# GAP PADS TCGF-SERIES 1,0 W/m\*K



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

Gap fillers are based on silicone and are filled with ceramic particles. They are tacky by nature. This can be single- or double sided. The use of an adhesive tape is not necessary in most cases. Anyway a single- or double-sided adhesive is available on request.

- Thermal conductivity: 1,0 W/m\*K
- Available in 297x210 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,5 to 5,0 mm
- Naturally both side tacky as standard, other options available
- Adhesive tape on request
- Based on silicone filled with ceramic particles













#### **PRODUCT SPECIFICATIONS**

PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Silicone filled with ceramic particles	-
Thermal conductivity	1,0 W/m*K	ASTM E1530
Thermal impedance @ 40 Shore 00 / 2 mm thickness	3,3 °C-in²/W	ASTM E1530
Hardness	20 – 40 Shore 00 ± 10 %	ASTM D2240
Flammability rating	V-0	UL 94, E360243
Volume resistivity	10 <sup>13</sup> Ω*cm	ASTM D257
Dielectric breakdown voltage	>10 kV/mm	ASTM D149
Dielectric constant	4,4 @ 30MHz	-
Working temperature range	-50 − 200 <b>°C</b>	-
Specific gravity	2,3 g/cm³	ASTM D792
Thickness range (T)	0,5 – 5,0 mm	ASTM D374
Standard sheet size (LxW)	297x210 mm	Caliper

# GAP PADS TCGF-SERIES 1,5 W/m\*K



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

Gap fillers are based on silicone and are filled with ceramic particles. They are tacky by nature. This can be single- or double sided. The use of an adhesive tape is not necessary in most cases. Anyway a single- or double-sided adhesive is available on request.

- Thermal conductivity: 1,5 W/m\*K
- Available in 297x210 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,5 to 5,0 mm
- Naturally both side tacky as standard, other options available
- Adhesive tape on request
- Based on silicone filled with ceramic particles













#### **PRODUCT SPECIFICATIONS**

PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Silicone filled with ceramic particles	-
Thermal conductivity	1,5 W/m*K	ASTM E1530
Thermal impedance @ 55 Shore 00 / 2 mm thickness	2,0 °C-in²/W	ASTM E1530
Hardness	20 – 60 Shore 00 ± 10 %	ASTM D2240
Flammability rating	V-0	UL 94, E360243
Volume resistivity	$10^{13}\Omega^*$ cm	ASTM D257
Dielectric breakdown voltage	>10 kV/mm	ASTM D149
Working temperature range	-50 − 200 °C	-
Specific gravity	2,5 g/cm³	ASTM D792
Thickness range (T)	0,5 – 5,0 mm	ASTM D374
Standard sheet size (LxW)	297x210 mm	Caliper

# **GAP PADS** TCGF-SERIES 1,8 W/m\*K



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

Gap fillers are based on silicone and are filled with ceramic particles. They are tacky by nature. This can be single- or double sided. The use of an adhesive tape is not necessary in most cases. Anyway a single- or double-sided adhesive is available on request.

- Thermal conductivity: 1,8 W/m\*K
- Available in 297x210 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,5 to 5,0 mm
- Naturally both side tacky as standard, other options available
- Adhesive tape on request
- Based on silicone filled with ceramic particles











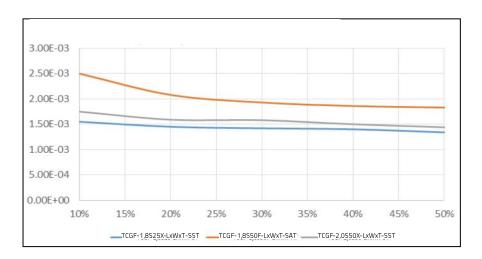


#### **PRODUCT SPECIFICATIONS**

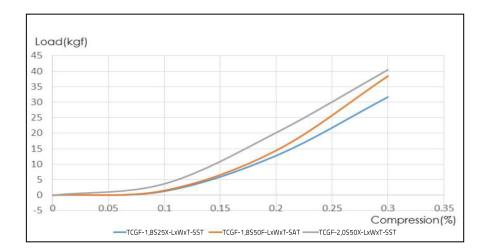
PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Silicone filled with ceramic particles	-
Thermal conductivity	1,8 W/m*K	ASTM E1530
Thermal impedance @ 60 Shore 00 / 2 mm thickness	2,0 °C-in²/W	ASTM E1530
Hardness	40 – 65 Shore 00 ± 10 %	ASTM D2240
Flammability rating	V-0	UL 94, E360243
Volume resistivity	10 <sup>13</sup> Ω*cm	ASTM D257
Dielectric breakdown voltage	>10 kV/mm	ASTM D149
Working temperature range	-60 – 200 °C	-
Specific gravity	2,55 g/cm <sup>3</sup>	ASTM D792
Thickness range (T)	0,5 – 5,0 mm	ASTM D374
Standard sheet size (LxW)	297x210 mm	Caliper



