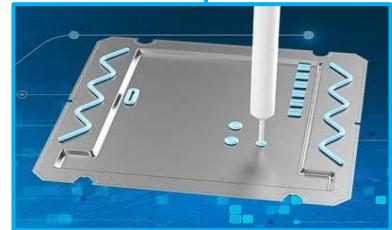


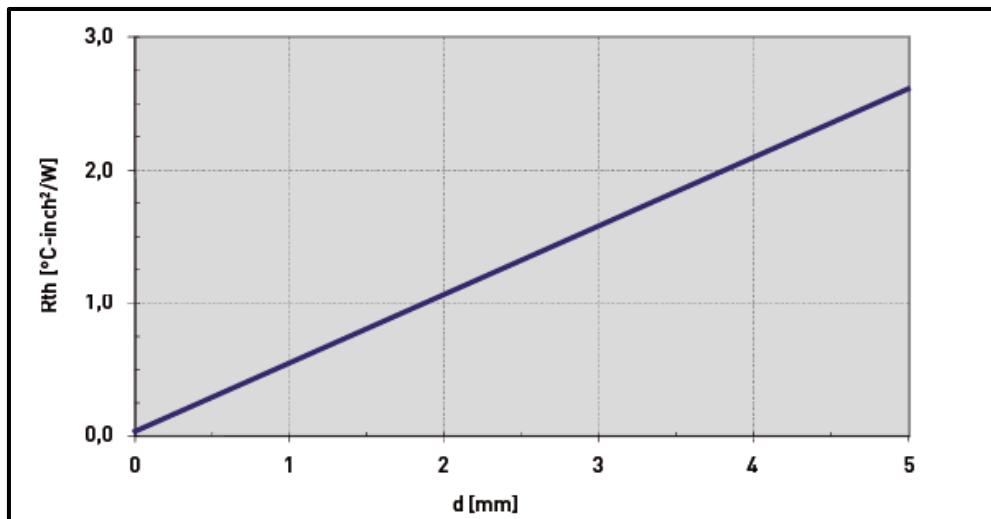
Our Thermal Foams also called TDG is a low volatility LV silicone space filler dispensable in 2 parts that is filled with thermally conductive fillers. After hardening under heat the system remains elastic. The TDG_030_T is characterized by very good dielectric and mechanical properties and is suitable to compensate for extreme tolerances and spaces in non-planar systems. Indeed, this one is a GOOD thermal conductor of 3W/mK, with a good thermal resistance thus facilitating the heat transfer and which also has an excellent electrical insulation. All our TDG are UL 94 V0 certified.



Application areas: Electronic components - Electric Vehicles, 5G, Autopilot System, Mobile Phone, AIOT, HPC (High Performance Computing), Server, IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device, Wireless Hub, DDR II Module, etc.

⊕ Technical characteristics

Features	Unit	TDG_030_T	
Thickness	mm	A Part	B Part
Density	g/cm ³	2.75	
Color	-	Blue	White
Hardness	Shore 00	55	
Packaging	//	Cartridge 2x25/100/200/600ml // Seal 2x25/35 Kg	
Viscosity	PAS	290	260
Hardening temsp	25 /100°C	< 15h / 15/30min	< 15h / 15/30min
Outgassing	TML	0.07	0.07
Thermal Conductivity	W/mK	3.0	
Temperature	°C	-60 to 180	
Breakdown voltage	kV/mm	> 10	
Volume resistance	0hm - cm	1.0x 10 ¹⁰	



Results obtained under laboratory conditions and should be considered as a guide only. AB2E has no control over its customers' hardware and many other factors, it is the user's responsibility to perform their own tests to ensure that the product meets their needs.



Our Thermal Foams also called TDG is a low volatility LV silicone space filler dispensable in 2 parts that is filled with thermally conductive fillers. After hardening under heat the system remains elastic. The TDG_070_AB is characterized by very good dielectric and mechanical properties and is suitable to compensate for extreme tolerances and spaces in non-planar systems. Indeed, it is a GOOD thermal conductor of 7W/ mK, with a good thermal resistance thus facilitating the transfer of heat and also has excellent electrical insulation. All our TDG are UL 94 V0 certified.



