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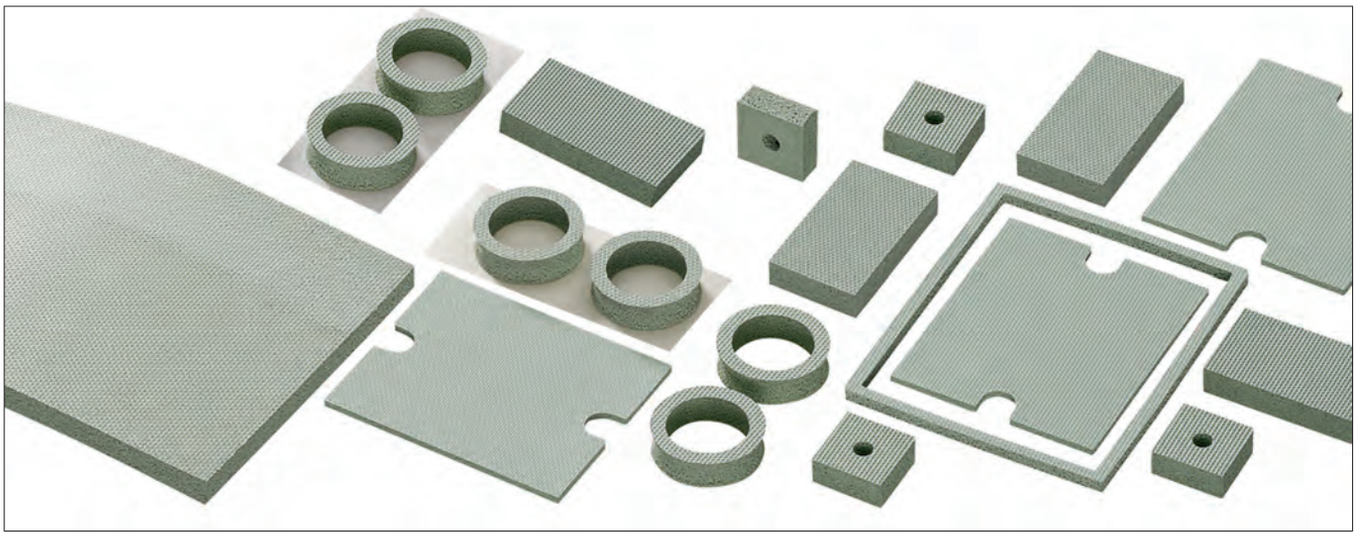
Thermally conductive silicon foam foils



- elastomer foam with closed cell structure
- good heat conductor e.g. between components, heatsinks and casing parts
- electrical insulating
- can be compressed even with a low contact pressure
- absorbs shocks and vibrations

art. no.	material thickness [mm]
WSF 08	0.80 ±0.4
WSF 16	1.60 ±0.4
WSF 24	2.40 ±0.8
WSF 32	3.20 ±0.8
WSF 48	4.80 ±0.8
WSF 635	6.35 ±1.2
WSFS 635	

Thermal resistance at 3.2 mm material thickness:

compression [%]	10	30	50
contact pressure [psi]	5	20	42
R_{th} [K/W] (1 in^2 x 3.2 mm)	13	9	3.5
heat conductivity [W/mK]	0.36	0.52	0.82

- **WSFS 635** double sided adhesive and **WSF** self-adhesive upon request
- according to NASA gas emission requirements

	WSF	**WSFS 635**
version	non adhesive	one-sided self-adhesive
colour	green	
density	1.105 g/cm^3	
hardness	13 Shore A	
temperature range	-62°C ... +205°C	
compression, 25%	18 psi	
elongation	150 %	
tear strength	120 psi	
dielectric strength	100 V/mm	
class of inflammability	UL 94 V-1 (at thickness ≥3.2mm)	
type of delivery	plates, usable area 914x914mm/ other dimensions upon request	