# THERMAL RESISTANCE (m2 °C/W)



#### COMPRESSIBILITY



#### STANDARD THICKNESSES (mm)

0,5 | 0,8 | 1,0 | 1,5 | 2,0 | 2,5 | 3,0 | 3,3 | 3,5 | 4,0 | 4,5 | 5,0

#### STANDARD HARDNESSES

20 Shore 00 | 40 Shore 00

# GAP PADS TCGF-SERIES 2,0 W/m\*K



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

Gap fillers are based on silicone and are filled with ceramic particles. They are tacky by nature. This can be single- or double sided. The use of an adhesive tape is not necessary in most cases. Anyway a single- or double-sided adhesive is available on request.

- Thermal conductivity: 2,0 W/m\*K
- Available in 400x300 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,15 to 10,00 mm
- Naturally both side tacky as standard, other options available
- Adhesive tape on request
- Based on silicone filled with ceramic particles











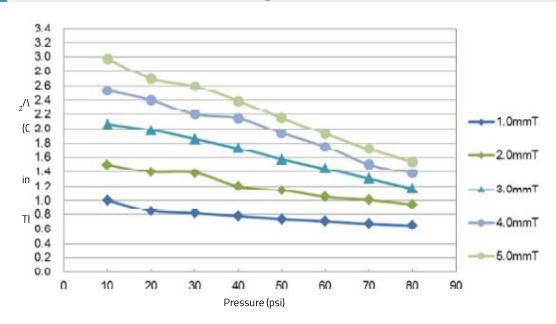


#### PRODUCT SPECIFICATIONS

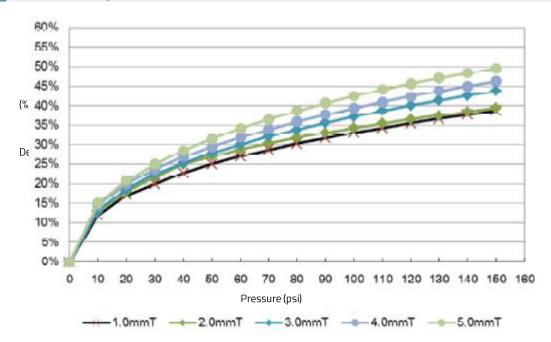
PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Silicone elastomer	-
Thermal conductivity	2,0 W/m*K	ASTM D5470
Hardness	20 – 60 Shore 00	ASTM D2240
Density	2,5 g/cm³	ASTM D792
Flammability rating	V-O	UL 94, E360243
Volume resistivity	0,298*10 <sup>13</sup> Ω*cm	ASTM D257
Breakdown voltage	>5 kV/mm	ASTM D149
Dielectric constant	4,9	ASTM D150
Temperature range	-40 − 200 °C	-
Tensile strength	0,19 MPa	ASTM D412
Thickness range (T)	0,15 – 10,0 mm	-
Standard sheet size (LxW)	400x300 mm	Caliper



#### THERMAL IMPEDANCE VS. PRESSURE (@40 Shore 00)



#### DEFLECTION (@40 Shore 00)



# **GAP PADS** TCGF-SERIES 2,5 W/m\*K



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

Gap fillers are based on silicone and are filled with ceramic particles. They are tacky by nature. This can be single- or double sided. The use of an adhesive tape is not necessary in most cases. Anyway a single- or double-sided adhesive is available on request.

