



# TPSiV® 4000-60A

## 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 colorability. These unique materials incorporate vulcanized silicone modules in a thermoplastic matrix, but unlike traditional thermoplastic vulcanizates (TPVs), they can be recycled and reused in your manufacturing processes.

TPSiV® 4000-60A 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 overmolding on smartphones, portable electronic cases and wearable electronic devices.

### Rheological properties

Melt mass-flow rate	20 g/10min	ISO 1133
Melt mass-flow rate, Temperature	190 °C	ISO 1133
Melt mass-flow rate, Load	10 kg	ISO 1133
Molding shrinkage, parallel	2.5 %	ISO 294-4, 2577

### Typical mechanical properties

Stress at 100% strain	2.2 MPa	ISO 527-1/-2
Stress at break	5.2 MPa	ISO 527-1/-2
Strain at break	600 %	ISO 527-1/-2
Flexural Modulus	24.4 MPa	ISO 178
Flexural Strength	1.51 MPa	ISO 178
Shore A hardness, 3s	62 -	ISO 7619-1
Compression Set at 23 °C	33 %	ISO 815
Compression Set at 70 °C	87 %	ISO 815
Tear strength, normal	30 kN/m	ISO 34-1

### Other properties

Density	1100 kg/m <sup>3</sup>	ISO 1183
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### Injection

Drying Recommended	yes
Drying Temperature	85 °C
Drying Time, Dehumidified Dryer	2 - 4 h
Melt Temperature Optimum	190 °C
Max. screw tangential speed	0.4 m/s
Mold Temperature Optimum	30 °C

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## THERMOPLASTIC ELASTOMER

Min. mold temperature 20 °C  
Max. mold temperature 40 °C

### Characteristics

Processing	Injection Molding, Extrusion
Delivery form	Pellets
Compatibility	Polycarbonate, Styrenics, Acrylic Polymers

### Processing Texts

Injection molding

TPSiV<sup>®</sup> 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<sup>®</sup> 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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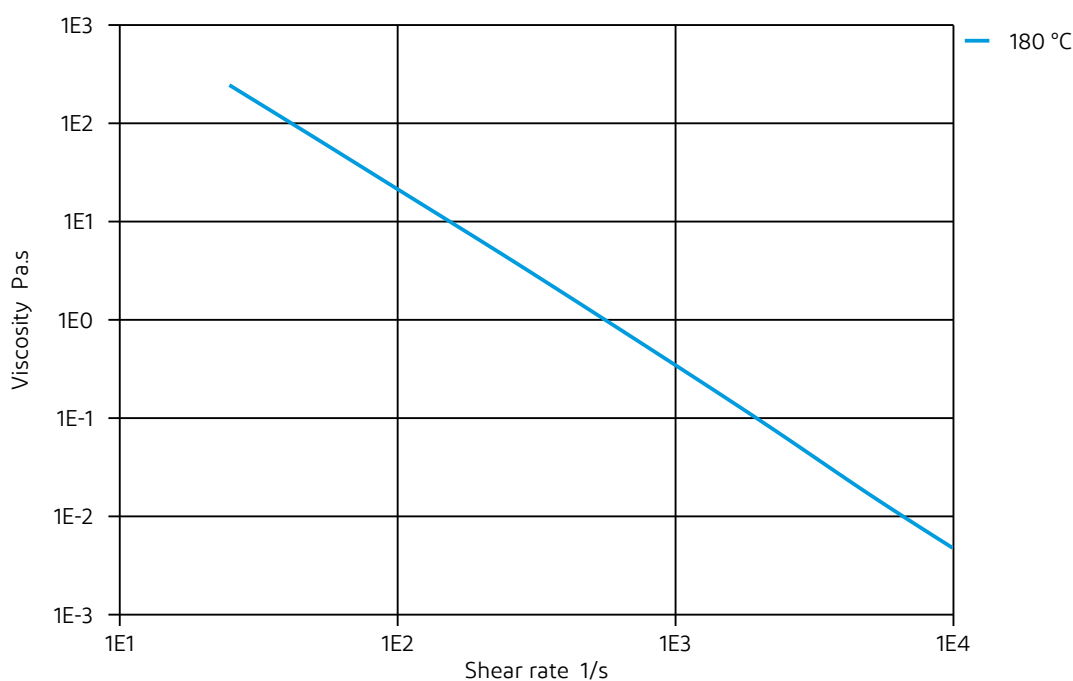
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# TPSiV<sup>®</sup> 4000-60A

THERMOPLASTIC ELASTOMER

Viscosity-shear rate



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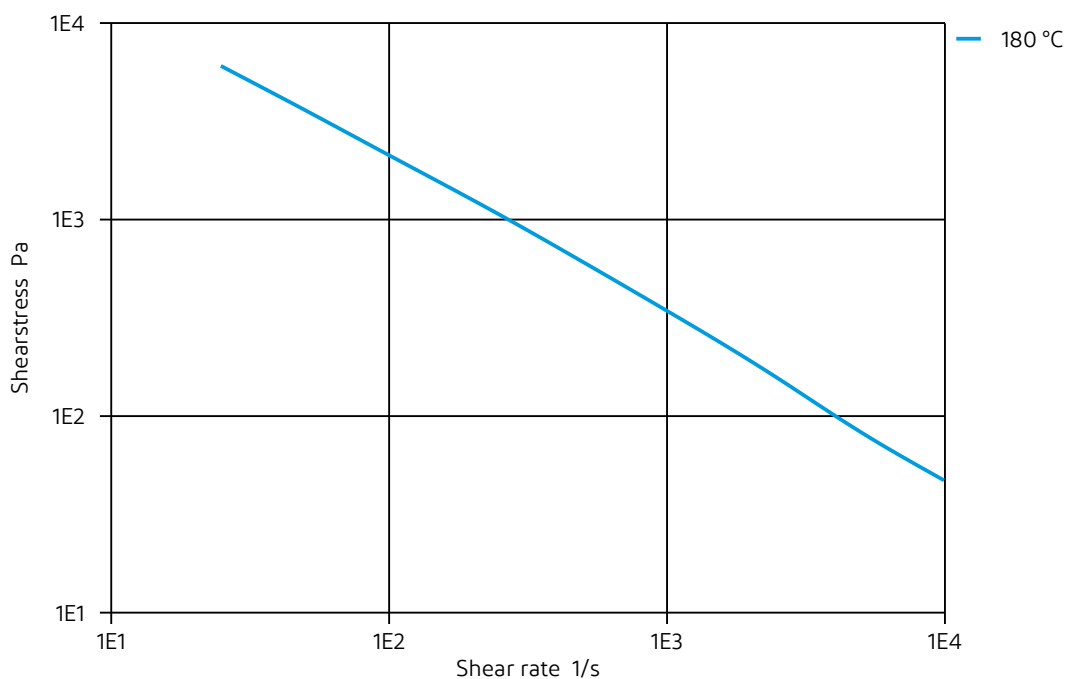
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# TPSiV<sup>®</sup> 4000-60A

THERMOPLASTIC ELASTOMER

Shearstress-shear rate



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