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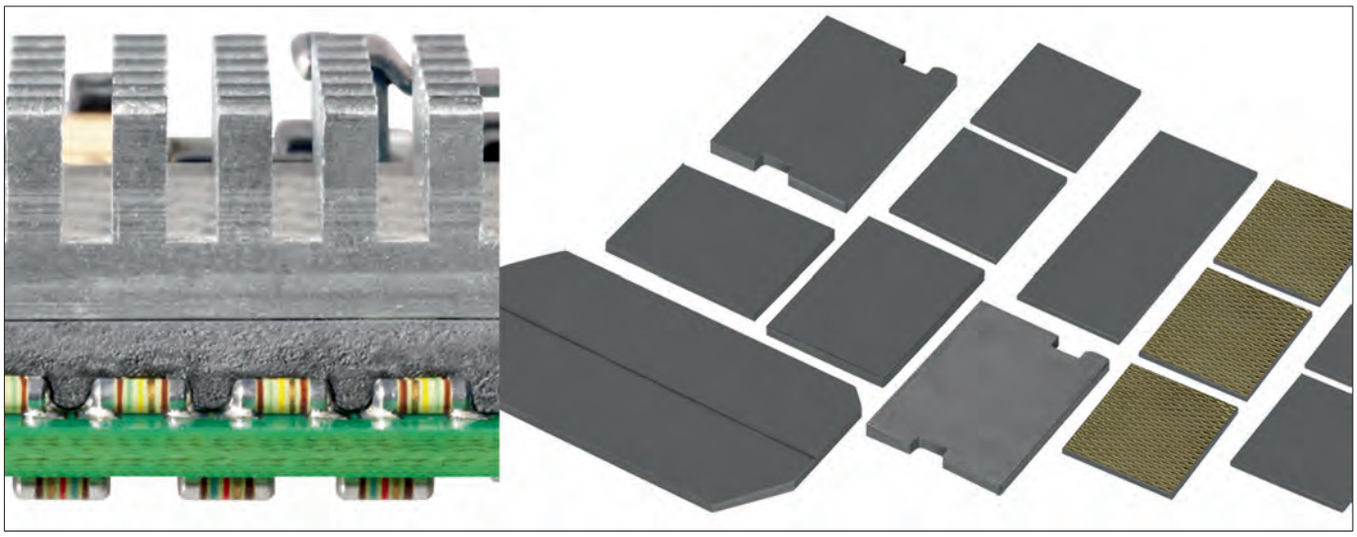
Gel thermal conductive foils for extreme compression



– specially soft design
– levels smallest air gaps and unevennesses
– cuts and contours with cutouts according to customer's specifactions

art. no.	material thickness [mm]	R_{th} (100 kPa) [°C in²/W]	R_{th} (100 kPa) [°C cm²/W]
GEL 28 S 10	1.0 ±0.15	0.42	2.7
GEL 28 S 15	1.5 ±0.20	0.60	3.9
GEL 28 S 20	2.0 ±0.30	0.76	4.9
GEL 28 S 25	2.5 ±0.30	0.90	5.8
GEL 28 S 30	3.0 ±0.30	1.02	6.6
GEL 28 S 35	3.5 ±0.35	1.15	7.4
GEL 28 S 40	4.0 ±0.40	1.27	8.2
GEL 28 S 45	4.5 ±0.45	1.45	9.4
GEL 28 S 50	5.0 ±0.50	1.64	10.6

	GEL 28 S
version	standard
colour	grey
density	2.6 g/cm³
hardness	9 ASKER C
thermal conductivity	2.5 W/m·K
temperature range	-40°C... +150°C
volume resistance	$1 \cdot 10^{11}$ Ω·m
dielectric constant	7.21 [50 Hz] / 6.73 [1 kHz] / 6.25 [1 MHz]
dielectric loss factor	0.059 [50 Hz] / 0.031 [1 kHz] / 0.007 [1 MHz]
dielectric strength	18 kV/mm
class of inflammability	UL 94 V-0
type of delivery	on both sides covered with protective foil/ plates, usable area 300x200mm/ other dimensions upon request