- Thermal conductivity: 2,5 W/m\*K
- Available in 400x300 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,2 to 10,0 mm
- Naturally both side tacky as standard, other options available
- Adhesive tape on request
- Based on silicone filled with ceramic particles











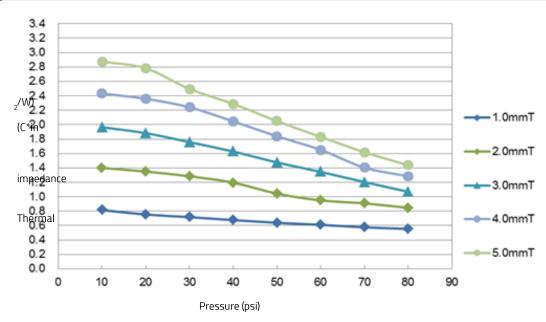


### **PRODUCT SPECIFICATIONS**

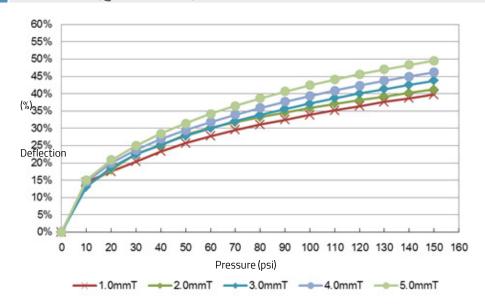
PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Silicone elastomer	-
Thermal conductivity	2,5 W/m*K	ASTM D5470
Hardness	20 – 60 Shore 00	ASTM D2240
Density	2,65 g/cm <sup>3</sup>	ASTM D792
Flammability rating	V-0	UL 94, E360243
Volume resistivity	4,5*10 <sup>12</sup> Ω cm	ASTM D257
Breakdown voltage	>3 kV/mm (<0,5 mm) >5 kV/mm (>0,5 mm)	ASTM D149
Dielectric constant	7,2	ASTM D150
Temperature range	-40 - +200 °C	-
Tensile strength	0,22 MPa	ASTM D412
Thickness range (T)	0,2 - 10,0 mm	-
Standard sheet size (LxW)	400x300 mm	Caliper



#### THERMAL IMPEDANCE VS. PRESSURE (@40 Shore 00)



# DEFLECTION (@40 Shore 00)



# GAP PADS TCGF-SERIES 3,0 W/m\*K



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

Gap fillers are based on silicone and are filled with ceramic particles. They are tacky by nature. This can be single- or double sided. The use of an adhesive tape is not necessary in most cases. Anyway a single- or double-sided adhesive is available on request.

- Thermal conductivity: 3,0 W/m\*K
- Available in 297x210 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,5 to 6,5 mm
- Naturally both side tacky as standard, other options available
- Adhesive tape on request
- Based on silicone filled with ceramic particles













#### **PRODUCT SPECIFICATIONS**

PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Silicone filled with ceramic particles	-
Thermal conductivity	3,0 W/m*K	ASTM E1530
Thermal impedance @ 60 Shore 00 / 4 mm thickness	2,0 °C-in²/W	ASTM E1530
Hardness	40 – 65 Shore 00 ± 10 %	ASTM D2240
Flammability rating	V-0	UL 94, E360243
Volume resistivity	10 <sup>11</sup> Ω*cm	ASTM D257
Dielectric breakdown voltage	>6 kV/mm	ASTM D149
Working temperature range	-50 – 200 °C	-
Specific gravity	2,95 g/cm³	ASTM D792
Thickness range (T)	0,5 – 6,5 mm	ASTM D374
Standard sheet size (LxW)	297x210 mm	Caliper

# **GAP PADS** TCGF-SERIES 5,0 W/m\*K



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

Gap fillers are based on silicone and are filled with ceramic particles. They are tacky by nature. This can be single- or double sided. The use of an adhesive tape is not necessary in most cases. Anyway a single- or double-sided adhesive is available on request.

- Thermal conductivity: 5,0 W/m\*K
- Available in 297x210 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,5 to 5,0 mm
- Naturally both side tacky as standard, other options available
- Adhesive tape on request
- Based on silicone filled with ceramic particles













#### PRODUCT SPECIFICATIONS

PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Silicone filled with ceramic particles	-
Thermal conductivity	5,0 W/m*K	ASTM E1530
Thermal impedance @ 65 Shore 00 / 4 mm thickness	1,6 °C-in²/W	ASTM E1530
Hardness	40 – 65 Shore 00 ± 10 %	ASTM D2240
Flammability rating	V-0	UL 94, E360243
Volume resistivity	10 <sup>11</sup> Ω*cm	ASTM D257
Dielectric breakdown voltage	>6 kV/mm	ASTM D149
Working temperature range	-50 – 200 °C	-
Specific gravity	3,2 g/cm³	ASTM D792
Thickness range (T)	0,5 – 5,0 mm	ASTM D374
Standard sheet size (LxW)	297x210 mm	Caliper

# GAP PADS TCGF-SERIES 7,0 W/m\*K



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

Gap fillers are based on silicone and are filled with ceramic particles. They are tacky by nature. This can be single- or double sided. The use of an adhesive tape is not necessary in most cases. Anyway a single- or double-sided adhesive is available on request.

