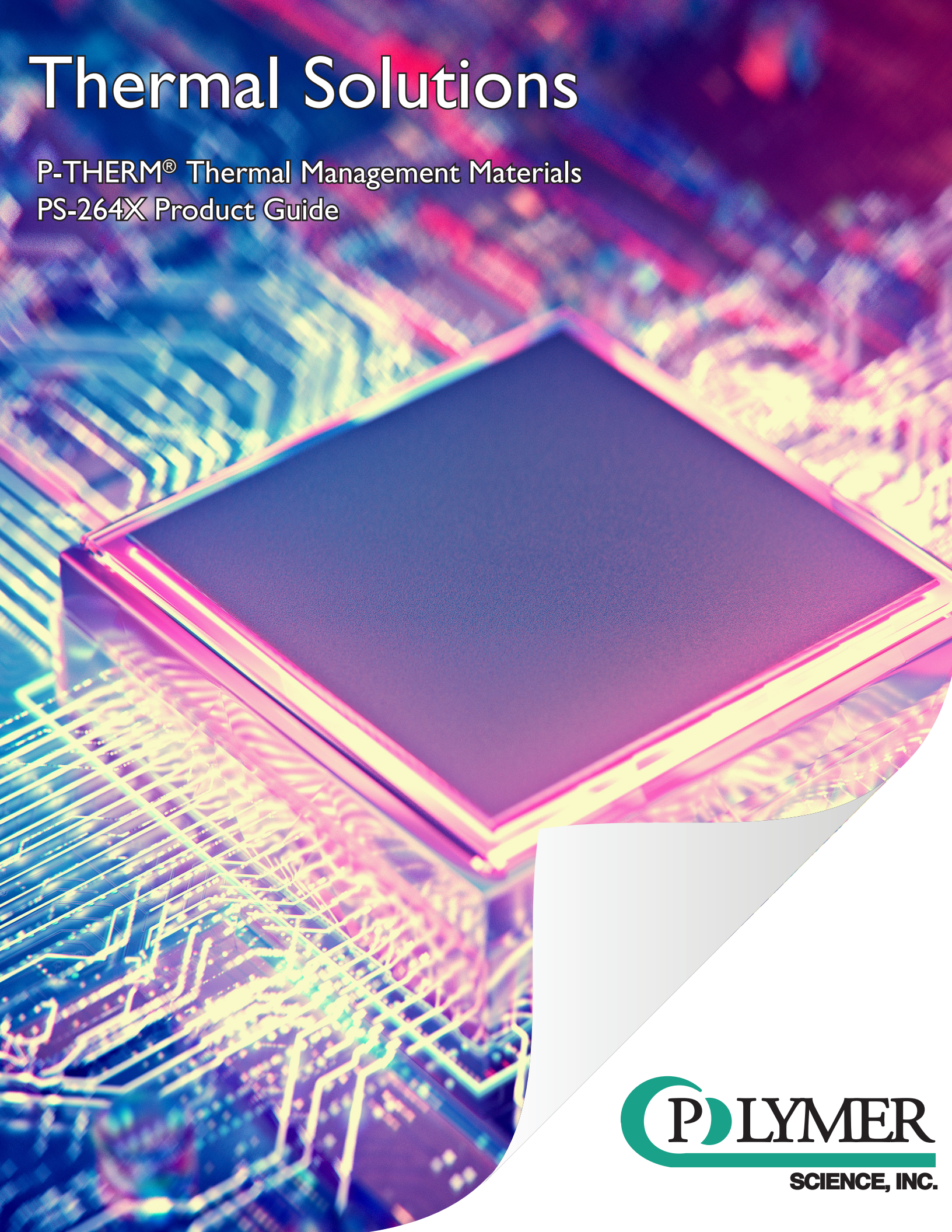
Thermal Solutions

P-THERM® Thermal Management Materials
PS-264X Product Guide

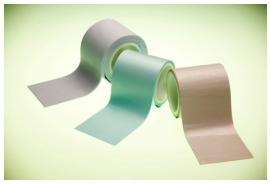


POLYMER SCIENCE, INC.

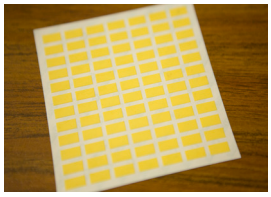
OUR SOLUTIONS

Polymer Science is committed to developing high quality sub-components for the electronic device industry. P-THERM® thermal management materials are designed to efficiently and effectively aid in the conduction of heat to meet the growing thermal management requirements of today's advanced electronic designs.