Application areas: Electronic components - Electric Vehicles, 5G, Autopilot System, Mobile Phone, AIOT, HPC (High Performance Computing), Server, IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device, Wireless Hub, DDR II Module, etc.

⊕ Technical characteristics

Features	Unit	TDG_070_AB_NS
Thickness	mm	-
Density	g/cm ³	3.25
Color	-	Green
Hardness	Shore 00	-
Packaging	//	Syringe/jar
Viscosity	PAS	250
Hardening temsp	25 /100°C	-
Outgassing	TML	-
Thermal Conductivity	W/mK	7
Temperature	°C	-50 +180
Breakdown voltage	kV/mm	-
Volume resistance	0hm - cm	> 10 ¹³

Results obtained under laboratory conditions and should be considered as a guide only. AB2E has no control over its customers' hardware and many other factors, it is the user's responsibility to perform their own tests to ensure that the product meets their needs.



Our Thermal Foams also called TDG is a low volatility LV silicone space filler dispensable in 2 parts that is filled with thermally conductive fillers. After hardening under heat the system remains elastic. The TDG_080_AB_NS is characterized by very good dielectric and mechanical properties and is suitable to compensate for extreme tolerances and spaces in non-planar systems. Indeed, it is a GOOD thermal conductor of 8W/ mK, with a good thermal resistance thus facilitating the transfer of heat and also has excellent electrical insulation. All our TDG are UL 94 V0 certified.



Application areas: Electronic components - Electric Vehicles, 5G, Autopilot System, Mobile Phone, AIOT, HPC (High Performance Computing), Server, IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device, Wireless Hub, DDR II Module, etc.

⊕ Technical characteristics

Features	Unit	TDG_080_AB_NS
Thickness	mm	-
Density	g/cm ³	3
Color	-	Yellow
Hardness	Shore 00	-
Packaging	//	Syringe/jar
Viscosity	PAS	430
Hardening temsp	25 /100°C	-
Outgassing	TML	-
Thermal Conductivity	W/mK	8
Temperature	°C	-50 +180
Breakdown voltage	kV/mm	-
Volume resistance	0hm - cm	> 10 ¹³

Results obtained under laboratory conditions and should be considered as a guide only. AB2E has no control over its customers' hardware and many other factors, it is the user's responsibility to perform their own tests to ensure that the product meets their needs.



Our Thermal Greases, also known as Thermal Grease, are silicone-based thermocductive materials that solve heat dissipation problems. The TGR_053_AB is a single component grease specially developed for applications where a high cooling requirement is required. Indeed, it is an excellent thermal conductor of 5.3W/ mK, thus facilitating the transfer of heat. A thin layer is enough, the finer the layer is mastered, the faster and more efficient the heat transfer.



Application areas: Electronic components - Electric Vehicles, 5G, Autopilot System, Mobile Phone, AIOT, HPC (High Performance Computing), Server, IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device, Wireless Hub, DDR II Module, etc.

⊕ Technical characteristics

Features	TGR_053_AB	Unit	Tolerance	Test Method
Color	Gray	-	-	Visual
Density	2.95	g/cm ³	+/- 10%	ASTM D792
Packaging	Jar/Syringe	Jar/30g	-	Visual
Thermal Conductivity	5.3	W/mK	+/- 10%	ASTM D5470
Weight loss	< 0.5	wt%	-	ASTM E595
Oil dispersion	< 0.05	wt%	-	24h @ 150°C
Volume resistance	> 10 ¹²	Ohm-m	-	ASTM D257
Use Temperature	-40 to 180	°C	-	-
Viscosity	150	Pas	+/- 50	ASTM D2196
Shelf life not open	12	Months	Manufacturing date	à 25°C
Open Shelf Life	6	Months	Fridge or freezer	entre -15°C à +5 °C

Directions for use: If a layer of oil is visible on top of the thermal grease, this is quite normal. We suggest you stir the whole thing evenly before use (using an electric mixer). Please avoid any dust or impurities sticking to the thermal grease. Indeed, it will degrade the thermal performance of the mattress. We recommend using this grease in a clean room ideally...