- Thermal conductivity: 7,0 W/m\*K
- Available in 297x210 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,5 to 5,0 mm
- Naturally both side tacky as standard, other options available
- Adhesive tape on request
- Based on silicone filled with ceramic particles











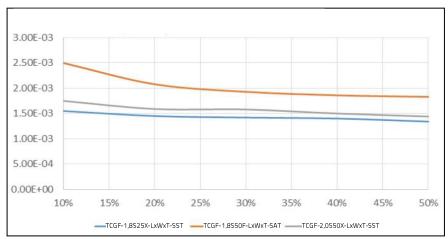


#### PRODUCT SPECIFICATIONS

PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Silicone filled with ceramic particles	-
Thermal conductivity	7,0 W/m*K	ASTM E1530
Thermal impedance @ 70 Shore 00 / 4 mm thickness	1,3 °C-in²/W	ASTM E1530
Hardness	60 – 70 Shore 00 ± 10 %	ASTM D2240
Flammability rating	V-0	UL 94, E360243
Volume resistivity	10 <sup>11</sup> Ω*cm	ASTM D257
Dielectric breakdown voltage	>6 kV/mm	ASTM D149
Working temperature range	-50 – 200 °C	-
Specific gravity	3,2 g/cm³	ASTM D792
Thickness range (T)	0,5 – 5,0 mm	ASTM D374
Standard sheet size (LxW)	297x210 mm	Caliper

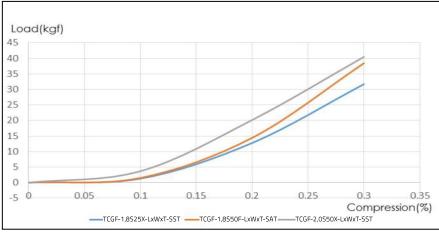


#### THERMAL RESISTANCE (m2 °C/W)



Just for reference

#### COMPRESSIBILITY



Just for reference

# STANDARD THICKNESSES (mm)

0,5 | 0,8 | 1,0 | 1,5 | 2,0 | 2,5 | 3,0 | 3,3 | 3,5 | 4,0 | 4,5 | 5,0 | 6,5

#### STANDARD HARDNESSES

20 Shore 00 | 40 Shore | 50 Shore 00 | 60 Shore 00

# GAP PADS TCGF-SERIES 8,0 W/m\*K



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

Gap fillers are based on silicone and are filled with ceramic particles. They are tacky by nature. This can be single- or double sided. The use of an adhesive tape is not necessary in most cases. Anyway a single- or double-sided adhesive is available on request.

- Thermal conductivity: 8,0 W/m\*K
- Available in 400x300 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,5 to 5,0 mm
- Naturally both side tacky as standard, other options available
- Adhesive tape on request
- Based on silicone filled with ceramic particles













### **PRODUCT SPECIFICATIONS**

PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Silicone filled with ceramic particles	-
Thermal conductivity	8,0 W/m*K	ASTM E1530
Hardness	55 Shore 00 ± 5 %	ASTM D2240
Flammability rating	V-0	UL 94, E360243
Volume resistivity	10 <sup>13</sup> Ω*cm	ASTM D257
Dielectric breakdown voltage	>5 kV/mm	ASTM D149
Working temperature range	-40 – 200 °C	-
Density	3,5 g/cm³	
Thickness range (T)	0,5 - 5,0 mm ± 10 %	ASTM D374
Standard sheet size (LxW)	400x300 mm	Caliper
Dielectric constant	12,6	ASTM D150
Tensile strength	0,22 MPa	ASTM D412
Colour	Multi colour	Visual

# GAP PADS TCGF-SERIES 9,0 W/m\*K



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

Gap fillers are based on silicone and are filled with ceramic particles. They are tacky by nature. This can be single- or double sided. The use of an adhesive tape is not necessary in most cases. Anyway a single- or double-sided adhesive is available on request.