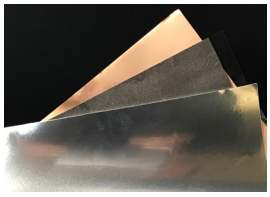
Polymer Science serves multiple industries including consumer electronics, lighting, automotive, marine, electric vehicle, telecommunications and more. Our diverse team of highly skilled engineers and technical staff, in conjunction with our state-of-the-art equipment, provide you with a quality product that is consistent with your application requirements. Our design team works quickly to provide the solutions you need, allowing your project to expeditiously move from conception to commercialization giving you the edge to ensure your next project is a success.



P-THERM® gap filler materials have been designed to achieve desired heat management properties to keep components at optimized operating temperatures in today's advanced electronics designs.



P-THERM® thermally conductive phase change materials perform like thermal grease with the convenience of a thermal pad.



Proper heat dissipation is critical in today's compact electronic devices. P-THERM® heat spreaders allow for quick dissipation of heat in the x-y direction.

All P-THERM® tapes and adhesives offer reliable adhesion and conductive properties across a wide temperature range.

OUR SOLUTIONS

Polymer Science is dedicated to being the most innovative thermal management material supplier in the world. We are excited to launch our newly formulated, improved performance P-THERM® thermal gap filler materials. Our new gap fillers offer many features that are required in today's evolving electronics market including:

- Economical and more cost effective
- Low outgassing
- Low leaching

Our diverse team of highly skilled engineers and technical staff, in conjunction with our state-of-the-art equipment, provide you with a quality product that is consistent with your application requirements.

Our design team works quickly to provide the solutions you need, allowing your project to expeditiously move from conception to commercialization giving you the edge to ensure your next project is a success.

PS-2641

Product Description:

P-THERM® PS-2641 is a silicone based thermally conductive gap filler with an embedded fiberglass support and 125 micron removable polyester carrier.

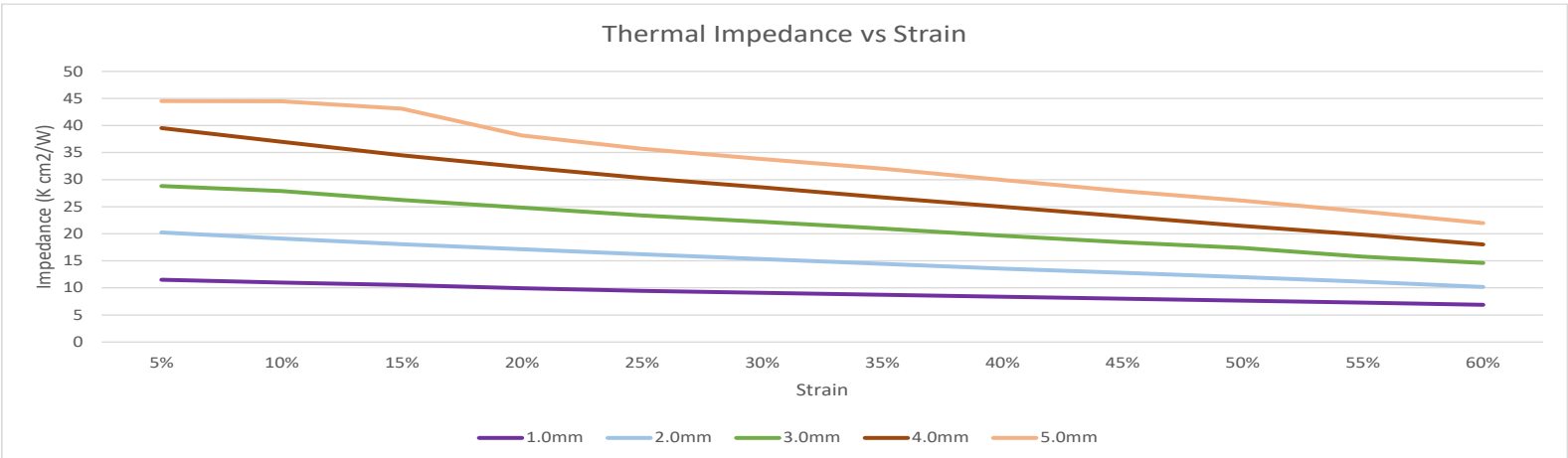
Construction / Properties:

	Property	Value	Test Method
General	Color	Dark Gray	Visual
	Thickness Range	0.5 mm - 5.0 mm	ASTM D374
	Carrier Type	Polyester Film	--
	Carrier Thickness	125 micron	--
	Density (g/cc)	1.82	ASTM D792
	Heat Capacity (J/g K)	0.974	ASTM E1269
	Hardness (Shore 00)	22	ASTM D2240
	Total Mass Loss (@ 125 C/24 hrs)	0.15%	ASTM E595**
	Flammability Rating	V-0	UL 94
	Continuous Use Conditions (C)	-40 - 200	QSP-754

	Property	Value	Test Method
Electrical	Dielectric Breakdown Strength (kV/mm)	12	ASTM D149
	Volume Resistivity (ohm-meter)	1.00E+09	ASTM D257

