# TPSiV® 4000-60A GFR

## SILICONE THERMOPLASTIC ELASTOMER

When you combine the strength, toughness, and abrasion resistance of thermoplastic elastomer with the soft silkiness, UV and chemical resistance, and colorability of silicone, you get DuPont™ TPSiV®. Durable, yet both silky and non-tacky (dirt-resistant), TPSiV® delivers exceptional performance and aesthetics.
TPSiV® products incorporate vulcanized silicone in a thermoplastic matrix and can be customized for specific applications and can be recycled and reused in your manufacturing processes. This makes them remarkably versatile and reliable for a wide range of applications.

TPSiV® 4000-60A GFR is a soft elastomer designed to maintain color stability within the harshest environments. It offers a lasting defense against the distinct causes of gas fading, including NOx gas-based atmosphere pollutants and direct UV exposure

## Rheological properties

| | | | |
|---|---|---|---|
| Melt mass-flow rate | 12 | g/10min | ISO 1133 |
| Melt mass-flow rate, Temperature | 190 | °C | ISO 1133 |
| Melt mass-flow rate, Load | 10 | kg | ISO 1133 |
| Moulding shrinkage, parallel | 2.5 | % | ISO 294-4, 2577 |
| Moulding shrinkage, normal | 1.0 | % | ISO 294-4, 2577 |
| Flow length | 280 | mm | |
| Flow length - pressure | 8 | MPa | |

## Typical mechanical properties

| | | | |
|---|---|---|---|
| Stress at 100% elongation | 2.3 | MPa | ISO 527-1/-2 or ISO 37 |
| Stress at 300% elongation | 3.9 | MPa | ISO 527-1/-2 or ISO 37 |
| Stress at break | 7 | MPa | ISO 527-1/-2 or ISO 37 |
| Elongation at break | >300 | % | ISO 527-1/-2 or ISO 37 |
| Shore A hardness, 15s | 64 | | ISO 48-4 / ISO 868 |
| Compression set at 23°C, 24h | 29 | % | ISO 815 |
| Compression set at 70°C, 24h | 73 | % | ISO 815 |
| Tear strength, normal | 36 | kN/m | ISO 34-1 |

[1]: Cross direction

## Other properties

| | | | |
|---|---|---|---|
| Density | 1090 | kg/m³ | ISO 1183 |

## Injection

| | | |
|---|---|---|
| Drying Recommended | yes | |
| Drying Temperature | 80 | °C |
| Drying Time, Dehumidified Dryer | 2 - 6 | h |
| Processing Moisture Content | ≤0.05 | % |
| Melt Temperature Optimum | 185 | °C |
| Max. screw tangential speed | 0.4 | m/s |
| Mold Temperature Optimum | 30 | °C |
| Min. mould temperature | 20 | °C |

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| | | |
|---|---|---|
| Max. mould temperature | 40 | °C |

## Extrusion

| | | |
|---|---|---|
| Drying Temperature | 70 - 90 | °C |
| Drying Time, Dehumidified Dryer | 2 - 6 | h |
| Processing Moisture Content | ≤0.05 | % |
| Melt Temperature Range | 185 - 205 | °C |

