

ENGI-
NEERING
LIFE

**TPE SOLUTIONS FOR
UNDER THE HOOD
APPLICATIONS**





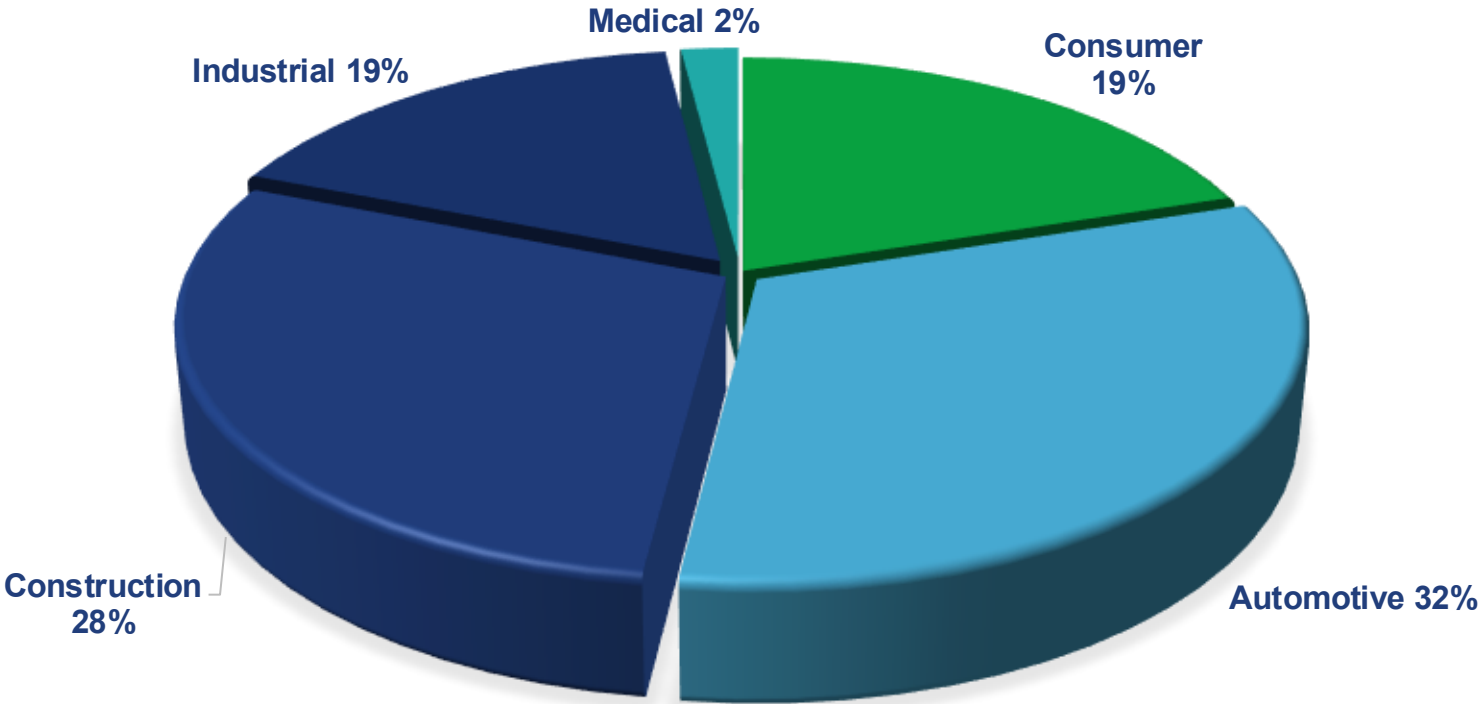
**Everyday Life
Engineering
Partner of
Global TPE Users**