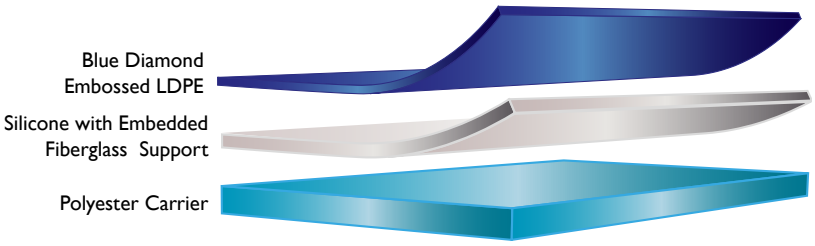
	Property	Value			Test Method
Thermal	Thermal Conductivity	1 W/m K			ASTM D5470*
	Thermal Performance vs. Strain				
	Deflection (% Strain)	10	20	30	ASTM D5470***
	Thermal Impedance (K cm^2/W) @ 1mm	10.99	9.94	9.08	

* Thermal conductivity tested at 20% strain.
** Tested at atmospheric pressure
*** Values tested include interfacial thermal resistance: Application performance is directly related to surface roughness, flatness and pressure applied.



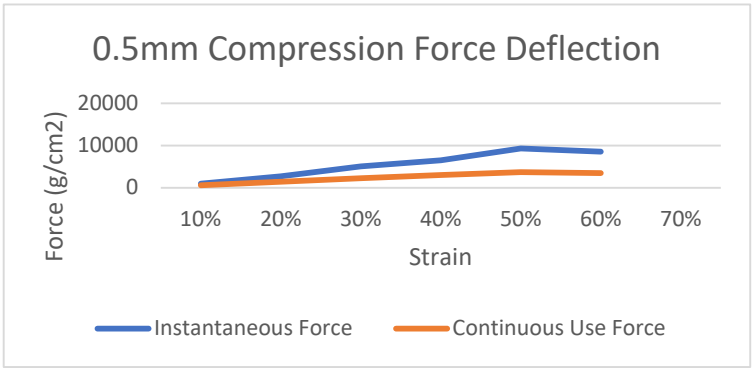
Features:

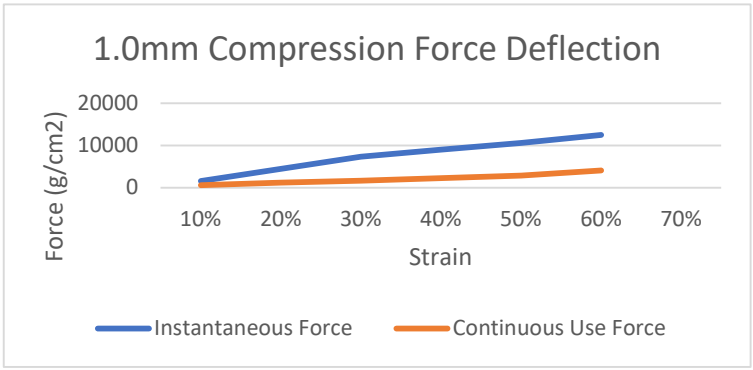
- Good Thermal Conductivity
- Excellent Compression Characteristics
- Excellent Wet-Out
- Superb Flexibility
- Excellent Converting Properties
- RoHS and HF Compliant

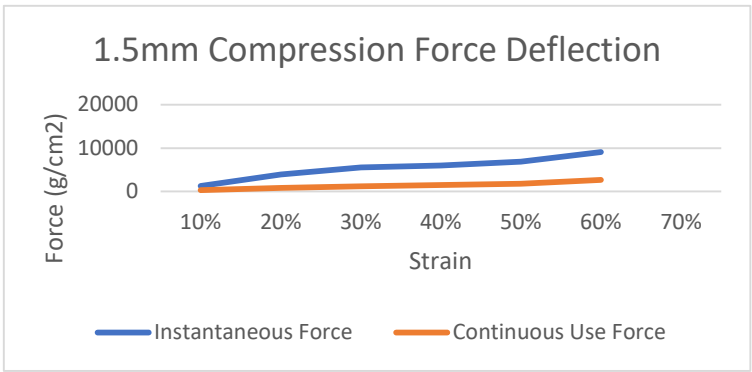


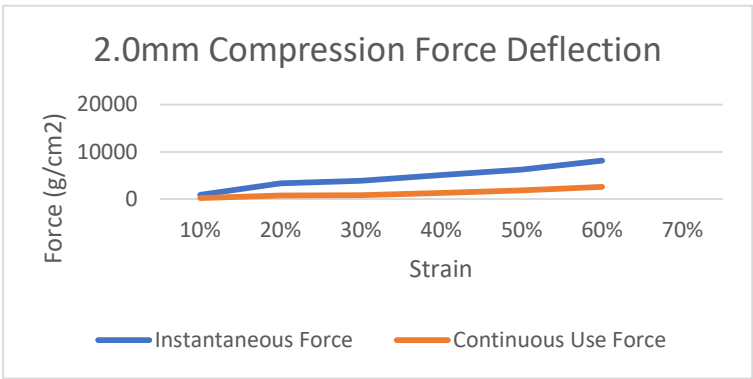
Applications:

