

PRODUCT DESCRIPTION

A hard , black thermoplastic vulcanizate, TPV (EPDM/PP) in the thermoplastic elastomer family that offers good physical properties and chemical resistance

GENERAL PROPERTIES

Material Status	Active
Availability	Europe North America Asia- Pasific Africa & Middle East
Features	Ozone Resistance Adhesion to Polyolefins Recyclable Compliant with RoHS Directive 2011/65/EU
Certification	RoHS
Appearance	Black
Form	Pellets
Processing Method	Injection, Extrusion

Automotive Specifications

TOYOTA/ TSM5746G CLASS 4

Physical Properties

Property	Typical Value (English)	Typical Value (SI)	Test Method
Density	0.97 g/cm³	0,97 g/cm³	ASTM D 792
Durometer Hardness, 3 sec (Shore A)	90.00	90,00	ASTM D 2240
Tensile Strength at Break	1740 Psi	12,00 MPa	ASTM D412, Method A
Mod.of Elasticity %100	783 Psi	5,40 MPa	ASTM D412, Method A
Mod.of Elasticity %300	1059 Psi	7,30 MPa	ASTM D412, Method A
Elongation at break	750.00 %	750,00 %	ASTM D412, Method A
Compression Set (at 73 °F, 22 h)	28.00 %	28,00 %	ASTM D 395, Type 2, Method B
Compression Set (at 158 °F, 22 h)	48.00 %	48,00 %	ASTM D 395, Type 2, Method B
Compression Set (at 212 °F, 22 h)	69.00 %	69,00 %	ASTM D 395, Type 2, Method B
Tear Resistance	285.51 lbf/in	50,00 N/mm	ASTM D624

Shrinkage

Property	Typical Value (English)	Typical Value (SI)	Test Method
Flow	2.53%	2.53%	ASTM D955
Across Flow	1.46%	1.46%	ASTM D955

Ageing Tests

Additional Information	Typical Value (English)	Typical Value (SI)	Test Method
Ozone Resistance-Stressed	No cracks	No cracks	ASTM D 1149

Bondable to

PE-PP-EVA

Additional Information

Elastron products are not compatible with PVC and Acetal.
Regrinding level up to %20 is recommended with minimum property loss.

Processing

Injection Molding	Typical Value (English)		Typical Value (SI)	
Drying temperatures	194	°F	90	°C
Drying time	2	hours	2	hours
Rear Zone temp.	311-347	°F	155- 175	°C
Middle Zone temp.	329-365	°F	165- 185	°C
Front Zone temp.	338-374	°F	170- 190	°C
Nozzle Temperature	356-410	°F	180- 210	°C
Injection Speed	Moderate	-	Moderate	-
Injection Time	2- 4	sec.	2- 4	sec.
Injection Pressure	10- 40	bar	10- 40	bar
Hold Pressure	5- 20	bar	5- 20	bar
Back Pressure	5- 40	bar	5- 40	bar
Screw Speed	50- 200	rpm	50- 200	rpm
Mold Temperature	77-122	°F	25- 50	°C
Screw Comp. ratio	1.5:1- 2.0:1	-	1.5:1- 2.0:1	-
Screw L/D ratio	18- 24	-	18- 24	-
Residence time	1-2 shot	-	1-2 shot	-
Cushion size	0.3120	inc	8	mm
Suggested Max Regrind	20	%	20	%

Extrusion Molding	Typical Value (English)		Typical Value (SI)	
Drying temperatures	194	°F	90	°C
Drying time	2	hours	2	hours
Screw Comp. Ratio	1.5:1- 2.0:1	-	1.5:1- 2.0:1	-
Screw L/D	18- 30	-	18- 30	-
Feed Zone temp.	311-329	°F	155- 165	°C
Rear Zone temp.	320-356	°F	160- 180	°C
Center Zone temp.	329-365	°F	165- 185	°C
Front Zone temp.	338-374	°F	170- 190	°C
Head temp.	356-410	°F	180- 210	°C
Die temp.	365-419	°F	185- 215	°C
Suggested Max Regrind	20	%	20	%

Notes

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