MARKETS



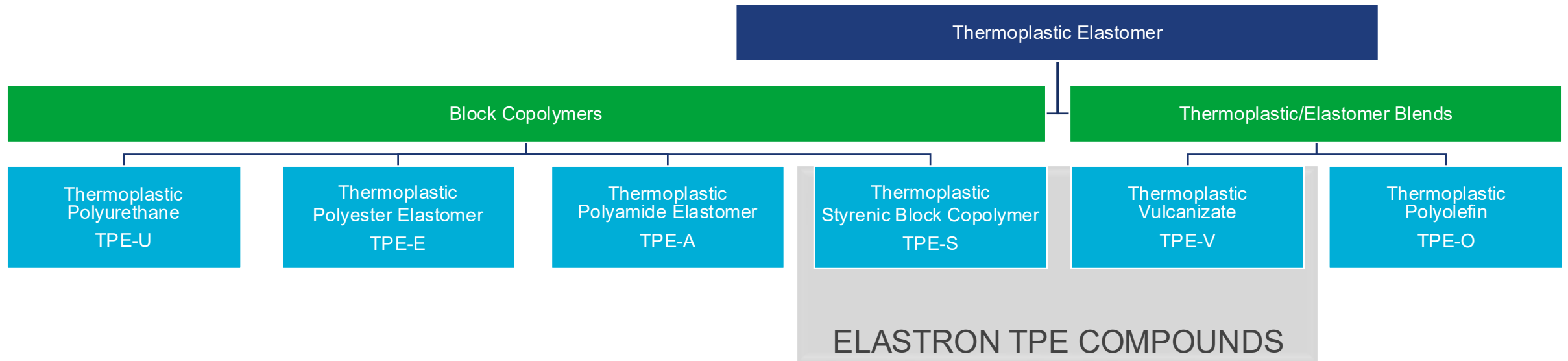
Markets	Percentage Distribution
Automotive	32%
Construction	28%
Consumer	19%
Industrial	19%
Medical	2%





Thermoplastic Elastomers

Thermoplastic elastomers are a group of rubber-like materials that, unlike vulcanized conventional rubber materials, can be processed and recycled like thermoplastic materials. Thermoplastic Elastomers do not require curing or vulcanization during processing and can be processed by traditional thermoplastic processing equipment.





Temperature
Resistance



Weathering
Resistance



Recyclability



Wide Hardness
Range



Easy
Coloring

	Elastron G	Elastron V	Elastron D
Structure	SEBS/PP based TPE compounds	Crosslinked TPE compounds	SBS/PP based TPE compounds
Hardness (Shore A/D)	12 A - 65 D	30 A - 65 D	20 A - 65 D
Density (g/cm³)	Min. 0.88	Min. 0.90	Min. 0.89
Compression Set	Good	Very Good	Medium
Elasticity	High	Very High	Medium
Service Temperature (°C)	-50°C to 120°C	-50°C to 135°C	-50°C to 70°C
Organic Solvent Resistance	Variable	Variable	Poor
Acid-Base Resistance	Good	Good	Good
Adhesion (Standard grades)	PP, PE, EVA	PP, PE, EVA	PP, PE, EVA
Adhesion (Bondable grades)	ABS, PC, PC/ABS, PBT, PETG, ASA, SAN, PMMA, PET, PA6/6.6, PS, HIPS, EPDM	EPDM	PS



General Purpose Grades

- Multi-purpose TPE-S and TPV compounds
- Various series lightweight to high density
- Extrusion grades to high flow grades
- **V101 – G101 Series**
- **V100 – G100 Series**

Weatherseal Grades

- Excellent long-term performance for outdoor applications
- **V251 – G261 Series**
- **V250 – G260 – G250 Series**

High Temperature Resistant Grades

- Excellent long-term performance at high temperatures for sealing applications
- **G201 – V201 Series**

High Flow Grades

- Low viscosity
- Easy filling of complex molds
- Long term performance for outdoor applications
- **G150 – G104 Series**

Low Coefficient of Friction Grades

- Low friction for semi-dynamic applications
- **V216 – V206 Series**

Bondable Grades

- Special TPE compounds for overmolding onto engineered plastics to attain soft touch property.
- **G500 – PA/ABS/PS Series**
- **G510 – EM Series**

Flame Retardant Grades

- UL V0 listed grades
- Low smoke density
- V1 – V2 grades
- HFFR – FR grades
- **G601 – V601 Series**
- **G611 – V611 Series**

Non-hygroscopic TPVs

- Non-hygroscopic TPVs where good sealing properties and surface appearance are important
- **V860 – V861 Series**