The results were obtained under laboratory conditions and should be considered only as an indication. As AB2E has no control over its customers' equipment and many other factors, it is the user's responsibility to carry out its own tests to ensure that the product corresponds to its needs.



Our Thermal Greases, also known as Thermal Grease, are silicone-based thermally conductive materials that solve heat dissipation problems. The TGR_080_AB is a one-component grease specially developed for applications where a very high cooling requirement is required. Indeed, it is an excellent thermal conductor of 8W/ mK, thus facilitating the transfer of heat. A thin layer is enough, the finer the layer is mastered, the faster and more efficient the heat transfer.



Application areas: Electronic components - Electric Vehicles, 5G, Autopilot System, Mobile Phone, AIOT, HPC (High Performance Computing), Server, IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device, Wireless Hub, DDR II Module, etc.

⊕ Technical characteristics

Features	TGR_080_AB	Unit	Tolerance	Test Method
Color	Gray	-	-	Visual
Density	3.2	g/cm ³	+/- 10%	ASTM D792
Packaging	Jar/Syringe	Jar/30g	-	Visual
Thermal Conductivity	8	W/mK	+/- 10%	ASTM D5470
Weight loss	< 0.1	wt%	-	ASTM E595
Oil dispersion	< 0.1	wt%	-	24h @ 150°C
Volume resistance	>10 ¹³	Ohm-m	-	ASTM D257
Use Temperature	-40 to 120	°C	-	-
Viscosity	350	Pas	+/- 100	ASTM D2196
Shelf life not open	12	Months	Manufacturing date	à 25°C
Open Shelf Life	6	Months	Fridge or freezer	Between -15°C à +5 °C

Directions for use: If a layer of oil is visible on top of the thermal grease, this is quite normal. We suggest you stir the whole thing evenly before use (using an electric mixer). Please avoid any dust or impurities sticking to the thermal grease. Indeed, it will degrade the thermal performance of the mattress. We recommend using this grease in a clean room ideally...

The results were obtained under laboratory conditions and should be considered only as an indication. As AB2E has no control over its customers' equipment and many other factors, it is the user's responsibility to carry out its own tests to ensure that the product corresponds to its needs.



Our Thermal Greases also called Thermal Grease are silicone-free thermo-conductive materials that help solve the problems of heat dissipation. The TGR_020_J_NS is a single component grease specially developed for applications where a very high cooling requirement is required. Indeed, it is an excellent thermal conductor of 2.0W/ mK, thus facilitating the transfer of heat. A thin layer is enough, the finer the layer is mastered, the faster and more efficient the heat transfer.

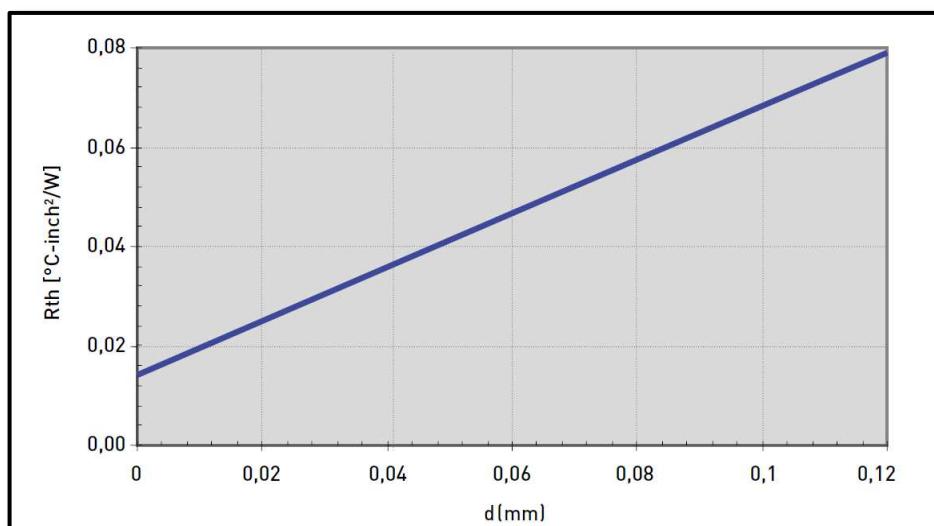


Application areas: Electronic components - Electric Vehicles, 5G, Autopilot System, Mobile Phone, AIOT, HPC (High Performance Computing), Server, IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device, Wireless Hub, DDR II Module, etc.