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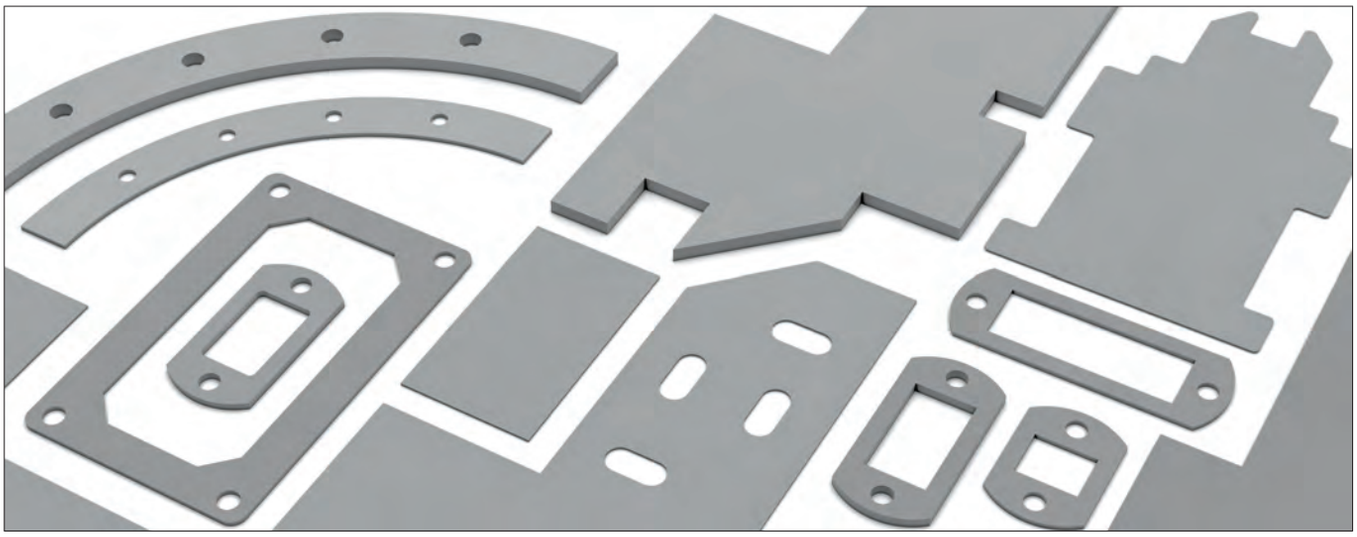

- very soft silicone-based thermal conductive material
- double side adhesive surface
- good chemical and ageing resistance
- other material thicknesses on request
- cuts and contours according to customised drawing specifications

art. no.	material thickness [mm]
GEL 30 S 05	0.5
GEL 30 S 10	1.0
GEL 30 S 15	1.5
GEL 30 S 20	2.0
GEL 30 S 25	2.5
GEL 30 S 30	3.0
GEL 30 S 35	3.5
GEL 30 S 40	4.0

	GEL 30 S
version	silicone foil, protective film on both sides
colour	grey
hardness	7 Shore A
thermal conductivity	3 W/m·K
temperature range	-60°C ... +200°C
elongation	450 %
tear strength	0.7 N/mm²
dielectric strength	1 kV/mm
class of inflammability	UL 94 V-0
type of delivery	plates, usable area 305x305mm/ other dimensions upon request

Thermal resistances vs. contact pressure					
pressure [psi]	10	20	30	40	50
thermal impedance GEL 30 S 30 [K-cm²/W]	16.7	15.9	26.3	13.5	12.7

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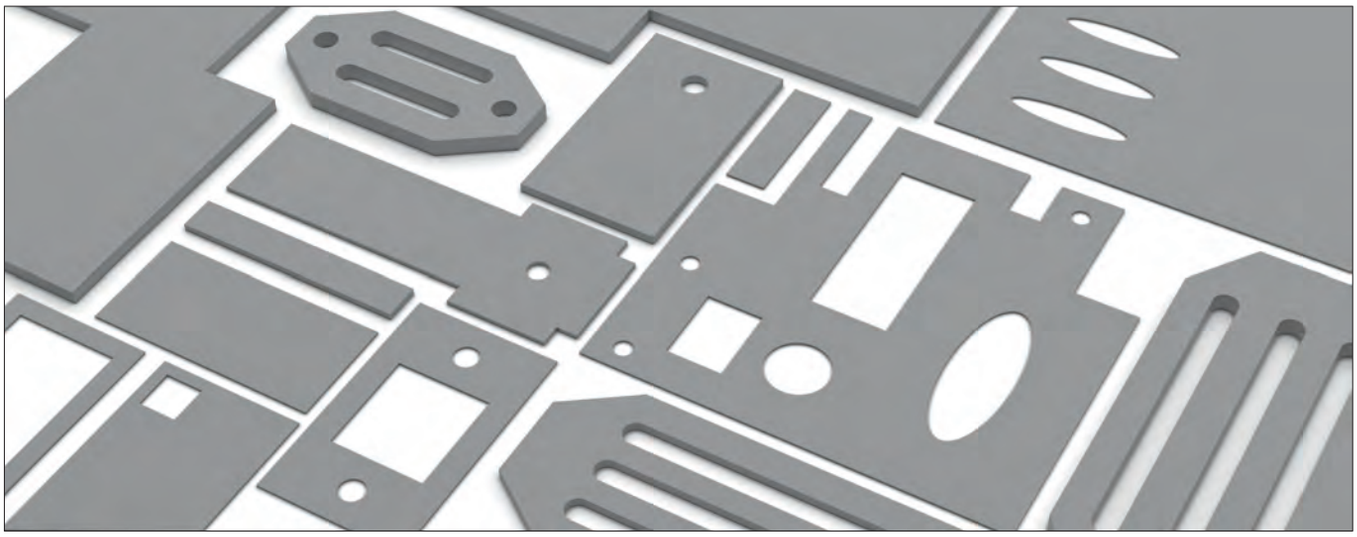