Special Grades Conforming Various Regulations

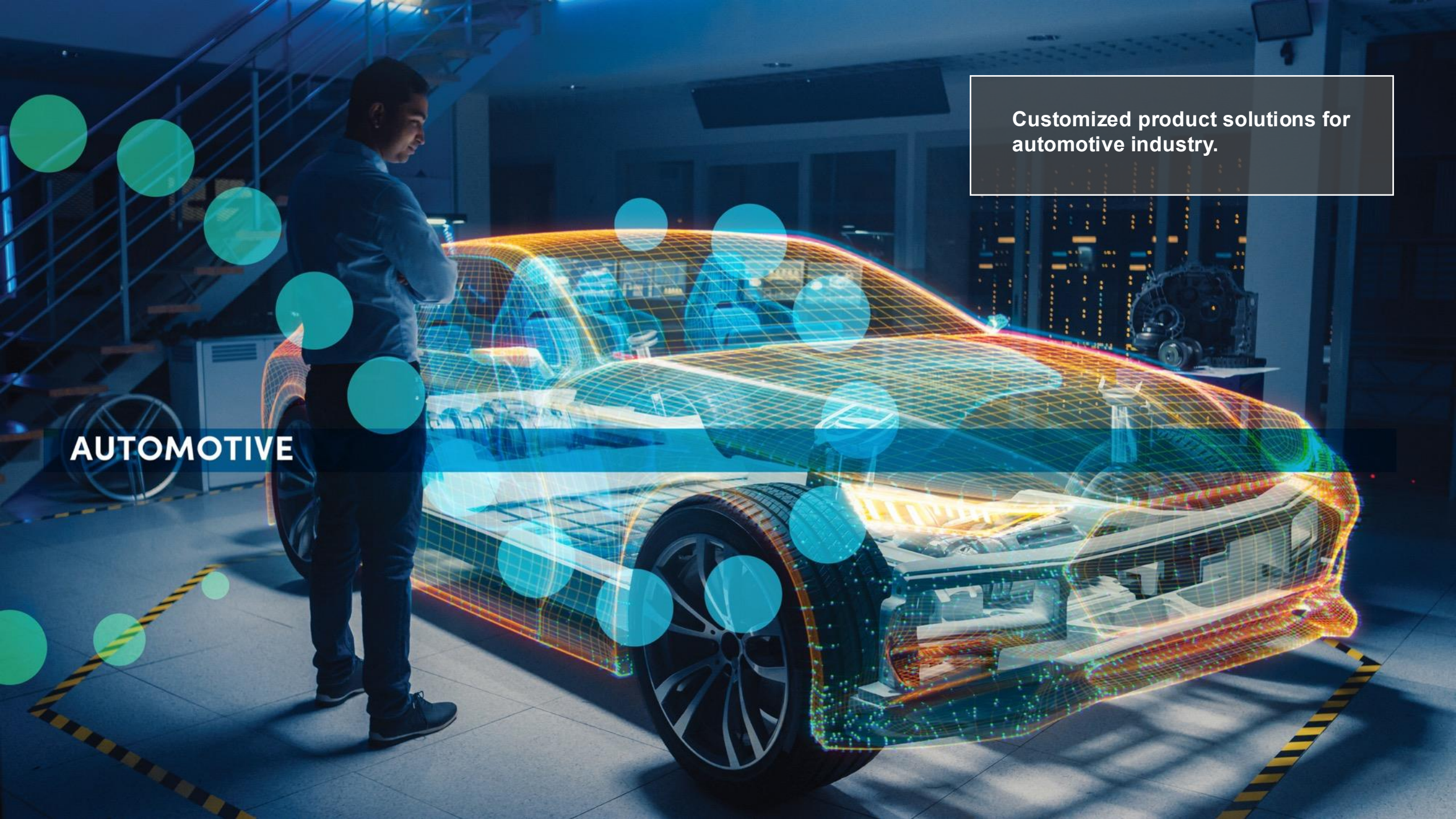
- NSF/ANSI 61
- EU 10/2011
- FDA 21 CFR
- USP CLASS VI
- **F.G & F.V - P.G & P.V series**
- **V281 Series**

Impact Modifiers for

- PP
- HDPE
- ABS
- PC
- PS
- PA

Customized product solutions for
automotive industry.