⊕ Technical characteristics

Features	TGR_020_J_NS	Unit	Tolerance	Test Method
Material	Silicone-free thermal grease			
Color	White	-	-	Visuel
Density	3.1	g/cm3	-	ASTM D792
Packaging	70	ml	-	-
Thermal Conductivity	2.0	W/mK		ASTM D5470
Breakdown Voltage	5	kV/mm	-	ASTM D257
Use Temperature	-40 to 150	°C	-	-
Viscosity	110	Pas	-	ASTM D2196
Shelf life not open	12	Month	Manufacturing date	à 25°C
Storage temperature	< 35	°C	Fridge or freezer	-

Directions for use: If a layer of oil is visible on top of the thermal grease, this is quite normal. We suggest you stir the whole thing evenly before use (using an electric mixer). Please avoid any dust or impurities sticking to the thermal grease. Indeed, it will degrade the thermal performance of the mattress. We recommend using this grease in a clean room ideally...



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Our Thermal Greases also called Thermal Grease are silicone-free thermo-conductive materials that help solve the problems of heat dissipation. The TGR_024_M_NS is a single component grease specially developed for applications where a very high cooling requirement is required. Indeed, it is an excellent thermal conductor of 2.4W/ mK, thus facilitating the transfer of heat. A thin layer is enough, the finer the layer is mastered, the faster and more efficient the heat transfer.

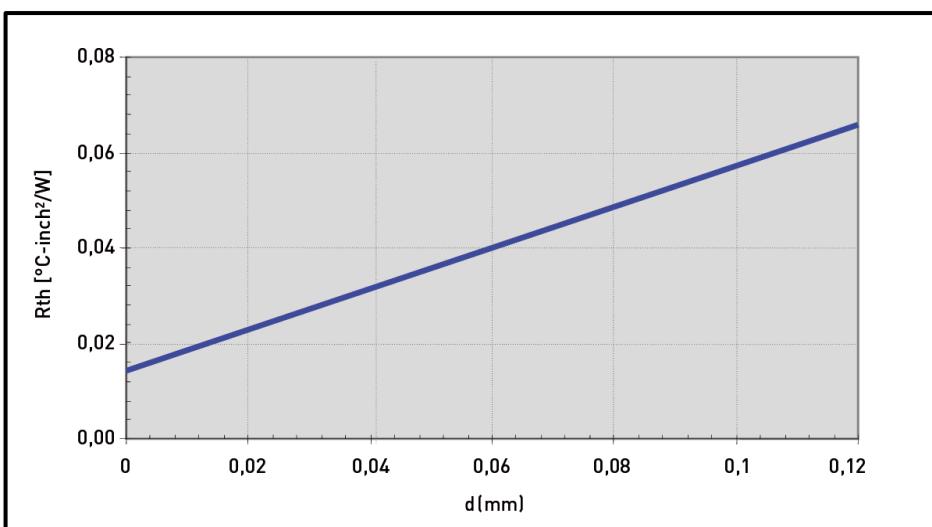


Application areas: Electronic components - Electric Vehicles, 5G, Autopilot System, Mobile Phone, AIOT, HPC (High Performance Computing), Server, IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device, Wireless Hub, DDR II Module, etc.

⊕ Technical characteristics

Features	TGR_024_M_NS	Unit	Tolerance	Test Method
Material	Silicone-free thermal grease			
Color	White	-	-	Visual
Density	3.2	g/cm3	-	ASTM D792
Packaging	70	ml	-	-
Thermal Conductivity	2.4	W/mK		ASTM D5470
Breakdown Voltage	4.5	kV/mm	-	ASTM D257
Use Temperature	-40 to 150	°C	-	-
Viscosity	110	Pas	-	ASTM D2196
Shelf life not open	12	Months	Manufacturing date	25°C
Storage temperature	< 35		Fridge or freezer	-

Directions for use: If a layer of oil is visible on top of the thermal grease, this is quite normal. We suggest you stir the whole thing evenly before use (using an electric mixer). Please avoid any dust or impurities sticking to the thermal grease. Indeed, it will degrade the thermal performance of the mattress. We recommend using this grease in a clean room ideally...