- Thermal conductivity: 9,0 W/m\*K
- Available in 400x300 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,5 to 10,0 mm
- Naturally both side tacky as standard, other options available
- Adhesive tape on request
- Based on silicone filled with ceramic particles











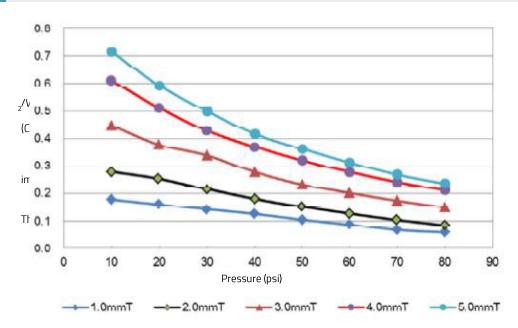


#### PRODUCT SPECIFICATIONS

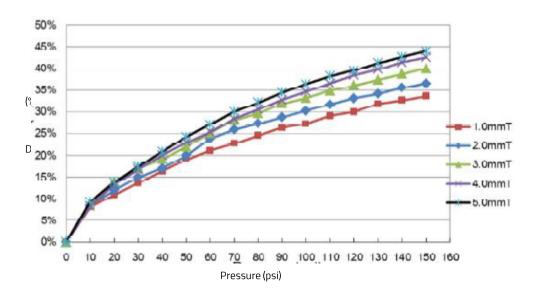
PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Silicone elastomer	-
Thermal conductivity	9,0 W/m*K	ASTM D5470
Hardness	50 – 70 Shore 00	ASTM D2240
Density	3,5 g/cm³	ASTM D792
Flammability rating	V-0	UL 94, E360243
Volume resistivity	0,8*10 <sup>13</sup> Ω cm	ASTM D257
Breakdown voltage	>5 kV/mm (>0,5 mm)	ASTM D149
Dielectric constant	12,6	ASTM D150
Temperature range	-40 - +200 °C	-
Tensile strength	0,22 MPa	ASTM D412
Thickness range (T)	0,5 – 10,0 mm	-
Standard sheet size (LxW)	400x300 mm	Caliper



#### THERMAL IMPEDANCE VS. PRESSURE

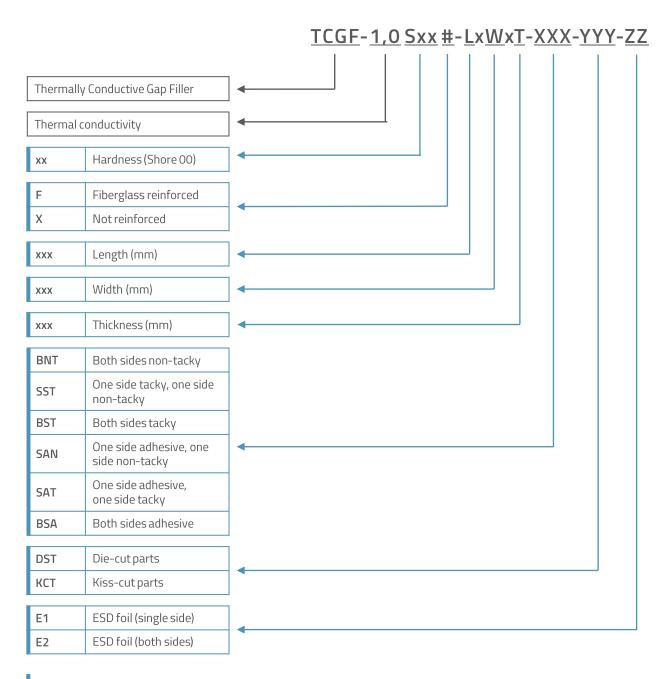


# DEFLECTION





#### **BUILDING AN ITEM NUMBER**



#### Standard options

#### **EXAMPLE**

#### TCGF-1,0 S20 F-35x17x5-BST-DST-E1

Thermally conductive gap filler; thermal conductivity: 1,0 W/m\*K; hardness: 20 Shore 00; fiberglass reinforced; size: 35x17 mm; thickness: 5 mm; both sides tacky; die-cut; ESD foil (single side)

# **GAP PADS SILICONE FREE** TCGF-SERIES 3,0 W/m\*K



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

The basic material of non-silicone gap fillers is Acrylic. Non-silicone gap fillers are tacky by nature for easy application. The use of an adhesive tape is not necessary in most cases. Anyway a single- or double-sided adhesive is available on request.