AUTOMOTIVE





Elastron TPE Grades for Automotive Applications

- Excellent weathering and ozone resistance
- Abrasion resistance
- Adhesion to PP, PE, EPDM etc. and engineering plastics (ABS,PC,PA, etc.)
- High temperature resistance
- OEM approved grades
- Excellent compression set
- Low temperature resistance
- Recyclability





Segments & Highlighted Applications

WEATHERSEALS

- Inner & Outer Belt Line Seals
- Glass Run Channels
- Sunroof Seals
- Glass Encapsulation
- Corner Molding
- Slip Coat
- End Caps

UNDER THE HOOD & CHASIS

- Active Grill Shutters
- Air Guide Shutters
- Air Duct
- Grommets & Plugs
- Boots & Bellows
- Hose, Pipes & Connectors
- Cable

INTERIOR

- Pad Heel
- Pads & Cup Holders
- Gearshift & Handbrake Bellow
- HVAC Flap Seals
- Floor Mats
- Pedal Cover
- Glovebox Cover & Housings

EXTERIOR

- Side & Front Spoiler
- Mud Flaps & Wheel Protection
- Exterior Mirror Seal
- Cowl Vent Seal
- Wiper Blade
- Fuel Entrance Cover Seal
- Charge Port Seal





Material Properties	Design	Processing	Safety & Regulation	OEM Approvals	Sustainability
•Weathering Resistance •Heat Resistance •Low Compression Set •Weight Reduction •Abrasion and Scratch Resistance •Rubbing Performance •Wide Hardness Range	•Smooth Surface •Glossy Finish to a Matt Look •Adhesion to Engineering Plastics •OEM Approved Color Codes	•Single / Multi-injection •Overmolding •Recyclability •High Flow Grades •Short Processing Cycle Time •Low Energy Consumption •No Curing Required	•ELV (2000/53/CE) •TL 1010 •FMVSS 302 •ISO 3795 •UL 94 Listed	•MS.90513 EGV •GMW 15813 •UB09f- PMR 2023 •QK – 003526 •QK – 003531 •QK – 003533 •WSD – M2D380 – A1 •WSD – M2D381 – A1 •WSD – M2D382 – A1 •WSD – M2D441 – A1	•PIR / PCR Grades •LCA Data •High Recycle Content •In Process Recyclability •Reducing of CO2 Emission



TPEs for Under Hood and Chasis

Automotive under the hood components leverage TPEs for their processability and sustainability. TPE materials are used on various under the hood parts, can be produced as entire component or can be overmolded onto thermoplastics.

Functions;

- Provide air circulation
- Provide insulation against dust, vibration and sound
- Provide housing for components

TPEs have benefits such as;

- Weight Reduction
- Good Chemical Resistance
- Adhesion to Polyolefins and Engineering Plastics
- Short Processing Cycle Time
- Low Energy Consumption
- Sustainable Product Solutions (PIR / PCR based)
- Recyclable





Active Grill Shutters

Product

- G150.A58.B
- G150.A65.B
- G150.A75.B
- G250.A59.B
- G250.A65.B
- G250.A70.B
- G500.A60.B.PA
- V201.A91.B.VL

Key Features

- ✓ Excellent Weathering and UV Resistance
- ✓ Short Processing Cycle Time
- ✓ Weight Reduction
- ✓ Chemical Resistance to Aqueous Solutions
- ✓ Low VOC Emission
- ✓ Low Odor
- ✓ Adhesion to Polyolefins and Engineering Plastics

Active Grill Shutters





Air Guide Shutters

Product

- G100.A55.B
- G100.A60.B
- G100.A65.B
- G100.A75.B

Key Features

- ✓ Short Processing Cycle Time
- ✓ Weight Reduction
- ✓ Chemical Resistance to Aqueous Solutions
- ✓ Low VOC Emission
- ✓ Low Odor
- ✓ Adhesion to Polyolefins

Air Guide Shutters





Air Duct

Product

- V101.A86.B
- V101.A90.B
- V101.D35.B
- V101.D40.B
- V101.D51.B
- V201.A87.B
- V201.A90.B
- V201.D40.B
- V201.D51.B

Key Features

- ✓ High Temperature Resistance
- ✓ Processable in Blow Molding and Injection
- ✓ Weight Reduction
- ✓ Good Chemical Resistance
- ✓ High Strength and Stiffness

Air Duct





Grommets & Plugs

Product

- G100.A40.B.WO
- G100.A50.B
- G100.A55.B.WO
- G100.A60.B
- G100.A70.B
- G104.A50.B
- V100.A65.B
- V101.A35.B
- V101.A55.B
- V101.A60.B
- V101.A79.B

