



ALPHACOOL – THE COOLING COMPANY

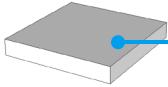
## Alphacool Eisschicht 17 W/mK

### Features

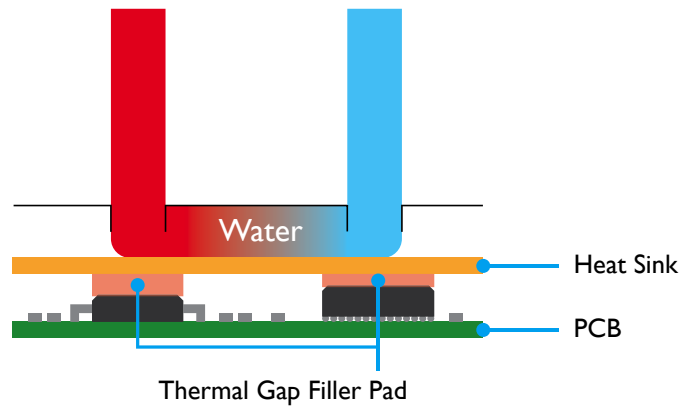
**Highly Conformable and High Heat Conducting Gel Materials.**

Eisschicht Thermal Gap Filler Pads are highly conformable and high heat conducting gel materials in a versatile sheet form. They easily fit and adhere to most all shapes and sizes of components, including protrusions and recessed areas.

### Constructions

Series	Characteristics	Constructions
Alphacool Eisschicht 17W/mK	Silicone compound with double sticky surfaces and Thermal Conductivity of XR-m material is 17.0W/m-K by using GHP (11.0W/m-K by using Hot Disk)	 Plain Type

### Recommended Application



In areas where space between surface is uneven or varies and where surface textures are a concern regarding efficient thermal transfer, the supple consistency of Gap Filler Pad is excellent for filling air gaps and uneven surfaces.

### Thermal Resistance

Unit: K-cm<sup>2</sup>/W (K-in<sup>2</sup>/W)

Compression Force	0.5mmT	1.0mmT	1.5mmT
100kPa (14.5psi)	0.5 (0.08)	0.9 (0.14)	1.7 (0.27)
300kPa (43.5psi)	0.4 (0.06)	0.8 (0.13)	1.5 (0.23)
500kPa (72.5psi)	0.4 (0.06)	0.8 (0.12)	1.4 (0.21)

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### Alphacool Eisschicht 17 W/mK

#### Typical Properties

Properties	unit	XR-m	Test method		
Physical Properties	Color	-	Light Gray	Visual	
	Specific Gravity	-	3.2	ASTM D 792	
	Hardness Highest Value	Shore OO (ASKER C)	72 (46)	ASTM D2240 (ISO 7619)	
	Tensile Strength	MPa (psi)	0.5 (72.5)	ASTM D 412	
	Elongation	%	40	ASTM D 412	
	Tear Strength	N/mm (ppi)	1.0 (5.7)	ASTM D 624	
Electrical Properties	Volume Resistivity	Ohm-m	1.0x10 <sup>11</sup>	ASTM D257	
	Breakdown Voltage	kV/mm (volts/mil)	10 (254)	ASTM D 149	
	Dielectric Strength	kV/mm (volts/mil)	7 (178)	ASTM D 149	
	Dielectric Constant	-	50Hz	4.8	ASTM D 150
			1kHz	4.7	
			1MHz	4.8	
	Dissipation Factor	-	50Hz	0.058	ASTM D 150
1kHz			0.003		
1MHz			0.001		
Thermal Properties	Thermal Conductivity	W/m-K	17.0 by GHP	ASTM D 5470	
			11.0 by Hot Disk	ISO/CD 22007-2	
	Useful Temperature	°C (°F)	-40 to +150 (-40 to +302)		
	Low molecular Siloxane	wt%	D <sub>4</sub> to D <sub>20</sub> Total	less than 0.0010	Gas Chromatography
Flame Retardant	UL94	V-0		UL94	

#### Compression Force

Unit: N/6.4cm<sup>2</sup> (psi)

Compression Ratio	0.5mmT	1.0mmT	1.5mmT
10%	94 (21.3)	98 (22.2)	103 (23.3)
20%	308 (69.8)	329 (74.5)	378 (85.6)
30%	572 (129.6)	653 (147.9)	816 (184.9)
40%	836 (189.4)	1051 (238.1)	1276 (289.1)
50%	1099 (249.0)	1471 (333.3)	1784 (404.2)
Sustain 50%	875 (198.2)	882 (199.8)	1299 (294.3)

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### Alphacool Eisschicht 17 W/mK

#### Durability

Test Property	Unit	70°C		150°C	
		Initial	After 1,000hrs	Initial	After 1,000hrs
Specific Gravity	-	3.2	3.2	3.2	3.2
Hardness	ASKER C	46	54	46	62
Breakdown Voltage	kV/mm	10	10	10	10
Thermal conductivity	W/m-K	17	17	17	17

Test Property	Unit	60°C / 90%RH	
		Initial	After 1,000hrs
Specific Gravity	-	3.2	3.2
Hardness	ASKER C	46	53
Breakdown Voltage	kV/mm	10	9
Thermal conductivity	W/m-K	17	17

reduced temperature

- 40°C = -40°F
- 60°C = 140°F
- 70°C = 158°F
- 125°C = 227°F
- 150°C = 302°F

- Specimen: XR-m

#### Types and Configurations

Series	Product Name	Thickness	Sheet Size
Alphacool Eisschicht 17W/mK (Sarcon XR-m)	17W/mK (Sarcon XR-m)	0.5mm ± 0.15	100x100x0,5mm 2x 120x20x0,5mm
		1.0mm ± 0.20	100x100x1mm 2x 120x20x1mm
		1.5mm ± 0.20	100x100x1,5mm 2x 120x20x1,5mm

#### Handling notes

- It is recommended to use the material in up to 30% of compression ratio. Using the material beyond the recommended compression rate may result in excessive silicone oil exudation.
- It is recommended to compress the material with the equal ratio on the whole surface. Partial excessive stress may also result in excessive silicone oil exudation.

#### Warranty Statement

- Properties of the products may be revised due to some changes for improving performance.
- Properties values in this document are not specification or guaranteed.
- This product is made of silicone, and silicone oil may exude from the product.
- This product is made of silicone, and low molecular siloxane may vaporize depending on operating conditions.
- The product is designed, developed, and manufactured for general industrial use only. Never use for medical, surgical, and/or relating purposes. Never use for the purpose of implantation and/or other purposes by which a part of or whole product remains in human body.
- Before using, a safety must be evaluated and verified by the purchaser.
- Contents described in the document do not guarantee the performances and qualities required for the purchaser's specific purposes. The purchaser is responsible for pre-testing the product under the purchaser's specific conditions and for verifying the expected performances.
- Statements concerning possible or suggested uses made herein may not be relied upon, or be constructed, as a guaranty of no patent infringement.

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