



TPSiV® 4000-50A

THERMOPLASTIC ELASTOMER

TPSiV® thermoplastic elastomers combine the strength, toughness and abrasion resistance of any thermoplastic elastomer with the desirable properties of silicone: softness, silky feel, resistance to UV light and chemicals, and outstanding colourability. These unique materials incorporate vulcanised silicone modules in a thermoplastic matrix, but unlike traditional thermoplastic vulcanisates (TPVs), they can be recycled and reused in your manufacturing processes.

TPSiV® 4000-50A SR thermoplastic elastomer is a UV stable material with excellent abrasion and scratch resistance. It exhibits excellent bonding to polycarbonate, ABS and similar polar substrates. It is a product targeted for soft touch overmoulding on smartphones, portable electronic cases and wearable electronic devices.

Typical mechanical properties

Stress at 100% elongation	1.4 ¹ MPa	ISO 527-1/-2 or ISO 37
Stress at break	3.4 ¹ MPa	ISO 527-1/-2 or ISO 37
Elongation at break	>300 ¹ %	ISO 527-1/-2 or ISO 37
Shore A hardness, 15s	51 -	ISO 48-4
Compression set at 23°C	32.5 %	ISO 815
Compression set at 70°C, 24h	75.6 %	ISO 815
Tear strength, normal	23.7 kN/m	ISO 34-1

1: Cross direction

Other properties

Density	1100 kg/m ³	ISO 1183
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Injection

Drying Recommended	yes
Drying Temperature	85 °C
Drying Time, Dehumidified Dryer	2 - 4 h
Melt Temperature Optimum	180 °C
Max. screw tangential speed	0.4 m/s
Mold Temperature Optimum	30 °C
Min. mould temperature	20 °C
Max. mould temperature	40 °C

Characteristics

Compatibility	Polycarbonate, Styrenics, Acrylic Polymers
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Additional Information

Injection molding	TPSiV® elastomers products can be manufactured using standard thermoplastic manufacturing processes, including overmolding or co-molding with plastic substrates such as polycarbonate, ABS and nylons. TPSiV® elastomers self-adhere to hard plastics to enable unique overmolding options. The extremely silky feel of TPSiV elastomers does not require additional processing or coating steps.
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