- very soft silicone foil with good compressibility
- mounting facilitation due to adherent surfaces
- very good compensation of larger unevennesses
- low contact pressure to reduce thermal transfer resistances
- shaped parts and material cuts according to your specifications

art. no.	material thickness [mm]
GEL 50 S 05	0.5
GEL 50 S 10	1.0
GEL 50 S 15	1.5
GEL 50 S 20	2.0
GEL 50 S 25	2.5
GEL 50 S 30	3.0
GEL 50 S 35	3.5
GEL 50 S 40	4.0

	GEL 50 S
version	silicone foil, protective film on both sides
colour	grey
hardness	20 Shore A
thermal conductivity	5 W/m·K
temperature range	-60°C ... +200°C
elongation	250 %
tear strength	0.34 N/mm²
dielectric strength	2 kV/mm
class of inflammability	UL 94 V-0
type of delivery	plates, usable area 305x305mm/ other dimensions upon request

Thermal resistances vs. contact pressure					
pressure [psi]	10	20	30	40	50
thermal impedance GEL 50 S 20 [K-cm²/W]	8.2	8	7.6	7.3	7

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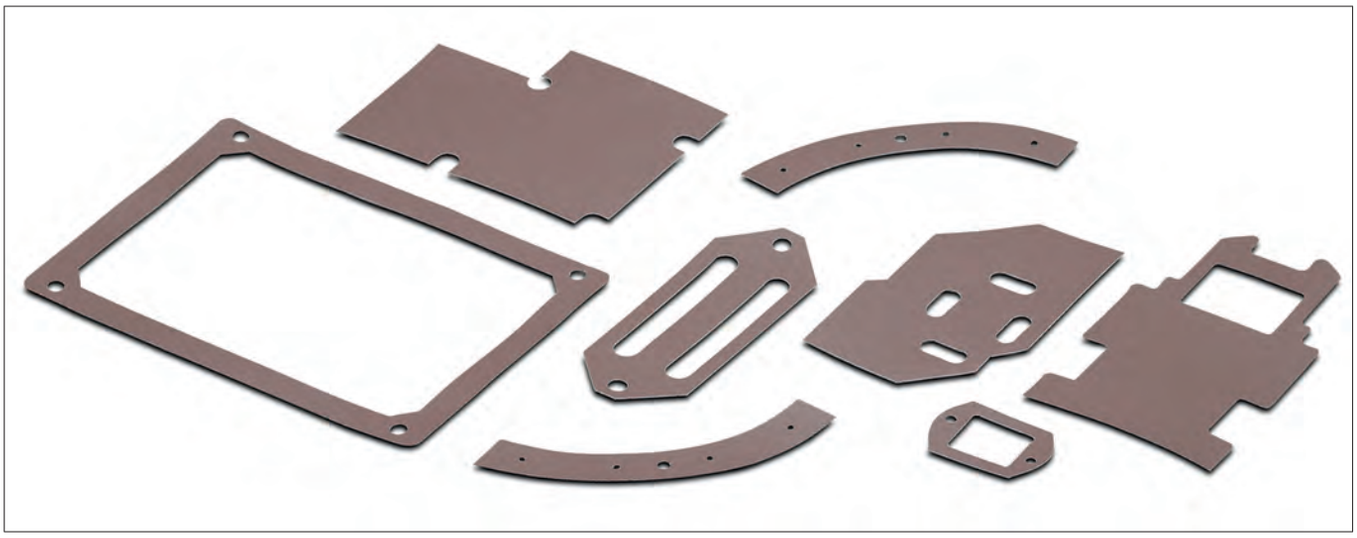

