



- ❖ Engineered TPE's derived from post consumer tires and plastics
- ❖ Patented de-vulcanization process of tire rubber cross-links the materials for superior performance to masticated and rubber filled materials
- ❖ Materials based on PE, PP, TPO, and Nylon
- ❖ Full development lab for custom materials
- ❖ Single and twin screw compounding technologies
- ❖ Sheet extrusion, Profile Extrusion, Injection Molding, Roto Molding and Blow Molding grades.

Enduraprene™ Uses

Baffles

Splash shields

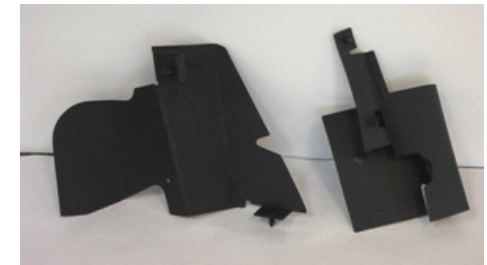
Mud flaps

Under body shields

Fender liners

Fuel tank isolators

Radiator site shields



Enduraprene™ Performance

	Enduraprene 17620	Enduraprene 2285	Enduraprene 2390	Enduraprene 2195	Enduraprene 2395
Description	Tire derived Masticated Rubber	Tire & PE derived soft Masticated Rubber	Tire & PP derived soft Masticated Rubber	Tire & PE derived stiff Masticated Rubber	Tire and PP derived stiff Masticated Rubber
Hardness, pts	70 pts	85 pts	95 pts	97 pts	98 pts
Tensile strength	5.0 Mpa	5.9 Mpa	8.1 Mpa	15.6 Mpa	25.4 Mpa
Elongation	170%	280%	196%	33%	32%
Tear Strength	40 kN/m	35 kN/m	55.1 kN/m	150 kN/m	76 kN/m
Heat Aged 70 hrs 70C -Tensile Chg. -Elongation Chg. -Hardness Chg.	-3% +3% +0.1 pts	+1% +4% -2 pts	+2 +10 -1 pts	+9% -9% -2 pts	-1 % -20 % -2 Pts
Manufacturing Processes	Die cut	Die Cut, Formable, Welable, Moldable	Die Cut, Formable, Weldable, Moldable	Die Cut, Formable, Weldable, Moldable	Die Cut, Formable, Weldable, Moldable
Applications	Flat Radiator Baffles & Splash Shields	Flat or 3-D molded Baffles, Shields, Covers & Gap Hiders	Flat or 3-D molded Baffles, Shields, Covers & Gap Hiders	Flat or 3-D molded Baffles, Shields, Covers & Gap Hiders	Flat or 3-D molded Baffles, Shields, Covers, Fender liners & Belly pans



*Innovative Technologies, New Materials, Coordinated
Development and a Passion for Excellence*

- ⇒ Over 50 years of innovative thinking
- ⇒ Proprietary materials and technologies
- ⇒ Cost effective new technologies
- ⇒ Utilizing the inherent flexibility of rubber and the durability and processing of plastic
- ⇒ Vertical integration to control cost and enhance quality

Surpassing the expectations of each of our customers daily