The results were obtained under laboratory conditions and should be considered only as an indication. As AB2E has no control over its customers' equipment and many other factors, it is the user's responsibility to carry out its own tests to ensure that the product corresponds to its needs.



Our thermal greases also called thermal greases are silicone-free thermo-conducting materials that help solve heat dissipation problems. The TGR_090_AB_NS is a single component grease specially designed for applications requiring very high cooling. Indeed, it is an excellent thermal conductor of 9W/ mK, thus facilitating heat transfer. A thin layer is enough, the thinner the layer, the faster and more efficient the heat transfer.



Application areas: Electronic components - Electric Vehicles, 5G, Autopilot System, Mobile Phone, AIOT, HPC (High Performance Computing), Server, IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device, Wireless Hub, DDR II Module, etc.

⊕ Technical characteristics

Features	TGR_090_AB_NS	Unit	Tolerance	Test Method
Color	Gray	-	-	Visual
Density	2.5	g/cm ³	+/- 10%	ASTM D792
Packaging	Jar/Syringe	Jar/30g	-	Visual
Thermal Conductivity	9	W/mK	+/- 10%	ASTM D5470
Weight loss	< 0.1	wt%	-	ASTM E595
Oil dispersion	< 0.1	wt%	-	24h @ 150°C
Volume resistance	>10 ¹³	Ohm-m	-	ASTM D257
Use Temperature	-40 to 200	°C	-	-
Viscosity	300	Pas	-	ASTM D2196
Shelf life not open	12	Months	Manufacturing date	à 25°C
Open Shelf Life	6	Months	Fridge or freezer	Between -15°C à +5 °C

Directions for use: If a layer of oil is visible on top of the thermal grease, this is quite normal. We suggest you stir the whole thing evenly before use (using an electric mixer). Please avoid any dust or impurities sticking to the thermal grease. Indeed, it will degrade the thermal performance of the mattress. We recommend using this grease in a clean room ideally...

The results were obtained under laboratory conditions and should be considered only as an indication. As AB2E has no control over its customers' equipment and many other factors, it is the user's responsibility to carry out its own tests to ensure that the product corresponds to its needs.





Adhesive Silicone

TAD_014_G is a highly conductive and anti-corrosion silicone 1-part adhesive by liquid addition. It hardens at a high temperature above 100°C to obtain a solid but still elastic rubber and has excellent adhesion without primer on most surfaces. The adhesive has good thermal conductivity. It can be used at temperatures up to 260°C and does not corrode copper or copper alloys when fully cured. It is characterized by high resistance to water, acids, bases and most organic solvents and is particularly suitable for applications where high thermal conductivity, adhesion, fast curing and controlled and precise application are essential



Application areas: Electronic components - Electric Vehicles, 5G, Autopilot System, Mobile Phone, AIOT, HPC (High Performance Computing), Server, IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device, Wireless Hub, DDR II Module, etc.

Technical characteristics

Features	TAD_014_G	Unit	Tolerance	Test Method
Material	Silicone			
Color	Gray			VisuAl
Density	2.0	g/cm3	-	ASTM D792
Hardness (Shore A)	67	Shore A	-	-
Viscosity	43	Pas		ASTM D2196
Tensile strength	3.1	Mpa	-	-
Elongation at break	70	%	-	-
Curing time	30	min	-	100°C
Thermal conductivity	1.4	W/mK	-	ASTM D5470
Volumetric thermal expansion coefficient	562	$\times 10^{-6}/K$	-	-
Linear thermal expansion coefficient	187	$\times 10^{-6}/K$	-	-
Temperature use	-50 + 260	°C	-	-
Breakdown voltage	22.5	kV/mm	-	ASTM D2196
Volume resistance	7.7×10^{15}	Ohm - cm	-	-
Surface resistivity	1.3×10^{15}	Ohm - cm	-	-

The results were obtained under laboratory conditions and should be considered only as an indication. As AB2E has no control over its customers' equipment and many other factors, it is the user's responsibility to carry out its own tests to ensure that the product corresponds to its needs.