- Thermal conductivity: 3,0 W/m\*K
- Available in 300x200 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,5 to 5,0 mm
- Naturally tacky for easy application
- Low thermal resistance at low pressure
- Non-silicone and no oil bleeding issue













#### **PRODUCT SPECIFICATIONS**

PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Acrylic elastomer	-
Thermal conductivity	3,0 W/m*K	ASTM D5470
Hardness	45 – 60 Shore 00	ASTM D2240
Density	2,98 g/cm³	ASTM D792
Continuous use temperature	-40 – 125 °C	EN344
Thickness range (T)	0,5 – 5,0 mm	-
Standard sheet size (LxW)	400x200 mm	-
Colour	Multi colour	-
Breakdown voltage	>10 kV/mm	ASTM D149
Dielectric constant	12,6	ASTM D150
Volume resistivity	2,1x10 <sup>13</sup> Ω-cm	ASTM D257
Flammability rating	V-0	UL 94, E360243

# **GAP PADS SILICONE FREE** TCGF-SERIES 5,0 W/m\*K



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

The basic material of non-silicone gap fillers is Acrylic. Non-silicone gap fillers are tacky by nature for easy application. The use of an adhesive tape is not necessary in most cases. Anyway a single- or double-sided adhesive is available on request.

- Thermal conductivity: 5,0 W/m\*K
- Available in 400x200 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,5 to 5,0 mm
- Naturally tacky for easy application
- Low thermal resistance at low pressure
- Non-silicone and no oil bleeding issue









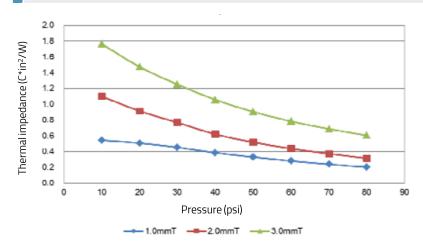


#### **PRODUCT SPECIFICATIONS**

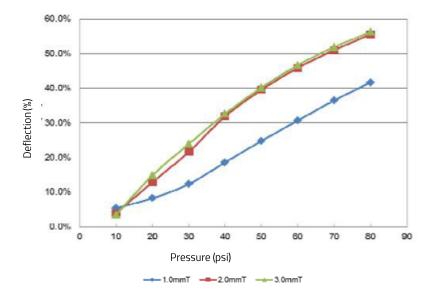
PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Acrylic elastomer	-
Thermal conductivity	5,0 W/m*K	ASTM D5470
Hardness	60 - 80 Shore 00	ASTM D2240
Density	3,3 g/cm³	ASTM D792
Temperature range	-40 – 125 °C	-
Breakdown voltage	≥8 kV/mm	ASTM D149
Dielectric constant	12,6	ASTM D150
Volume resistivity	2,1x10 <sup>13</sup> Ω-cm	ASTM D257
Thickness range (T)	0,5 – 5,0 mm	-
Standard sheet size (LxW)	400x200 mm	-
Colour	Grey	Visual
Flammability rating	V-0	UL 94, E360243



#### THERMAL IMPEDANCE VS. PRESSURE

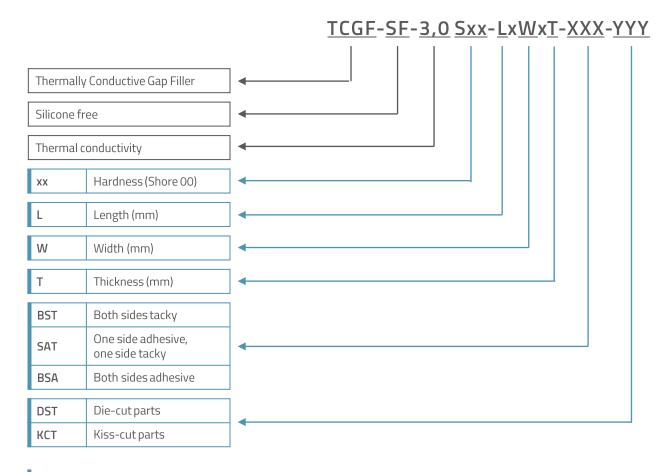


#### DEFLECTION





#### **BUILDING AN ITEM NUMBER**



#### Standard options

#### **EXAMPLE**

#### TCGF-SF-3,0 S45-300x200x2-SAT-DST

Non-silicone thermally conductive gap filler; thermal conductivity: 3,0 W/m\*K; hardness: 45 Shore 00; size: 300x200 mm; thickness: 2 mm; one side adhesive, one side tacky; die-cut parts

# **GAP PADS** TCGF-SERIES 1,0 W/m\*K S5



Thermally conductive gap fillers offer, besides excellent thermal properties, the ability to even out small, medium and big gaps and tolerances between the component (hot spot) and the cooling device.