Key Features

- ✓ Short Processing Cycle Time
- ✓ Weight Reduction
- ✓ Chemical Resistance to Aqueous Solutions
- ✓ Good Sealing Property
- ✓ High Flow Grades





Boots & Bellows

Product

- V101.A86.B
- V101.A90.B
- V101.D35.B
- V101.D40.B
- V101.D51.B
- V201.A83.B
- V201.A87.B
- V201.A90.B
- V201.D40.B
- V201.D51.B

Key Features

- ✓ High Temperature Resistance
- ✓ Processable in Blow Molding and Injection
- ✓ Weight Reduction
- ✓ Good Chemical Resistance
- ✓ High Strength and Stiffness





Hose, Pipes & Connectors

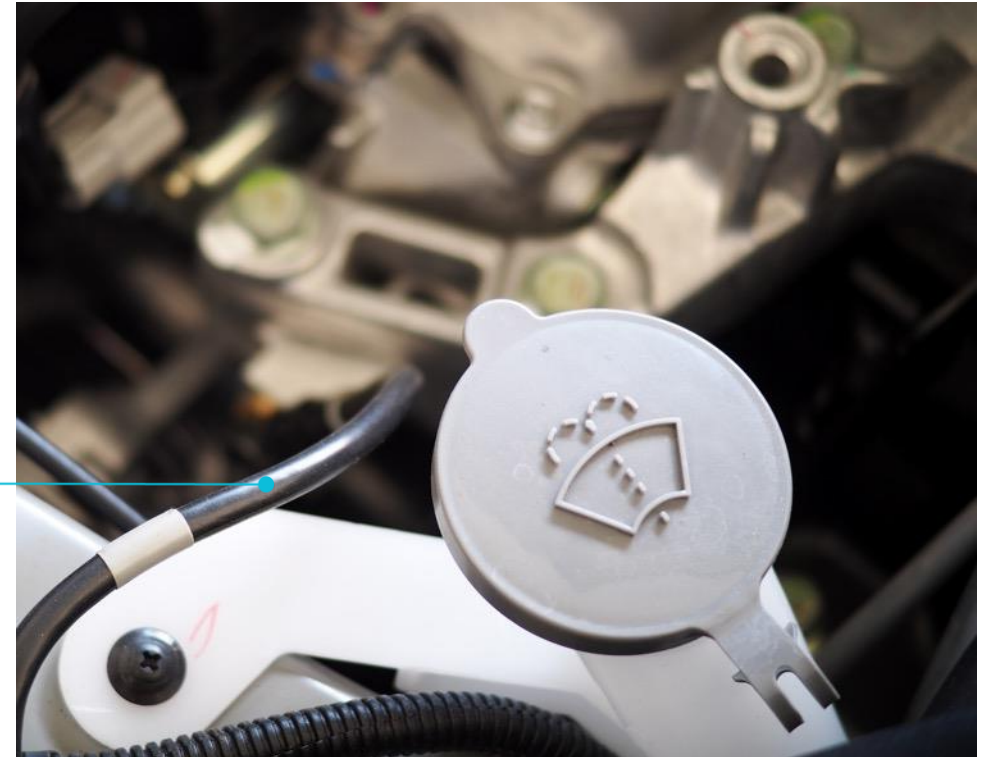
Product

- V101.A72.B
- V101.A79.B
- V201.A75.B
- V201.A83.B
- G500.A60.B.PA

Key Features

- ✓ High Temperature Resistance
- ✓ Short Processing Cycle Time
- ✓ Weight Reduction
- ✓ Chemical Resistance to Aqueous Solutions
- ✓ Extrusion/ Coextrusion
- ✓ Adhesion to Polyolefins and Engineered Plastics

Hose, Pipes & Connectors





Cable

Product

- V101.A79.B
- V101.A86.B
- V101.A91.B
- V601.A80.B
- V601.A90.B

Key Features

- ✓ Halogen-free flame retardant solutions
- ✓ Low Dielectric Constant (2.50-3.00)
- ✓ Dielectric Strength (7 – 30 kV/mm)
- ✓ High Temperature Resistance
- ✓ Easy Processing
- ✓ Low Smoke Density

Cables





Find out more about your
TPE solutions partner now.

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