

## SANTOPRENE™ 111-35 - TPV

### Product Description

A soft, black, versatile thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material combines good physical properties and chemical resistance for use in a wide range of injection molding applications. This grade of Santoprene™ TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding. It is polyolefin based and recyclable within the manufacturing stream.

### Characteristics

<b>Applications</b>	Automotive - Plugs, Bumpers, Grommets, Clips, Automotive - Seals and Gaskets, Consumer - Electronics, General Purpose, Printers, Seals and Gaskets, Soft Touch Grips, Sporting Goods
<b>Uses</b>	Automotive applications, Cell phones, Construction, Gaskets, Printer parts, Seals, Sporting goods
<b>Agency Ratings</b>	UL QMFZ2, UL QMFZ8
<b>UL File Number</b>	E80017
<b>Color</b>	Black
<b>Delivery Form</b>	Pellets
<b>Processing</b>	Injection molding, Multi injection molding

Physical properties	Value	Unit	Test Standard
Density	0.93	g/cm <sup>3</sup>	ASTM D792
Density	930	kg/m <sup>3</sup>	ISO 1183

Hardness	Value	Unit	Test Standard
Shore A hardness-TPE, 15s	38		ISO 868

Mechanical properties	Value	Unit	Test Standard
Tensile stress at 100%, perpendicular	1	MPa	ASTM D412
Tensile stress at 100%, perpendicular	1	MPa	ISO 37
Tensile strength at break elast, perpendicular	2.9	MPa	ASTM D412
Tensile stress at break, perpendicular	2.9	MPa	ISO 37
Elongation at break elast, perpendicular	330	%	ASTM D412
Tensile strain at break, perpendicular	330	%	ISO 37
Compression set, 23°C, 22h, Type 1, Method B	10	%	ASTM D395
Compression set, 23°C, 22h, Type A	10	%	ISO 815
Compression set, 125°C, 70h, Type 1, Method B	31	%	ASTM D395
Compression set, 125°C, 70h, Type A	31	%	ISO 815

Thermal properties	Value	Unit	Test Standard
Brittleness temperature	-63	°C	ASTM D746

Injection	Value	Unit	Test Standard
Drying temperature	82	°C	
Drying time	3	h	
Necessary low maximum residual moisture content	0.08	%	
Suggested maximum regrind	20	%	
Rear temperature	177 - 193	°C	
Middle temperature	179 - 199	°C	
Front temperature	179 - 204	°C	
Nozzle temperature	191 - 229	°C	
Melt temperature	193 - 241	°C	

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Mold temperature	10 - 52	°C
Injection speed	fast	-
Back pressure	0.345 - 0.689	MPa
Screw Speed	100 - 200	RPM
Clamp tonnage	41 - 69	MPa
Cushion	3.18 - 6.35	mm
Screw L/D	20:1/*	-
Screw compression ratio	2.5:1/*	-
Vent depth	0.025	mm

Aging	Value	Unit	Test Standard
Change in Tensile Strength in Air @ 150 C, 168 h	-29	%	ASTM D573
Change in Tensile Strength in Air @ 150 C, 168 h	-29	%	ISO 188
Change in Ultimate Elongation in Air @ 150 C, 168 h	-1	%	ASTM D573
Change in Tensile Strain at Break in Air @ 150 C, 168 h	-1	%	ISO 188
Change in Durometer Hardness in Air @ 150 C, 168 h, Shore A	-1	-	ASTM D573
Change in Shore Hardness in Air @ 150 C, 168 h, Shore A	-1	-	ISO 188

Flammability	Value	Unit
Flame rating, 1.5 mm	HB	UL 94

### Other text information

### Processing Notes

Desiccant drying for 3 hours at 80°C (180°F) is recommended. Santoprene™ TPV has a wide temperature processing window from 175 to 230°C (350 to 450°F) and is incompatible with acetal and PVC.

### Other Approvals

OEM	Specification
Chrysler (FCA)	MS-AR-100 AMN
FORD	WSD-M2D378-A4
GM	GMW15813, Type 2

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