

# Max-Therm Thermal Interface material -Thermal Pad

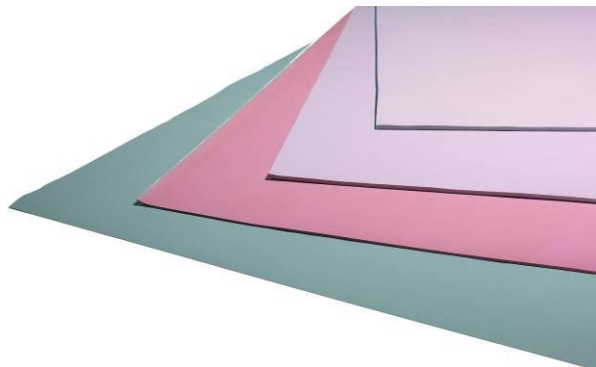
## GP5000 series

### General Usage:

GP5000 is using the silicone rubber with very good thermal conductivity, it is a enhanced ceramic particles filled silicone rubber, which is a highly conformal and thermally conductive thermal pad. It is used between heat sink and heat generating components. Its ultra soft proper enable filling air voids and rugged surface, and wetting out matting surfaces in order to efficiently transfer heat from components to heat sink.

### Benefit:

- Continuous roll package rubber
- General Thermal conductivity
- Ultra soft, highly compressible
- Good wetting
- Self tacky or additional PSA if required



### Typical Applications:

- Information products
- BGA
- Power module

### Typical Properties:

GP5000 series	Test method	GP5100	GP5150	GP5200	GP5250	GP5300	GP5500
Construction & Composition		Silicone	Silicone	Silicone	Silicone	Silicone	Silicone
Color		Light blue	Light blue	Light blue	Light blue	Light blue	Light blue
Thickness (mm)		1.00mm	1.50mm	2.00mm	2.50mm	3.00mm	5.00mm
Thickness Tolerance (mm)		±10%	±10%	±10%	±10%	±10%	±10%
Density (g/cc)		3.26	3.26	3.26	3.26	3.26	3.26
Hardness (Shore OO)	ASTM D 2240	30 ~ 35	30 ~ 35	30 ~ 35	30 ~ 35	30 ~ 35	30 ~ 35
Tensile Strength	ASTM D 638	46 psi	46 psi	46 psi	46 psi	46 psi	46 psi
Elongation (%)	ASTM D 412	54	54	54	54	54	54
Outgassing TML *Post Cured (%)	ASTM E 595	0.29	0.29	0.29	0.29	0.29	0.29
Outgassing CVCm *Post Cured (%)		0.04	0.04	0.04	0.04	0.04	0.04
UL Rating		94V0	94V0	94V0	94V0	94V0	94V0
Continuous Use Temp (°C)	TGA+DMA	-40 ~ 200	-40 ~ 200	-40 ~ 200	-40 ~ 200	-40 ~ 200	-40 ~ 200
Thermal Conductivity (W/mk)	ASTM 5470/E 1530	3.0	3.0	3.0	3.0	3.0	3.0
Thermal Impedance (°C-in <sup>2</sup> /W)	@10psi	0.48	0.61	0.75	0.89	1.06	1.93
	@69KPa	3.21	4.05	4.94	5.85	6.8	11.8
Thermal Expansion (ppm/C)		37.4	37.4	37.4	37.4	37.4	37.4
Dielectric Strength (Volts)		>7,000	>7,000	>7,000	>7,000	>7,000	>7,000
Volume Resistivity (ohm)	ASTM D 257	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>
Dielectric Constant @1MHz	ASTM D 150	NA	NA	NA	NA	NA	NA