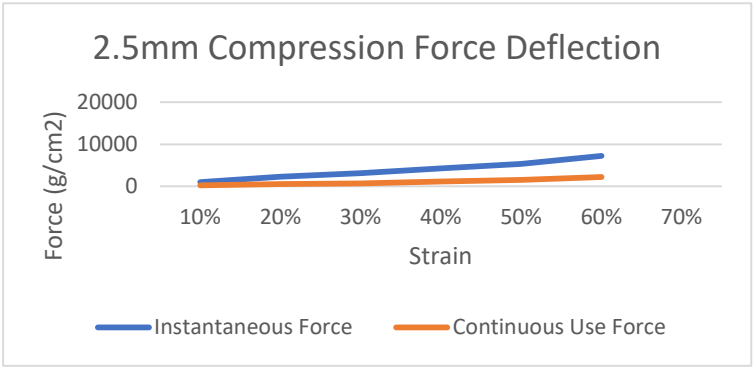
- LED Lighting
- Battery Components
- Infotainment Modules
- Smartphones
- Tablets
- Computers
- Digital Personal Assistants
- Automotive Lighting

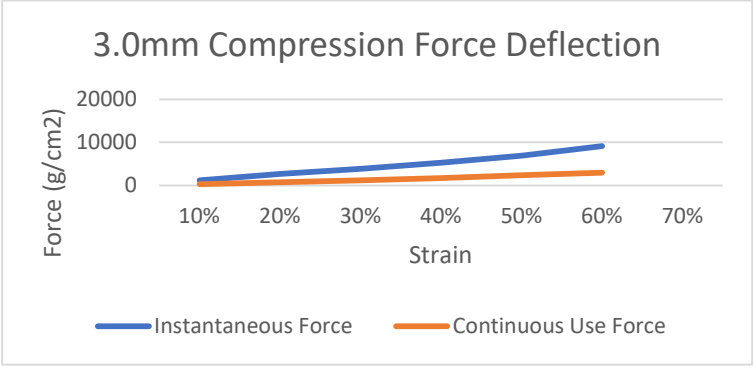












PS-2642

Product Description:

P-THERM® PS-2642 is a silicone based thermally conductive gap filler with an embedded fiberglass support and 125 micron removable polyester carrier.

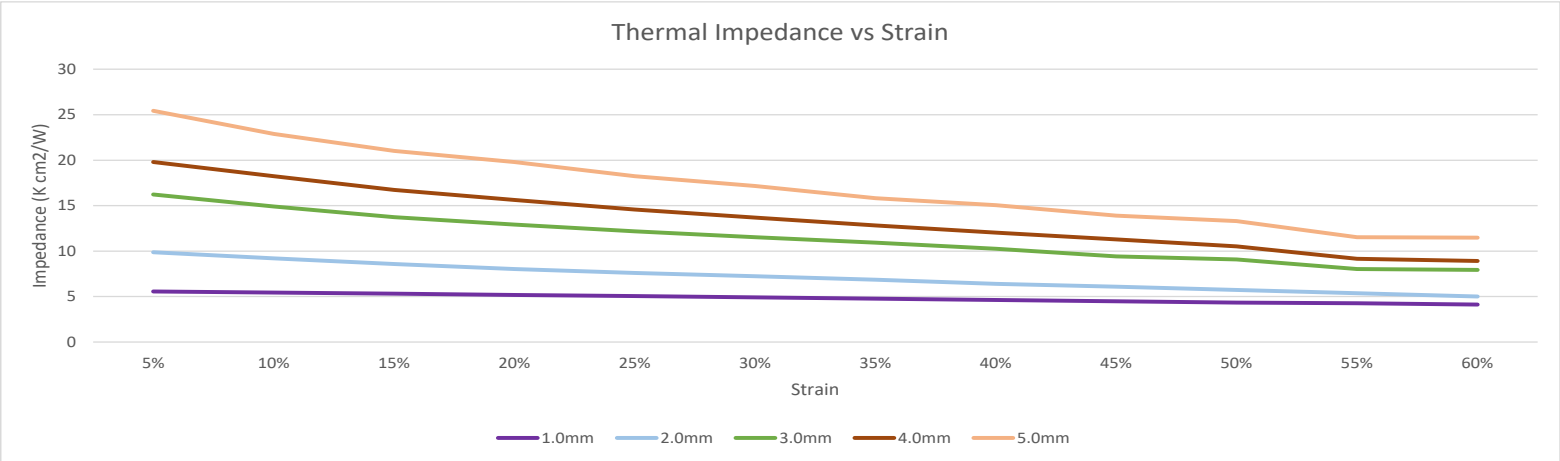
Construction / Properties:

	Property	Value	Test Method
General	Color	Light Blue	Visual
	Thickness Range	0.5 mm - 5.0 mm	ASTM D374
	Carrier Type	Polyester Film	--
	Carrier Thickness	125 micron	--
	Density (g/cc)	2.43	ASTM D792
	Heat Capacity (J/g K)	1.083	ASTM E1269
	Hardness (Shore 00)	47	ASTM D2240
	Total Mass Loss (@ 125C/24hrs)	0.08%	ASTM E595**
	Flammability Rating	V-0	UL 94
	Continuous Use Conditions (C)	-40 - 200	QSP-754

	Property	Value	Test Method
Electrical	Dielectric Breakdown Strength (kV/mm)	20	ASTM D149
	Volume Resistivity (ohm-meter)	1.00E+11	ASTM D257

	Property	Value			Test Method
Thermal	Thermal Conductivity	2 W/m K			ASTM D5470*
	Thermal Performance vs. Strain				
	Deflection (% Strain)	10	20	30	ASTM D5470***
	Thermal Impedance (K cm²/W) @ 1mm	5.45	5.18	4.91	

* Thermal conductivity tested at 20% strain.
** Tested at atmospheric pressure
*** Values tested include interfacial thermal resistance: Application performance is directly related to surface roughness, flatness and pressure applied.



Features:

- Good Thermal Conductivity
- Excellent Compression Characteristics
- Excellent Wet-Out
- Superb Flexibility
- Excellent Converting Properties
- RoHS and HF Compliant
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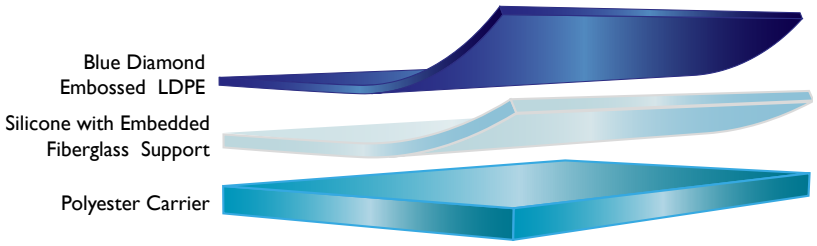
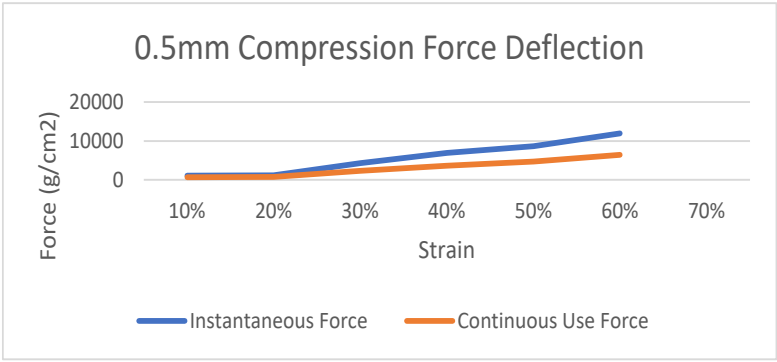
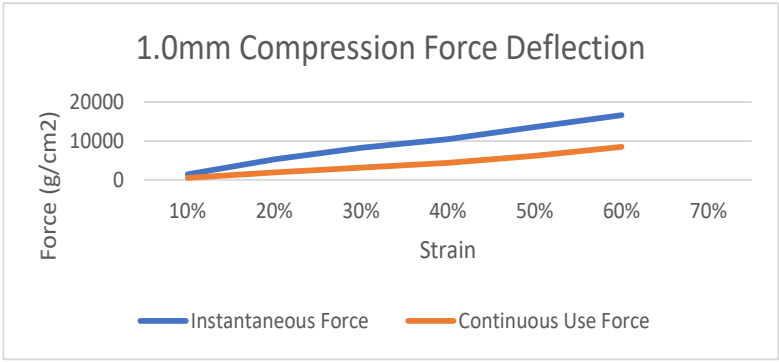
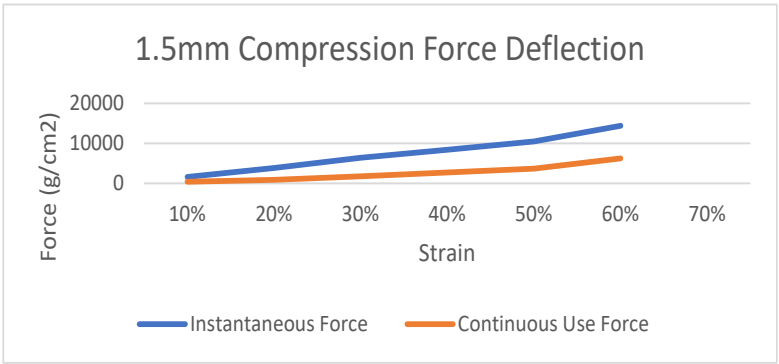