- very soft and compressible thermal conductive foil
- simple compensation of bigger differences in components
- double-sided adhesive surfaces with protective foil
- excellent dielectric strength
- drawing parts acc. to customer's specification upon request

art. no.	material thickness [mm]	R_{th} (100 kPa) [°C in²/W]	R_{th} (100 kPa) [°C cm²/W]
GEL 60 S 15	1.5 +0.5/ -0.0	0.45	2.9
GEL 60 S 20	2.0 +0.7/ -0.0	0.52	3.3
GEL 60 S 25	2.5 +0.7/ -0.0	0.67	4.3

	GEL 60 S
version	standard with double-sided adhesive surface
colour	dark gray
density	3.2 g/cm³
thermal conductivity	6 W/m·K
temperature range	-40°C... +150°C
volume resistance	$1 \cdot 10^{12}$ Ω·m
dielectric constant	7.37 [50 Hz] / 7.31 [1 kHz] / 7.34 [1 MHz]
dielectric loss factor	0,0101 [50 Hz] / 0,0022 [1 kHz] / 0,0007 [1 MHz]
dielectric strength	13 kV/mm
class of inflammability	UL 94 V-0
type of delivery	on both sides covered with protective foil/ plates, usable area 300x200mm/ other dimensions upon request

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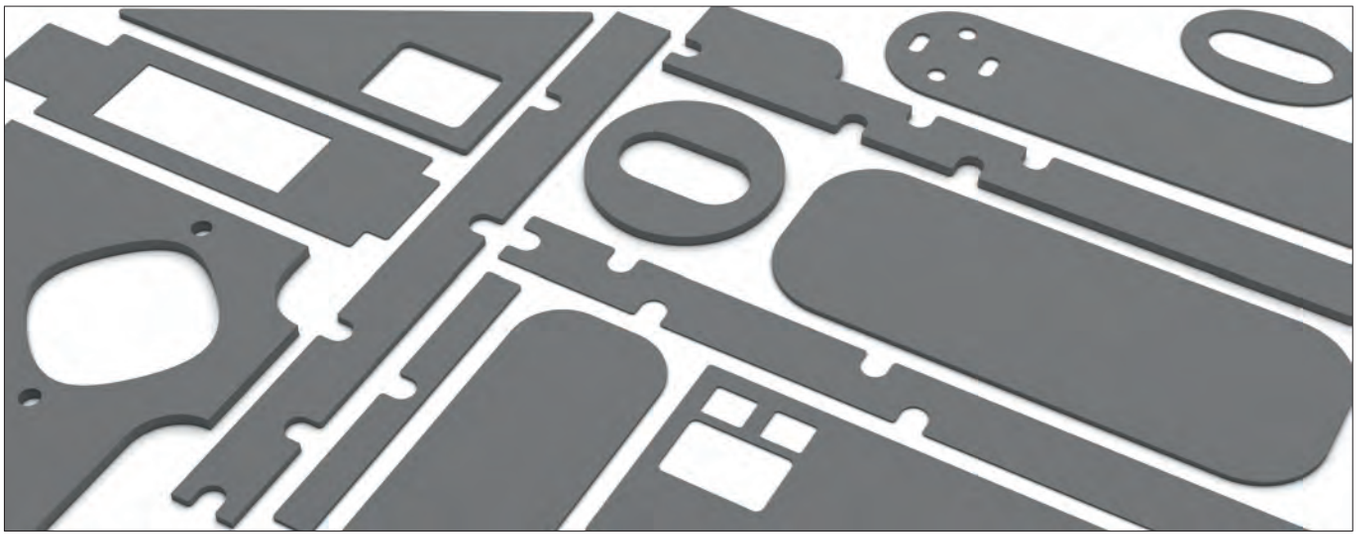

- very adaptable gel thermal conductive foil
- high thermal conductivity and application temperature range
- very good compression with light contact pressure
- other sheet dimensions and material thicknesses on request
- individual moulded parts according to customer drawing

art. no.	material thickness [mm]
GEL 70 S 05	0.5
GEL 70 S 10	1.0
GEL 70 S 15	1.5
GEL 70 S 20	2.0
GEL 70 S 25	2.5
GEL 70 S 30	3.0
GEL 70 S 35	3.5
GEL 70 S 40	4.0

