Product Sheet

TPSiV® Thermoplastic Elastomers

Achieve greater aesthetics, design freedom and durability with the benefits of silicone.

TPSiV®

TPSiV® materials offer a combination of properties and benefits from thermoplastics and fully crosslinked silicone rubber.

Exceptional Properties

- Unique tactile perception: soft touch and silky feel without the need for additional processing or coating
- Abrasion, scratch, heat and UV resistant
- Chemical resistant, including sweat and oils
- Stain resistant, easy to clean, dirt and dust pick-up resistant
- Prolongated skin contact compliant(1)
- Water, beverage and food contact compliant (1)
- Available grades from low 50 Shore A to 80 Shore A hardness
- Strong bonding with PC/ABS or any polar substrates

Application Range

- Ergonomic parts: handles or soft touch grips
- Wearable electronics
- Portable speakers and accessory cases
- Flexible pipe for potable water tubing applications
- Automotive interior parts

(1) Contact our experts for regulatory compliance guidance.

Tough and Versatile

When you combine the strength, toughness, and abrasion resistance of a thermoplastic elastomer with the soft silkiness, UV and chemical resistance, and colorability of silicone, you get DuPont™ TPSiV®. The materials contain no plasticizers that can create surface stickiness. Instead, the silicone itself acts as a softening agent.

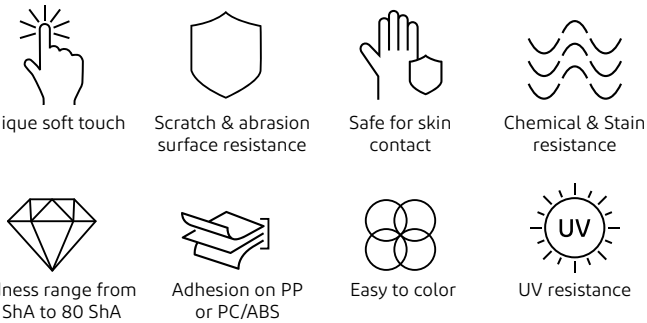
As with other TPVs, these thermoplastic compounds are melt processable and fully recyclable. And they can be precisely color-matched to your specification in matte or glossy finishes.

These materials are ready to use TPEs that require no post-treatment. Unlike other thermoplastic vulcanizates, they can be recycled and reused in your manufacturing processes.

Overmolding Compatibility

Our TPSiV® portfolio is compatible with a range of rigid substrates, and self-adheres to create a strong bond through overmolding or co-molding. They enable the creation of durable, silky surfaces that are ideal for ergonomic applications, wearable tech, and portable electronic devices.

Advantages



Performance Properties of TPSiV® Thermoplastic Elastomers

TPSiV® 4000 series:

UV stable, colorable, TPE with excellent bonding to polycarbonate, ABS, acrylic, nylon, and other polar substrates.

TPSiV® 4200 series:

Improved chemical and mechanical resistance with excellent bonding to polycarbonate, ABS, acrylic, nylon, and other polar substrates.

The TPSiV® 5300 series:

Suitable for food and water contact, with superior color resistance to chemicals and excellent bonding to olefinic resins.

Properties	Unit	TPSiV® 4000-50A	TPSiV® 4000-60A	TPSiV® 3345-65A	TPSiV® 4000-75A SR	TPSiV® 4200-70A	TPSiV® 4200-75A SR	TPSiV® 5300 A6002
Hardness ISO 48-4	Shore A	51	62	70	77	73	78	60
Density ISO 1183		1,1	1,1	1,17	1,1	1,18	1,17	0,9
Stress at 100% elongation ISO 527-1/-2 or ISO 37	MPa	1,4	2,2	3,3	3,9	3,9	4,5	1,9
Tensile strength at break ISO 527-1/-2 or ISO 37	MPa	3,4	5,2	7,3	15,8	14,5	24	7,4
Elongation at break ISO 527-1/-2 or ISO 37	%	710	600	560	600	550	650	845
Tear strength ISO34	kN/m	23,7	30	41	64	48	72	44
Taber abrasion ASTM D3389	mg/1000 rev	129	89	95	40	65	26	70
Compression set 22hrs at 22°C ISO 815	%	32,5	33	25	19	22	27	34
Product features								
Minimum service temperature		-30°C	-30°C	-30°C	-30°C	-40°C	-40°C	-30°C
Maximum temperature exposure		120°C	120°C	120°C	120°C	150°C	150°C	130°C
UV resistance		✔✔	✔✔	✔✔	✔✔✔	✔ Black only	✔ Black only	✔✔
Scratch & Abrasion resistance		✔	✔	✔	✔✔✔	✔✔	✔✔✔	✔
Stain resistance (Static & Dynamic)		✔	✔	✔	✔✔	✔	✔	✔✔✔
Skin contact compliant*			✔		✔		✔	
Food contact compliant**								✔
Bonding / chemical compatibility		PC/ABS/ASA	PC/ABS/ASA	PC/ABS/ASA (Nylon optionally)	PC/ABS/ASA (Nylon optionally)	PC/ABS/ASA	PC/ABS/ASA (Nylon optionally)	Polyolefin

Source: DuPont

*USP chapter <88> and ISO 10993-10:2010
EU 10/2011

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