TPSiV® 4000-75A SR

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® 4000-75A 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.

Rheological properties

Melt mass-flow rate	26	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	2.0	%	ISO 294-4, 2577
Flow length	220	mm	
Flow length - pressure	8	MPa	

Typical mechanical properties

Stress at 100% elongation	4.4	MPa	ISO 527-1/-2 or ISO 37
Stress at break	18	MPa	ISO 527-1/-2 or ISO 37
Elongation at break	>300	%	ISO 527-1/-2 or ISO 37
Shore A hardness, 15s	77		ISO 48-4 / ISO 868
Compression set at 23°C	19	%	ISO 815
Compression set at 70°C, 24h	60	%	ISO 815
Tear strength, normal	70	kN/m	ISO 34-1

[1]: Cross direction

Other properties

Density	1100	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	190	°C
Max. screw tangential speed	0.4	m/s
Mold Temperature Optimum	30	°C
Min. mould temperature	20	°C
Max. mould temperature	40	°C

TPSiV® 4000-75A SR

SILICONE THERMOPLASTIC ELASTOMER

Extrusion

Drying Temperature	70 - 90	°C
Drying Time, Dehumidified Dryer	2 - 6	h
Processing Moisture Content	≤0.05	%
Melt Temperature Range	180 - 200	°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. 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.

DuPont

Please refer to DuPont Medical Application Policy before any use of DuPont material in a medical application- Position Statements | DuPont .

Do not use DuPont products in medical application involving permanent implantation (more than 29 days) in the human body or contact with internal body fluids or tissues (for more than 29 days) unless the product has been provided from DuPont under a written contract that is consistent with the DuPont policy regarding medical applications and expressly acknowledges the contemplated use.

Although these products may have been tested in accordance with certain USP Class VI or ISO 10993 standards, DuPont makes no representation or warranty, express or implied, regarding the suitability of its products for any particular healthcare or medical application, nor does it make any other representations or warranties based on such testing. Customers are solely responsible for determining whether DuPont products are suitable for their intended purpose and for ensuring legal and regulatory compliance of the product in final application. DuPont disclaims any and all liability for incidental, special, or consequential damages arising out of or relating to the customer's use of DuPont products.

The information, suggestions, and data (collectively referred to as "Information") set forth herein are based on technical data that DuPont believes to be reliable and fall within the normal range of properties. Such Information is provided for informational purposes only and is not intended to substitute for any testing necessary to determine the suitability of a particular material for a specific purpose. The Information is to be used and relied upon at the user's sole discretion and risk. DuPont makes no warranties, express or implied, and disclaims any and all liability, whether direct or indirect, for damages or losses arising out of or relating to the use of the Information, suggestions, data, or materials described herein.

Statements concerning the use of the products or formulations described herein are not to be construed as recommending the infringement of any patent, copyright, designs or other intellectual property and no liability for infringement arising out of such use is assumed by DuPont. None of this information is to be considered as a license to operate under, or recommendation to infringe, any patents.