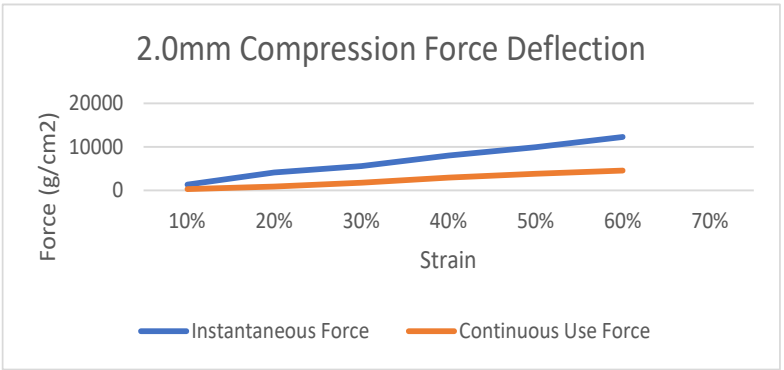
Applications:

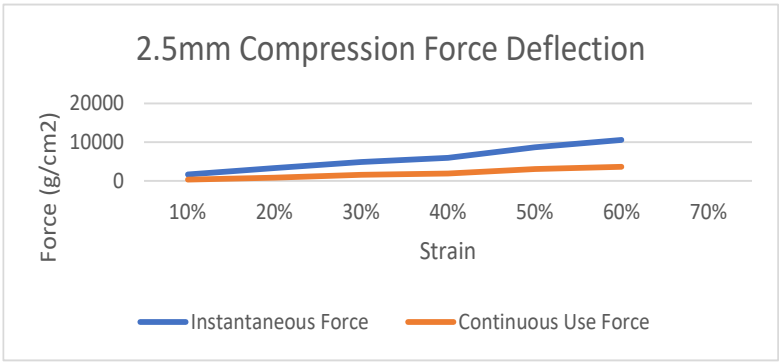
- LED Lighting
- Battery Components
- Infotainment Modules
- Smartphones
- Tablets
- Computers
- Digital Personal Assistants
- Automotive Lighting

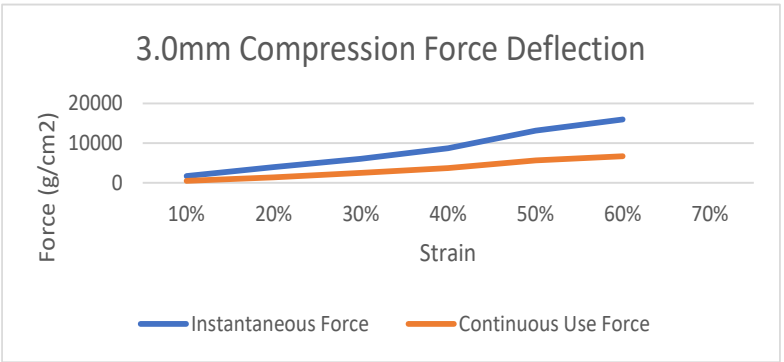












PS-2643

Product Description:

P-THERM® PS-2643 is a silicone based thermally conductive gap filler with an embedded fiberglass support and 125 micron removable polyester carrier.

