

## Advanced Elastomer Systems Santoprene® 453-45 Thermoplastic Rubber (discontinued \*\*)

Category : Polymer , Thermoplastic , Elastomer, TPE , Thermoplastic Elastomer, Melt-Processible Rubber

### Material Notes:

A colorable thermoplastic flame retardant wire and cable elastomer with good fluid resistance, formulated to replace thermoset elastomers such as EPDM, polychloroprene, and chlorosulfonated polyethylene. It can be processed using injection molding, extrusion, blow molding or other melt processing techniques. Key Features: Meets UL 1277 requirements of both insulation and jacket for control and tray; UL 62 Bulletin listed; Wire and cable rating: 105°C (221°F) dry, 75°C (167°F) wet and 60°C (140°F) oil; Limiting oxygen index, 24.5% (passes VW-1, IEEE 383); EM 60 at 75°C (167°F): 1 day SIC = 2.47; % change in SIC, 1 to 14 days = 1.07; % change in SIC, 7 to 14 days = .50; Stability factor, 14 days = 0.07; IR constant @ 15.6°C (60°F) = >100,000 Additional processing comments: This thermoplastic rubber is a shear-dependent material that can be processed on conventional thermoplastic equipment for injection molding, extrusion, or blow molding. For extrusion, a general purpose screw with a compression ratio of 2.5 to 3.0 is recommended. Material can be recycled. SANTOPRENE rubber is incompatible with acetal and PVC. Values below are for injection molded plaques, side gated, 82.6 mm x 117.5 mm x 3.0 mm. Tensile properties measured across flow. Data provided by Advanced Elastomer Systems. Advanced Elastomer Systems is now a part of ExxonMobil. This grade was removed from the Advanced Elastomers Systems standard product line before the ExxonMobil acquisition.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Advanced-Elastomer-Systems-Santoprene-453-45-Thermoplastic-Rubber-nbspdiscontinued-.php](http://www.lookpolymers.com/polymer_Advanced-Elastomer-Systems-Santoprene-453-45-Thermoplastic-Rubber-nbspdiscontinued-.php)

Physical Properties	Metric	English	Comments
Density	1.22 g/cc	0.0441 lb/in <sup>3</sup>	TPE-0105 (ASTM D792)

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	45	45	5 Second; TPE-0169 (ASTM D 2240)
Tensile Strength, Ultimate	14.5 MPa	2100 psi	TPE-0153 (ASTM D 412)
Elongation at Break	540 %	540 %	TPE-0153 (ASTM D 412)
100% Modulus	0.00780 GPa	1.13 ksi	TPE-0153 (ASTM D 412)
Tear Strength	62.7 kN/m	358 pli	62.7 kN/m at 23°C. Value at 100°C is 36.9 kN/m. TPE-0056 (ASTM D 624)
Compression Set	34 %	34 %	23°C, 168 hrs.; TPE-0016 (ASTM D 412)
	71 %	71 %	168 hrs.; TPE-0016 (ASTM D 412)
	@Temperature 100 °C	@Temperature 212 °F	
Tensile Set	42 %	42 %	23°C, 168 hrs.; TPE-0053 (ASTM D 412)

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	105 °C	221 °F	Wire and Cable Rating Dry

Thermal Properties	Metric	English	Comments
Brittleness Temperature	-42.0 °C	-43.6 °F	TPF-0089 (ASTM D 746)
Oxygen Index	24.5 %	24.5 %	

Processing Properties	Metric	English	Comments
Processing Temperature	177 - 232 °C	351 - 450 °F	
Drying Temperature	82.0 °C	180 °F	Desiccant drying for 3 hours recommended
Dry Time	3 hour	3 hour	

## Contact Songhan Plastic Technology Co.,Ltd.

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