Gap fillers are based on silicone and are filled with ceramic particles. They are tacky by nature. The 5 Shore 00 gap fillers are single side tacky. Thus the use of an adhesive tape is not necessary.

- Thermal conductivity: 1,0 W/m\*K
- Available in 297x210 mm standard sheet size, other dimensions and die-cut parts on request
- Available in thicknesses from 0,5 to 5,0 mm
- One side tacky, one side non tacky
- Fiberglass reinforced as standard
- Based on silicone filled with ceramic particles











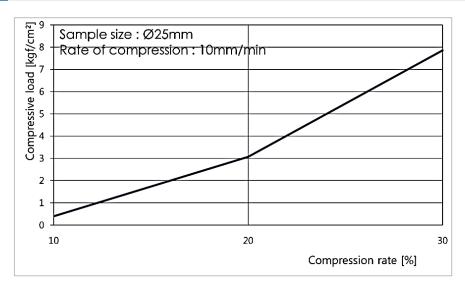


#### **PRODUCT SPECIFICATIONS**

PROPERTY	VALUE / TOLERANCE	TEST METHOD
Composition	Silicone filled with ceramic particles	-
Thermal conductivity	1,0 W/m*K	ASTM E1530
Hardness	5 Shore 00 ± 10 %	ASTM D2240
Flammability rating	V-0	UL 94, E360243
Volume resistivity	10 <sup>13</sup> Ω*cm	ASTM D257
Dielectric breakdown voltage	>10 kV/mm	ASTM D149
Working temperature range	-50 – 200 °C	-
Specific gravity	1,6 g/cm³	ASTM D792
Thickness range (T)	0,5 - 5,0 mm ± 10 %	ASTM D374
Standard sheet size (LxW)	297x210 mm	Caliper
Colour	Pink / white	Visual



#### **COMPRESSIBILITY**



Rate of compression	10 %	20 %	30 %
Value (kgf/cm²)	0,40	3,07	7,85

# STANDARD THICKNESSES (mm)

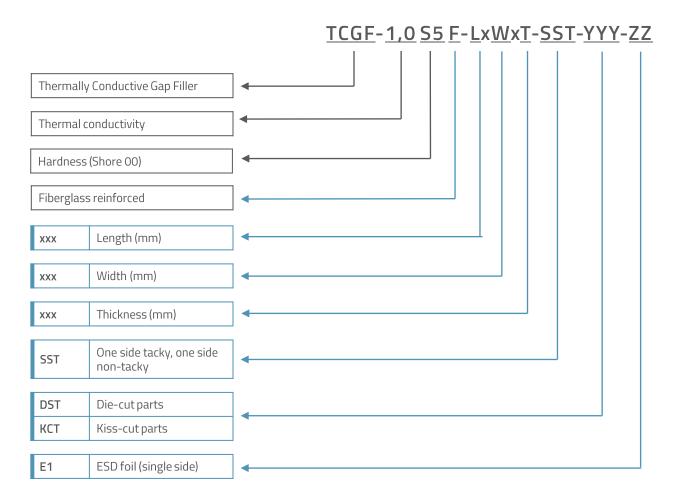
0,5 | 1,0 | 1,5 | 2,0 | 2,5 | 3,2 | 4,0 | 5,0

#### CONFIGURATIONS AVAILABLE

Standard sheet size: 297x210 | Available with or without ESD foil | Custom die-cut parts available



#### **BUILDING AN ITEM NUMBER**



#### Standard options

#### **EXAMPLE**

#### TCGF-1,0 S5 F-35x17x5-SST-DST-E1

Thermally conductive gap filler; thermal conductivity: 1,0 W/m\*K; hardness: 5 Shore 00; fiberglass reinforced; size: 35x17 mm; thickness: 5 mm; one side tacky, one side non tacky; die-cut; ESD foil (single side)