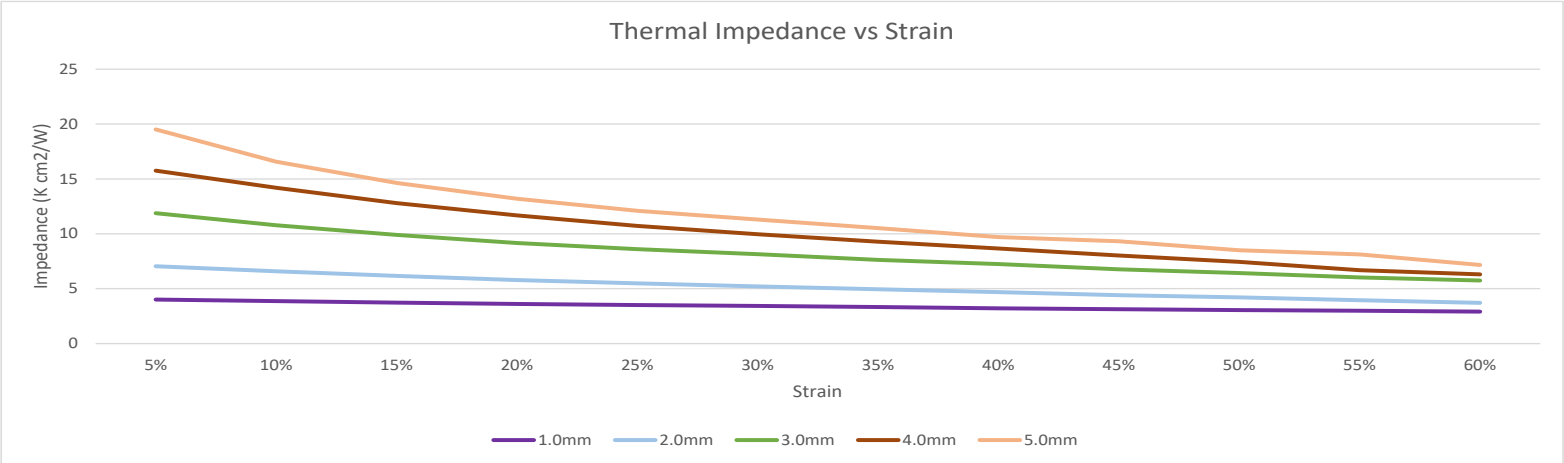
Construction / Properties:

	Property	Value	Test Method
General	Color	Green	Visual
	Thickness Range	0.5 mm - 5.0 mm	ASTM D374
	Carrier Type	Polyester Film	--
	Carrier Thickness	125 micron	--
	Density (g/cc)	2.73	ASTM D792
	Heat Capacity (J/g K)	0.661	ASTM E1269
	Hardness (Shore 00)	41	ASTM D2240
	Total Mass Loss (@125 C/24 Hrs)	0.09%	ASTM E595**
	Flammability Rating	V-0	UL 94
	Continuous Use Conditions (C)	-40 - 200	QSP-754

	Property	Value	Test Method
Electrical	Dielectric Breakdown Strength (kV/mm)	13	ASTM D149
	Volume Resistivity (ohm-meter)	1.00E+11	ASTM D257

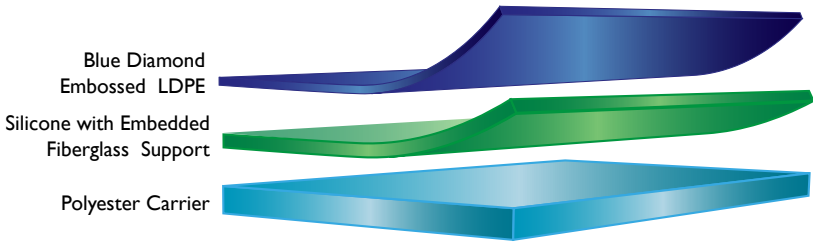
	Property	Value			Test Method
Thermal	Thermal Conductivity	3 W/m K			ASTM D5470*
	Thermal Performance vs. Strain				
	Deflection (% Strain)	10	20	30	ASTM D5470***
	Thermal Impedance (K cm²/W) @ 1mm	3.87	3.62	3.43	

* Thermal conductivity tested at 20% strain.
** Tested at atmospheric pressure
*** Values tested include interfacial thermal resistance: Application performance is directly related to surface roughness, flatness and pressure applied.



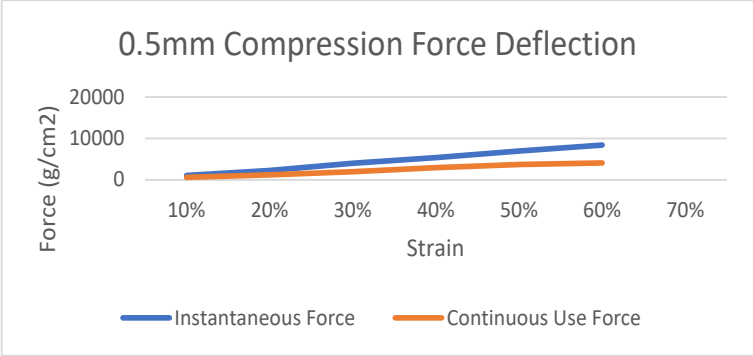
Features:

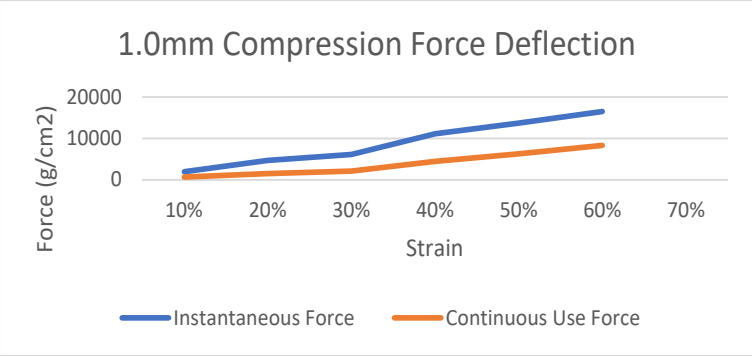
- Excellent Thermal Conductivity
- Excellent Compression Characteristics
- Good Wet-Out
- Superb Flexibility
- Excellent Converting Properties
- RoHS and HF Compliant