Adhesive Silicone

TAD_021_O is a highly conductive and anti-corrosion silicone 1-part adhesive by liquid addition. It hardens at a high temperature above 100°C to obtain a solid but still elastic rubber and has excellent adhesion without primer on most surfaces. The adhesive has good thermal conductivity. It can be used at temperatures up to 260°C and does not corrode copper or copper alloys when fully cured. It is characterized by high resistance to water, acids, bases and most organic solvents and is particularly suitable for applications where high thermal conductivity, adhesion, fast curing and controlled and precise application are essential



Application areas: Electronic components - Electric Vehicles, 5G, Autopilot System, Mobile Phone, AIOT, HPC (High Performance Computing), Server, IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device, Wireless Hub, DDR II Module, etc.

Technical characteristics

Features	TAD_021_O	Unit	Tolerance	Test Method
Material	Silicone			
Color	Gray		Visual	
Density	2.18	g/cm3	-	ASTM D792
Hardness (Shore A)	56	Shore A	-	-
Viscosity	140	Pas		ASTM D2196
Tensile strength	2.2	Mpa	-	-
Elongation at break	105	%	-	-
Curing time	10	Min		3mm @ 125°C
Thermal conductivity	2.1	W/mK	-	ASTM D5470
Volumetric thermal expansion coefficient	586	$\times 10^{-6}/K$	-	-
Linear thermal expansion coefficient	195	$\times 10^{-6}/K$	-	-
Temperature use	-50 + 210	°C	-	-
Breakdown voltage	> 18	kV/mm	-	ASTM D2196
Volume resistance	$> 3.5 \times 10^{13}$	Ohm - cm	-	-
Surface resistivity	-	Ohm - cm	-	-

The results were obtained under laboratory conditions and should be considered only as an indication. As AB2E has no control over its customers' equipment and many other factors, it is the user's responsibility to carry out its own tests to ensure that the product corresponds to its needs.



Adhesive Silicone

TAD_023_P is a highly conductive and anti-corrosion silicone 1-part adhesive by liquid addition. It hardens at a high temperature above 100°C to obtain a solid but still elastic rubber and has excellent adhesion without primer on most surfaces. The adhesive has good thermal conductivity. It can be used at temperatures up to 260°C and does not corrode copper or copper alloys when fully cured. It is characterized by high resistance to water, acids, bases and most organic solvents and is particularly suitable for applications where high thermal conductivity, adhesion, fast curing and controlled and precise application are essential



Application areas: Electronic components - Electric Vehicles, 5G, Autopilot System, Mobile Phone, AIOT, HPC (High Performance Computing), Server, IC, CPU, MOS, LED, Mother Board, Power Supply, Heat Sink, LCD-TV, Notebook, PC, Telecom Device, Wireless Hub, DDR II Module, etc.

Technical characteristics

Features	TAD_023_P	Unit	Tolerance	Test Method
Material	Silicone			-
Color	Gray			Visuel
Density	2.11	g/cm3	-	ASTM D792
Hardness (Shore A)	67			-
Viscosity	350	Pas		ASTM D2196
Tensile strength	3.9	Mpa	-	-
Elongation at break	103	%	-	-
Curing time	< 8	Hours	-	3mm @ 23°C
Thermal conductivity	2.3	W/mK	-	ASTM D5470
Volumetric thermal expansion coefficient	493	$\times 10^{-6}/K$	-	-
Linear thermal expansion coefficient	164	$\times 10^{-6}/K$	-	-
Temperature use	-50 + 220	°C	-	-
Breakdown voltage	> 20	kV/mm	-	ASTM D2196
Volume resistance	$> 1.0 \times 10^{14}$	Ohm - cm	-	-
Surface resistivity	4.9	@ 1 MHz	-	-

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