	GEL 70 S
version	silicone foil, protective film on both sides
colour	dark gray
hardness	10 Shore A
thermal conductivity	7 W/m·K
temperature range	-60°C ... +200°C
elongation	40 %
tear strength	0.34 N/mm²
dielectric strength	6 kV/mm
class of inflammability	UL 94 V-0
type of delivery	plates, usable area 305x305mm/ other dimensions upon request

Thermal resistances vs. contact pressure					
pressure [psi]	10	20	30	40	50
thermal impedance GEL 70 S 20 [K-cm²/W]	5.3	5	4.6	4.2	3.9

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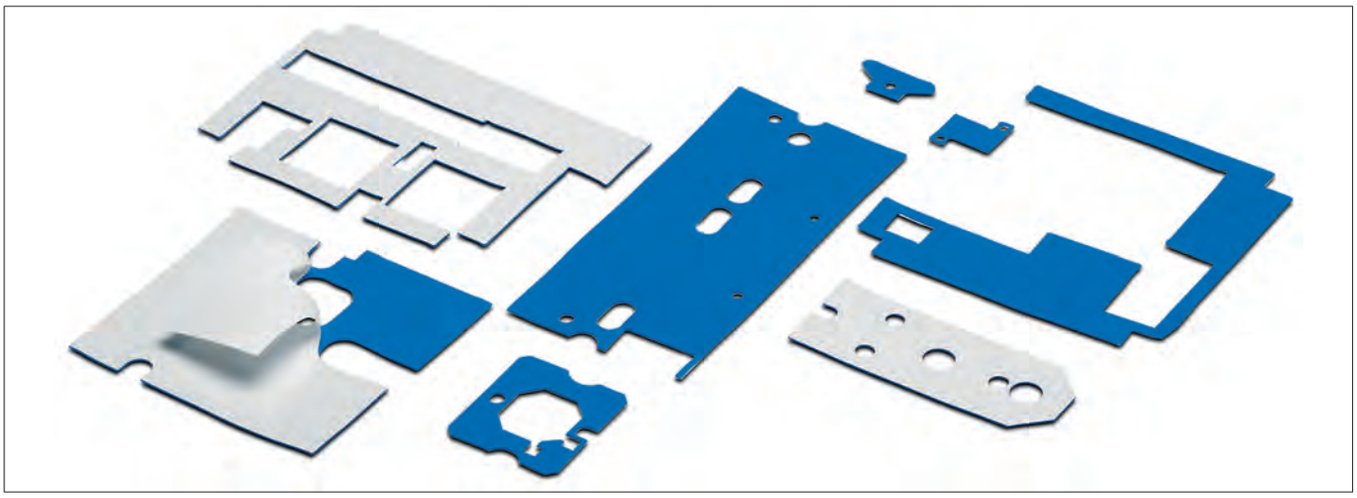

- extremely strong compressible gap-filler thermal conductive foil
- very high efficiency in connection with very high thermal conductivity
- little force for material compression
- perfectly suitable for balancing smallest unevennesses
- cuts and contours according to customer drawing

art. no.	material thickness [mm]	R_{th} (100 kPa) [°C in²/W]	R_{th} (100 kPa) [°C cm²/W]
GEL 130 S 05	0.5 ±0.10	0.08	0.5
GEL 130 S 10	1.0 ±0.15	0.17	1.1
GEL 130 S 15	1.5 ±0.25	0.23	1.5
GEL 130 S 20	2.0 ±0.35	0.28	1.8

	GEL 130 S
version	standard with double-sided adhesive surface
colour	blue
density	3.3 g/cm³
thermal conductivity	13 W/m·K
temperature range	-40°C... +150°C
volume resistance	$1 \cdot 10^{11}$ Ω·m
dielectric constant	9.28 [50 Hz] / 8.58 [1 kHz] / 7.761 [1 MHz]
dielectric loss factor	0,0483 [50 Hz] / 0,0389[1 kHz] / 0,0147 [1 MHz]
dielectric strength	12 kV/mm
class of inflammability	UL 94 V-0
type of delivery	on both sides covered with protective foil/ plates, usable area 300x200mm/ other dimensions upon request

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