

# Evoprene™ LF 6160

Styrene Butadiene Block Copolymer

AlphaGary

Message:

Two ranges of HSBC based Evoprene™ TPE compounds have been created for the Automotive Industry, both specially formulated to have very low fogging characteristics suitable for automotive interior applications. Evoprene™ LF grades meet the requirements of the Reflectance Fogging test according to SAE J1756 whilst the Evoprene™ GF grades satisfy the DIN 75201B Gravimetric Fogging standard. Different automotive makers prefer different methods.

All these Evoprene™ compounds are based on the well established hydrogenated styrene block copolymer (HSBC) TPE technology which offers a great blend of performance and processing characteristics to both automotive designers and processors alike. All grades can be injection moulded or extruded on standard thermoplastics equipment - full details are available in our Evoprene™ processing guides. Compounds can be formulated at various levels of UV resistance, depending on where in the vehicle the parts are to be used. Whilst they are normally supplied as natural for masterbatching, or black, Evoprene™ LF and GF compounds can be colour matched to specific automotive requirements when produced in longer compound runs. Heat ageing tests demonstrate these compounds are thermally stable to well beyond the maximum and minimum temperatures recorded in cars and trucks.

General Information	
Features	Block Copolymer
	Good Processability
	Good Thermal Stability
	Low to No Fogging
Uses	Automotive Applications
	Automotive Interior Parts
	Automotive Interior Trim
	Masterbatch
Agency Ratings	SAE J1756
RoHS Compliance	Contact Manufacturer
Appearance	Black
	Colors Available
	Natural Color
Forms	Pellets
Processing Method	Extrusion
	Injection Molding

Physical	Nominal Value	Unit	Test Method
Density	0.990 to 1.09	g/cm <sup>3</sup>	ISO 1183
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore A, 15 sec)	95		ISO 868
Elastomers	Nominal Value	Unit	Test Method
Tensile Set <sup>1</sup> (70°C, 1320 min)	95	%	Internal Method
Tensile Stress - Flow <sup>2</sup> (100% Strain)	13.5	MPa	ISO 37

Tensile Stress - Flow <sup>3</sup> (Yield)	17.6	MPa	ISO 37
Tensile Elongation - Flow <sup>4</sup> (Break)	390	%	ISO 37
Tear Strength <sup>5</sup>			ISO 34-1
Across Flow	100	kN/m	
Flow	81	kN/m	
<b>Aging</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Change in Tensile Strength in Air <sup>6</sup> (100°C, 1000 hr)	2.0	%	ISO 188
Change in Tensile Strain at Break in Air <sup>7</sup> (100°C, 1000 hr)	-6.0	%	ISO 188
Change in Shore Hardness in Air <sup>8</sup> (Shore A, 100°C, 1000 hr)	-3.0		ISO 188
Continuous Upper Temperature Resistance <sup>9</sup> (3 hr)	165	°C	
Change in Length in Air <sup>10</sup>	-0.70	%	ISO 188
Change in Volume in Air <sup>11</sup>	-0.50	%	ISO 188
Fogging - Reflectance <sup>12</sup>	76	%	SAE J1756
Odor Rating - Dry <sup>13</sup>	2.00		Multiple Standards
Ozone Resistance <sup>14</sup>	0.00		
<b>Thermal</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Brittleness Temperature	-21.0	°C	ASTM D746
<b>Flammability</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Burning Rate	51	mm/min	
<b>NOTE</b>			
1.	VDA 675 217B		
2.	500 mm/min		
3.	500 mm/min		
4.	500 mm/min		
5.	Method Ba, Angle (Unnicked)		
6.	150+/- 50 air changes/hour		
7.	150+/- 50 air changes/hour		
8.	150+/- 50 air changes/hour		
9.	No distortion		
10.	150+/- 50 air changes/hour		
11.	150+/- 50 air changes/hour		
12.	3h heat @ 121°C, 21°C cooling plate, post test conditioning 1h & 16h		
13.	SAE J1351 / FLTM BO131-01		
14.	100 pphm/200 hr/ 20% strain		

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