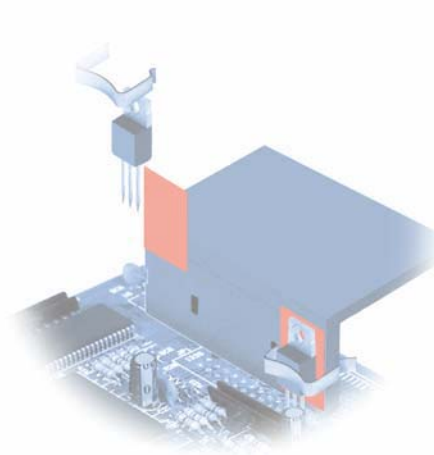


## Thermo-Silicone Interface Materials

Kunze HEATPAD® silicone foils KU-BG, KU-EGF, KU-CG, KU-AG, KU-AGF are the ideal and user-friendly substitution to the use of mica in combination with thermal grease for thermal conductivity and electrical insulation. The use of mica with thermal grease is a negative factor in today's always growing process reliability due to its lack of reproducibility. This problem is solved with the use of thermo-silicone foils. Furthermore they show higher temperature and chemical stability as well as high dielectric strength.

The thermal conductivity of the silicone is enhanced through the use of highly thermally conductive ceramics like aluminum-oxide, boron-nitride and aluminum-nitride for instance or through mixes in the polymer structure of the elastomer. Due to its softness and with pressure applied, silicone then covers the contact surfaces, expelling the air pockets, minimizing the thermal contact resistance, thus the total thermal resistance. The mechanical stability of the interface material is reinforced with fiberglass.



### Application Examples

Thermal link and electric insulation of heat sources and heat sinks in

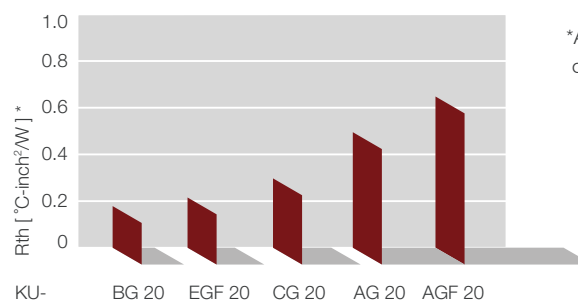
- Power modules
- Power supplies
- Electric drives
- Telecommunication modules
- Engine control
- Frequency converters
- UPS

We disclaim all liability for the correctness of the information contained herein

We reserve the right to make technical changes without notice

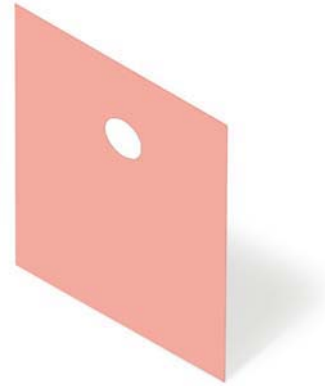


### Thermal Resistance Overview



\*At a mounting pressure of approx. 1.3 MPa

HEATPAD® KU-CG is a fiberglass re-inforced silicone foil filled with thermally conductive ceramics, hence its high thermal conductivity. By its implementation a very low total thermal resistance can be achieved. Its performances and flexibility make it the ideal interface material for most applications.



State of the art machinery allows us to produce and deliver customer specific forms with the shortest possible lead time

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### Properties

- High thermal conductivity
- Very low thermal resistance
- Fiberglass reinforced
- Very flexible
- Clean and easy mounting with high process reliability
- No thermal grease required
- UL flammability rating: UL 94 VO

### Product Availability

- All standard configurations see page 89
- Tack-free or tacky on one side (AV)
- In roll form (except KU-CG 80) according to customer specifications, max. length 50 m
- Stamped and cut according to customer specifications
- In sheet form:
 

CG 20	320 mm x 1000 mm
CG 30	320 mm x 1000 mm
CG 45	320 mm x 1000 mm
CG 80	320 mm x 1000 mm
Tacky on one side (AV)	320 mm x 1000 mm

Order free samples!

<sup>1</sup> Voltage ramp of 1000 V/s

<sup>2</sup> Step by step voltage increments until dielectric breakdown

<sup>3</sup> Measured with mounting pressure of approx. 1.3 MPa

<sup>4</sup> Increase of thermal resistance through tackiness by about 0.1 °C/W

Dry, tacky silicone resin on stainless steel:  
Bond strength:  
200-300 g/cm<sup>2</sup>  
Tackiness:  
150 - 550 g / 25 mm width

Ordering example  
KU 6-623 / CG 20 / AV  
Part / material /  
tacky on one side

Configurations and dimensions on page 89

### Technical Data

Part	KU-	CG 20	CG 30	CG 45	CG 80
<b>General Properties</b>					
Material		Fiberglass Reinforced Silicone			
Filler		Thermally Conductive Ceramic			
Colour		Salmon			
Thickness	mm	0,2 <sup>+0,05</sup> / <sub>-0,05</sub>	0,3 <sup>+0,1</sup>	0,45 <sup>+0,05</sup> / <sub>-0,05</sub>	0,8 <sup>+0,1</sup>
<b>Mechanical Properties</b>					
Tensile Strength	MPa	25.9	24.1	20.4	9.3
Tear Strength	kN/m	70	69	68	24
Hardness (Asker C)		90	90	90	90
<b>Electrical Properties</b>					
Breakdown Voltage (Voltage ramp) <sup>1</sup>	V (AC)	5000	7000	10000	19000
Breakdown Voltage (Voltage steps) <sup>2</sup>	V (AC)	2000	3000	5000	10000
Volume Resistivity	Ω m	1.8 x 10 <sup>12</sup>	1.8 x 10 <sup>12</sup>	1.2 x 10 <sup>12</sup>	1.0 x 10 <sup>12</sup>
Dielectric Constant (1 kHz)		3.8	4.2	4.3	4.3
Flame Rating		UL 94 VO	UL 94 VO	UL 94 VO	UL 94 VO
<b>Thermal Properties</b>					
Thermal Conductivity	W/mK	1.9	1.9	1.9	1.9
Thermal Resistance <sup>3,4</sup> (inch <sup>2</sup> )	°C/W	0.30	0.45	0.65	1.05
Operating Temperature	°C	-60 to 200	-60 to 200	-60 to 200	-60 to 200