



TPSiV[®] 4000-50A Thermoplastic Elastomer

FEATURES & BENEFITS

- Soft silky feel
- Excellent abrasion and scratch resistance
- Excellent bonding to PC, ABS
- UV stable

TPSiV[®] 4000-50A Thermoplastic Elastomer is a UV stable, colorable, thermoplastic elastomer with excellent bonding to polycarbonate, ABS, and similar polar substrates.

APPLICATIONS

- Solution for soft touch over molding on smart phones, portable electronic cases, and wearable electronic devices

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Test*	Property	Unit	Result
ISO 868	Hardness (15 seconds)	Shore A	51
ISO 1183	Specific Gravity		1.1
ISO 37	Tensile Strength	MPa	3.4
ISO 37	Tensile Stress @ 100% elongation	MPa	1.4
ISO 37	Elongation	%	716
ISO 34	Tear Strength	kN/m	23.7
ASTM D3389	Taber Abrasion	mg/1000 rev	129
ISO 815	Compression Set 22 hours @ 23°C	%	32.5
ISO 815	Compression Set 22 hours @ 70°C	%	75.6

*ISO: International Standardization Organization

ASTM: American Society for Testing and Materials

DESCRIPTION

TPSiV[®] is a patented thermoplastic vulcanizate (TPV) from Multibase, a subsidiary of The Dow Chemical Company. This unique material offers a combination of properties and benefits from thermoplastics and fully cross linked silicone rubber. The dispersion of the silicone internal phase is produced by dynamic “vulcanization” or crosslinking of silicone polymers within the thermoplastic phase and results in a stable droplet type morphology. This technology brings silicone feel and performance, but it is fully processable and recyclable as a thermoplastic.

Polyurethane *TPSiV* combines the benefits of excellent abrasion resistance from the polyurethane as well as the lower coefficient of friction and improved temperature properties from the silicone rubber. Customized grades in the hardness range of 50 to 80 Shore A are available with special attributes such as high mechanical strength, low compression set, excellent hydrolytic resistance and excellent UV color stability. All *TPSiV*[®] brand products, based on thermoplastic polyurethane and silicone vulcanizate, provide a unique silky soft touch feel and bonding to polar substrates such as Polycarbonate

and ABS. The *TPSiV*[®] 4000 series provides UV stability and chemical resistance in light colors.

HOW TO USE

Injection Molding Processing Guide

Drying Time	2–4 hrs
Drying Temperature	80–90°C
Feed Zone Temperature	150–160°C
Center Zone Temperature	155–165°C
Front Zone Temperature	160–170°C
Nozzle Temperature	170–190°C
Melt Temperature	180°C
Mold Temperature	20–40°C
Injection Speed	Med–Fast

These process conditions may vary with individual equipment and processes.

HANDLING

PRECAUTIONS

A desiccant dehumidifying dryer is recommended for all drying.

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW CORNING WEBSITE AT DOWCORNING.COM, OR FROM YOUR DOW CORNING SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CORNING CUSTOMER SERVICE.

USABLE LIFE AND STORAGE

When stored at or below 32°C (90°F) in the original unopened containers these products have a usable life of 24 months from the date of production.

PACKAGING INFORMATION

This product is available in a variety of container sizes. Contact your local Dow Corning sales representative for information about container sizes available in your area.

LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

For further information, please see our website, dowcorning.com or consult your local Dow Corning representative.

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The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

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