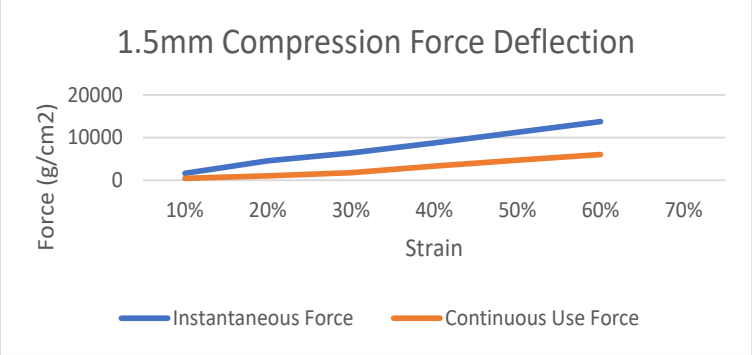


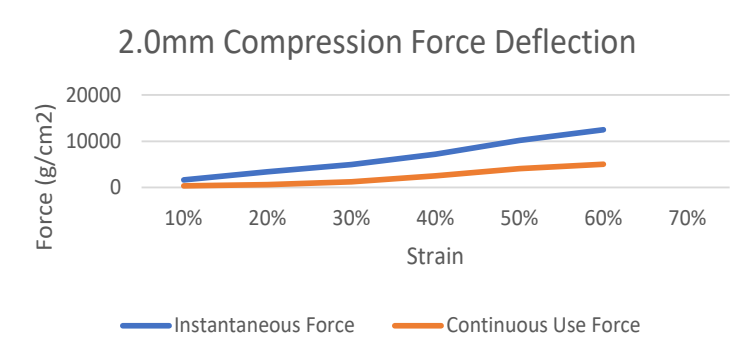
Applications:

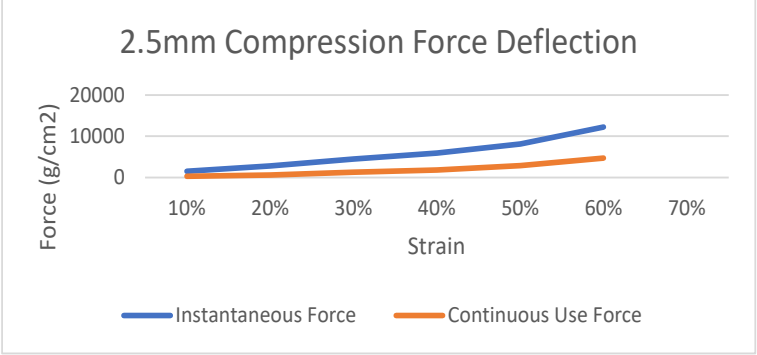
- LED Lighting
- Battery Components
- Infotainment Modules
- Smartphones
- Tablets
- Computers
- Digital Personal Assistants
- Automotive Lighting

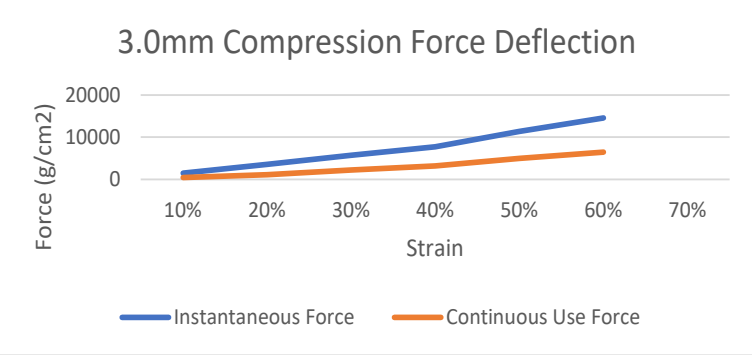















Other Product Material Offerings

Polymer Science offers the following range of products under its brands:

P-DERM®

- Silicone Gel Adhesives
- Hydrogels
- Acrylics + PSAs
- Low Trauma Acrylic
- Hydrophilic Coatings
- Urethanes

P-SHIELD®

- Fabrics
- Foam Multi-laminates
- Foils
- Films
- Tapes and Adhesives
- Sputtered Films

General Industrial

- Release Liners
- Films
- Transfer Adhesives
- Double and Single Coated PSAs

ISO 9001:2015

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