

SANTOPRENE® 591-56W175

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Santoprene® 591-56W175 is a soft, black thermoplastic Vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material is designed for thin wall, architectural glazing and sealing application in the industry and consumer segments, and it has excellent resistance to compression set. This grade of Santoprene® TPV is shear-dependent and can be processed on conventional thermoplastics equipment for extrusion, thermoforming. It is designed for extruding thin sections with excellent definition (down to 0.33 mm [0.013"] radius) and long runs with minimal build-up of material on screen packs or narrow die sections. It is polyolefin based and completely recyclable.

Product information

Resin Identification	TPV	ISO 1043
Part Marking Code	>TPV<	ISO 11469

Typical mechanical properties

Tensile stress at 100% elongation, perpendicular	2.08 MPa	ISO 37
Tensile stress at break, perpendicular	5.33 MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	439 %	ISO 527-1/-2 or ISO 37
Shore A hardness, 15s	61.5	ISO 48-4 / ISO 868
Compression set, 100°C, 24h	27 %	ISO 815
Compression set, 125°C, 70h	43 %	ISO 815

Physical/Other properties

Density	970 kg/m ³	ISO 1183
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Characteristics

Processing	Extrusion, Sheet Extrusion, Coextrusion, Thermoforming
Delivery form	Pellets

Additional information

Non Standard Data

Property Name	Condition	Value	Unit	Standard
Change in Tensile Strength	150°C, 168h	-21	%	ISO 188
Change in Shore A Hardness	150°C, 168h	-3	-	ISO 188

Injection molding

Holding pressure should be about 50 to 75% of the actual injection pressure.
A high screw RPM (100 to 200) is recommended.
Back pressure is not always needed, however, a back pressure of 0.3 to 0.7 MPa may be used to ensure a homogeneous melt and maintain a consistent shot size.
A higher back pressure is normally employed when using masterbatches.

Processing Notes

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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. Do not exceed 15% drawdown.