## Characteristics

| | |
|---|---|
| Compatibility | Polycarbonate, Styrenics, Acrylic Polymers |

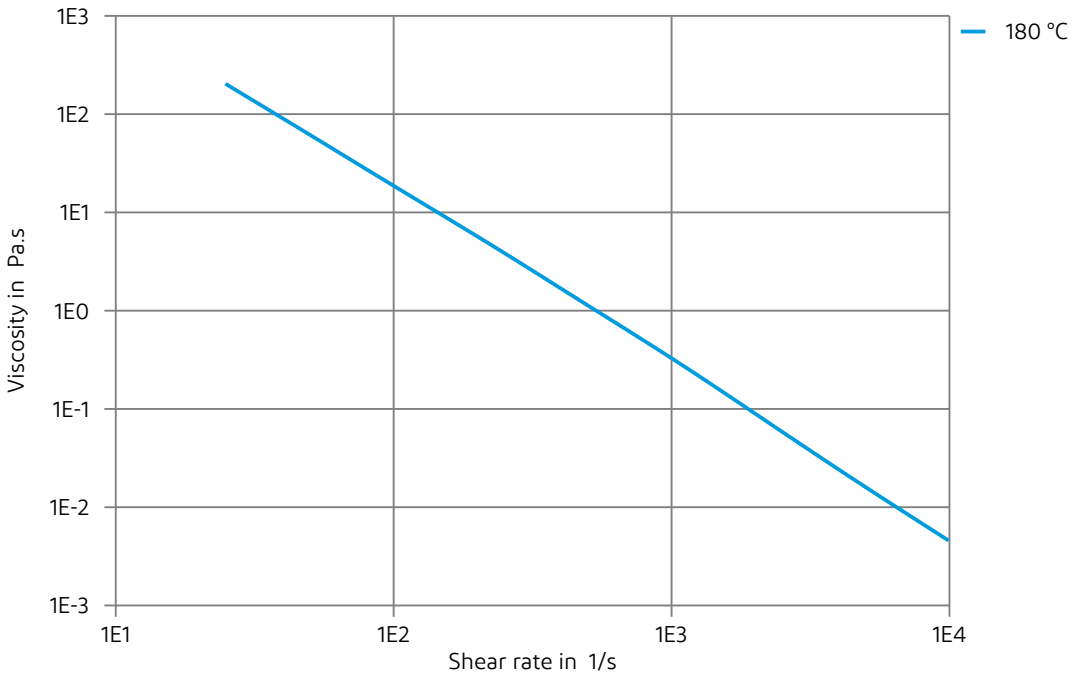
## Additional information

| | |
|---|---|
| Injection molding | TPSiV 4 series grades absorb moisture from the air. The extend and rate of moisture uptake depend on the TPSiV grade, storage conditions and climate. To ensure trouble-free processing and avoid any loss of quality, we recommend drying to a moisture content of <= 0.05% ( 500 ppm) |
| How to use | 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.<br>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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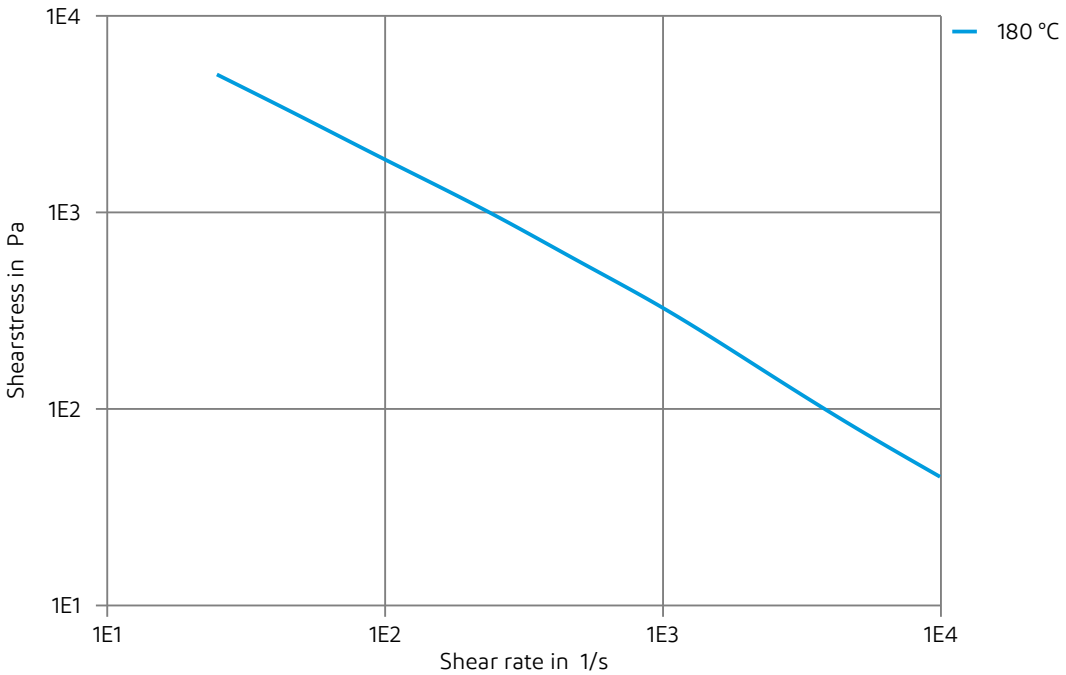
## Viscosity-shear rate



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### Shearstress-shear rate






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