Thin series						
GP5000 series	Test method	GP5013	GP5025	GP5030	GP5050	GP5075
Construction & Composition		Silicone	Silicone	Silicone	Silicone	Silicone
Color		Light blue	Light blue	Light blue	Light blue	Light blue
Thickness (mm)		0.13mm	0.25mm	0.3mm	0.50mm	0.75mm
Thickness Tolerance (mm)		±10%	±10%	±10%	±10%	±10%
Density (g/cc)		3.26	3.26	3.26	3.26	3.26
Hardness (Shore OO)	ASTM D 2240	65	65	45	45	45
Tensile Strength	ASTM D 638	46 psi	46 psi	46 psi	46 psi	46 psi
Elongation (%)	ASTM D 412	54	54	54	54	54
Outgassing TML *Post Cured (%)	ASTM E 595	0.29	0.29	0.29	0.29	0.29
Outgassing CVCM *Post Cured (%)		0.04	0.04	0.04	0.04	0.04
UL Rating		94V0	94V0	94V0	94V0	94V0
Continuous Use Temp (°C)	TGA+DMA	-40 ~ 200	-40 ~ 200	-40 ~ 200	-40 ~ 200	-40 ~ 200
Thermal Conductivity (W/mk)	ASTM 5470/E 1530	3.0	3.0	3.0	3.0	3.0
Thermal Impedance @10psi (°C-in <sup>2</sup> /W)		0.13	0.16	0.34	0.38	0.41
@69KPa(°C-cm <sup>2</sup> /W)		0.84	1.03	2.18	2.54	3
Thermal Expansion (ppm/C)		37.4	37.4	37.4	37.4	70
Dielectric Strength (Volts)		>4,000	>4,000	>4,000	>4,000	>7,000
Volume Resistivity (ohm-cm)	ASTM D 257	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>
Dielectric Constant @1MHz	ASTM D 150	NA	NA	NA	NA	NA

Thin series with Glass fiber						
GP5000G series	Test method	GP5013G	GP5025G	GP5030G	GP5050G	GP5075G
Construction & Composition		Silicone	Silicone	Silicone	Silicone	Silicone
Color		Light blue	Light blue	Light blue	Light blue	Light blue
Thickness (mm)		0.13mm	0.25mm	0.3mm	0.50mm	0.75mm
Carrier		Glass Fiber	Glass Fiber	Glass Fiber	Glass Fiber	Glass Fiber
Thickness Tolerance (mm)		±10%	±10%	±10%	±10%	±10%
Density (g/cc)		3.26	3.26	3.26	3.26	3.26
Hardness (Shore OO)	ASTM D 2240	65	65	45	45	45
Tensile Strength	ASTM D 638	115 psi	115 psi	46 psi	46 psi	46 psi
Elongation (%)	ASTM D 412	28	28	28	28	28
Outgassing TML *Post Cured (%)	ASTM E 595	0.29	0.29	0.29	0.29	0.29
Outgassing CVCM *Post Cured (%)		0.04	0.04	0.04	0.04	0.04
UL Rating		94V0	94V0	94V0	94V0	94V0
Continuous Use Temp (°C)	TGA+DMA	-40 ~ 200	-40 ~ 200	-40 ~ 200	-40 ~ 200	-40 ~ 200
Thermal Conductivity (W/mk)	ASTM 5470/E 1530	3.0	3.0	3.0	3.0	3.0
Thermal Impedance @10psi (°C-in <sup>2</sup> /W)		0.16	0.18	0.37	0.42	0.46
@69KPa(°C-cm <sup>2</sup> /W)		1.03	1.16	2.37	2.76	3.31
Thermal Expansion (ppm/C)		37.4	37.4	37.4	37.4	70
Dielectric Strength (Volts)		>4,000	>4,000	>4,000	>4,000	>7,000
Volume Resistivity (ohm-cm)	ASTM D 257	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>
Dielectric Constant @1MHz	ASTM D 150	NA	NA	NA	NA	NA

This information and our technical advise – whether verbal, in writing or by way of trials – are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to check its validity and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with our General Conditions of Sale and Delivery.

**TennVac Inc. (Taiwan)**  
 Tel: +886 2 26951213  
 Fax: +886 226951187  
 Email: sales@tennvac.com

**TennVac Technology  
 (Shenzhen) Co. Ltd**  
 Tel: +86 755 26951701  
 Fax: +86 755 26952411  
 Email: sales@tennvac.com

**TennMax Electronic  
 Material (Kunshan) Co. Ltd**  
 Tel: +86 512 57603910  
 Fax: +86 512 57603915  
 Email: sales@tennvac.com

**TennMax America Inc.**  
 Tel: +1 (360) 5463824  
 Fax: +1 (360) 5668088  
 Email: jeff@tennmaxusa.com