Celanese
The chemistry inside innovation™

Electrical industry: TPV meets the needs of the most demanding electrical applications



Reasons to specify Santoprene TPV

Flexibility
Easy installation especially in compact space

Electrical performance
Provides electrical insulation performance in low voltage (<1kV)

UL Yellow Cards available

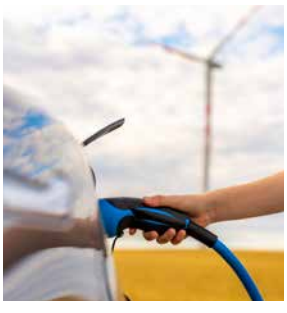
Versatility
Meets a combination of needs in performance, processing and cost in a broad range of electrical applications

Innovation
Enables new requirements from emerging markets and applications to be achieved

Compliant with the latest industry standards and regulations, Santoprene® thermolpastic vulcanizate (TPV) delivers performance and processing benefits to meet the needs of even the most demanding electrical applications.

The right product for the right application

For a broad portfolio of solutions designed to meet a wide range of electrical application needs, choose the industry's technology leader -- Santoprene TPV.



Carbon reduction opportunities

For over 40 years Santoprene® TPV has been helping customers create sustainable solutions by enabling:

- In-process recycling and the potential for recycling at the end of life.
- Opportunities to reduce part weight and consume less energy during manufacturing versus thermoset rubbers (TSRs)



Plus, the new Santoprene® TPV ECO-R family of grades, which contain a minimum of 15% or 25% PCR (50% is in development), while maintaining quality and lot-to-lot consistency, can reduce the carbon footprint of a part by up to 59%, compared to using EPDM rubber.

Flexibility

Long-term performance has always been critical for the specification of polymers in electrical applications, but today flexibility is becoming increasingly important too. In consumer applications, such as audio, computer and appliance cables, and in the construction and industrial sectors where underground and sub-marine installation is becoming more common, customers are looking for the combination of long-term performance and flexibility over a wide temperature range.



Weather-tight seal protects critical connections and provides long term performance

Electrical performance

Santoprene® TPV is designed to meet the electrical industry's latest and most demanding performance, environmental, health and safety standards.

Low voltage wire and cable insulation and jackets, as well as molded electrical components, strain reliefs and enclosure and splice sealing components, can all benefit from an industry-leading portfolio of Santoprene TPV. These parts are used in a range of industries including utilities, appliance, construction, automotive, robotic, telecom and solar and wind energy.

Versatility

The versatility of Santoprene TPV provides a range of benefits and processing advantages, enabling new ideas to become commercial products at a realistic cost. Whatever the application and wherever customers are located, you can be sure there is a Santoprene TPV grade to meet your electrical application needs.

Part redesign possibilities

Because Santoprene® TPV can be processed like a thermoplastic it enables part redesign which allows:

- System consolidation
- Hard/soft material combinations
- Reduced part weight
- Increased output potential

Innovation

Innovative and cost-effective, Santoprene TPVs are designed to meet customer needs for evolving electrical applications that must comply with the latest regional standards and directives. Ongoing technology development programs and application expertise ensure new solutions meet emerging market trends, such as simplified designs, enhanced electrical performance, increased flexibility, improved processing and lower cost. Offering customers a significant competitive advantage in electrical applications, Santoprene TPV facilitates ongoing innovation across the value chain.







Broad range of electrical applications

Broad portfolio of high performance Santoprene TPV has contributed to the successful development of hundreds of electrical applications including:

Wire & cable

Low-voltage power, robotic wire, data and communications, instrumentation wire, fiber optics, flexible cords, appliance wires, submersible pump cables, tray cables, and heat tracer cables.

Product Finder	Flame Retardant	UL 94 Flammability	UL QMFZ2** TPE UL RTI Elec Str @ 1.5 mm (°C)	UL QMTT2* TPE 720 hr sunlight resistance, jacket compounds (°C)	UL QMTT2* TPE wet-location (°C @ 0.77 mm)	Shore 15 sec, 23 °C, ISO 868	Pellet	Elongation at break elast at 23°C (%)	Tensile strength at break elast at 23 °C (MPa)	Tensile at 100% elongation (MPa)	Low temperature brittleness, ISO 974 (°C)
Recommended Wire & Cable Application Grades (UL Certified)											
Grades			**Temperature rating**			**Hardness**		**Properties**			
Santoprene® TPV 201-80		HB (1.0mm)	100		60	86 A	Natural	540	11,1	4,7	-60
Santoprene® TPV 201-87		HB (1.0mm)	100		60	93 A	Natural	580	15,0	7,1	-54
Santoprene® TPV 251-70W232	✓	V0 (1.5mm)	90			75 A	Natural	550	6,3	2,7	-57
Santoprene® TPV 151-70W256	✓	5VA (1.8mm)	90			75 A	Black	480	4,8	2,3	
Santoprene® TPV 251-80W232	✓	V0 (1.5mm)	90	105		86 A	Natural	550	9,0	3,9	-57
Santoprene® TPV 251-85W232	✓	V2 (0.75mm)	50	105		89 A	Natural	540	10,6	4,5	
Santoprene® TPV 251-92W232	✓	V0 (1.5mm)	90	90		98 A	Natural	630	13,9	7,2	

* UL Category QMTT2 File no. E86313
** UL Category E80017 - Plastics - Component

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