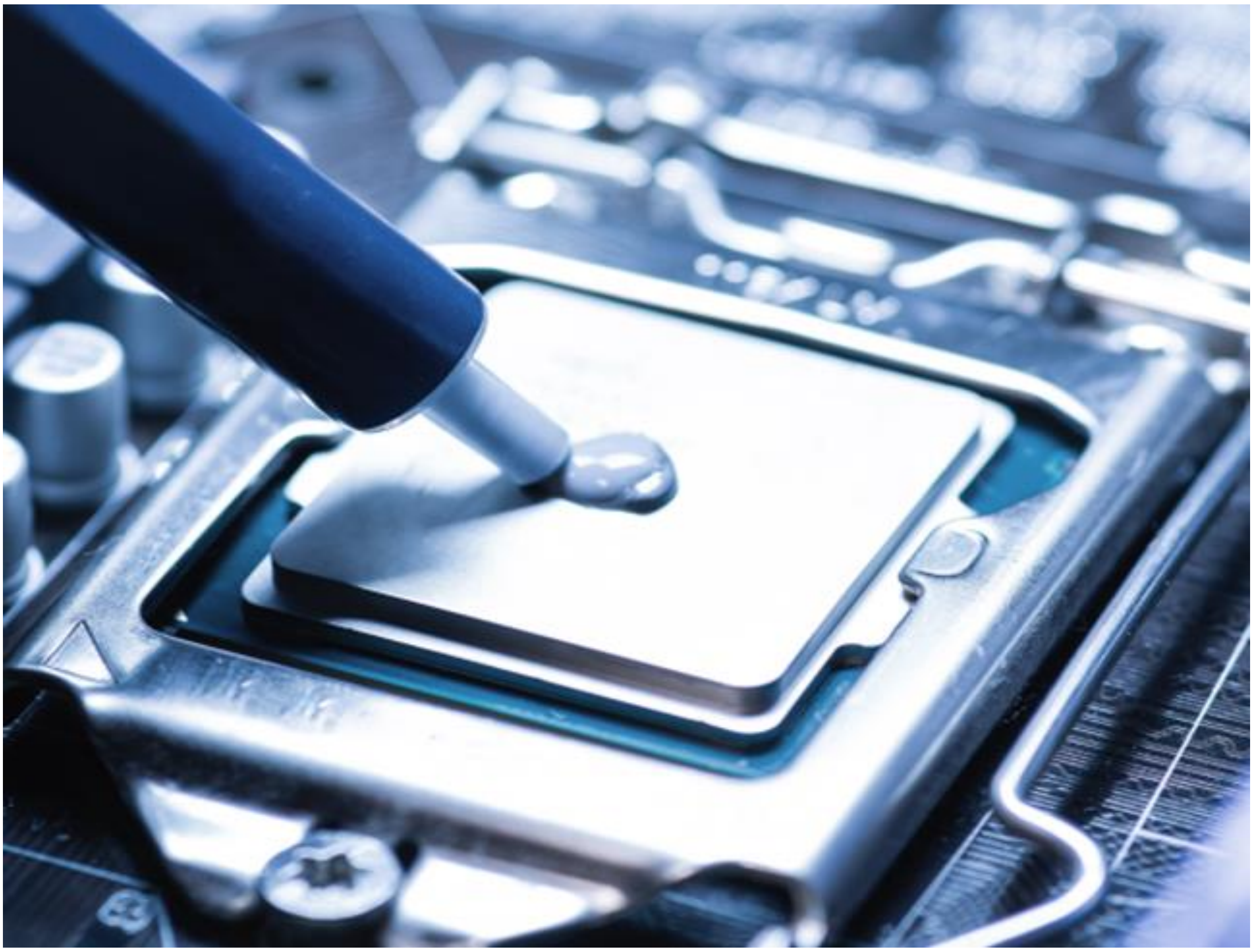
Provisional Global Product Data

ALMATIS

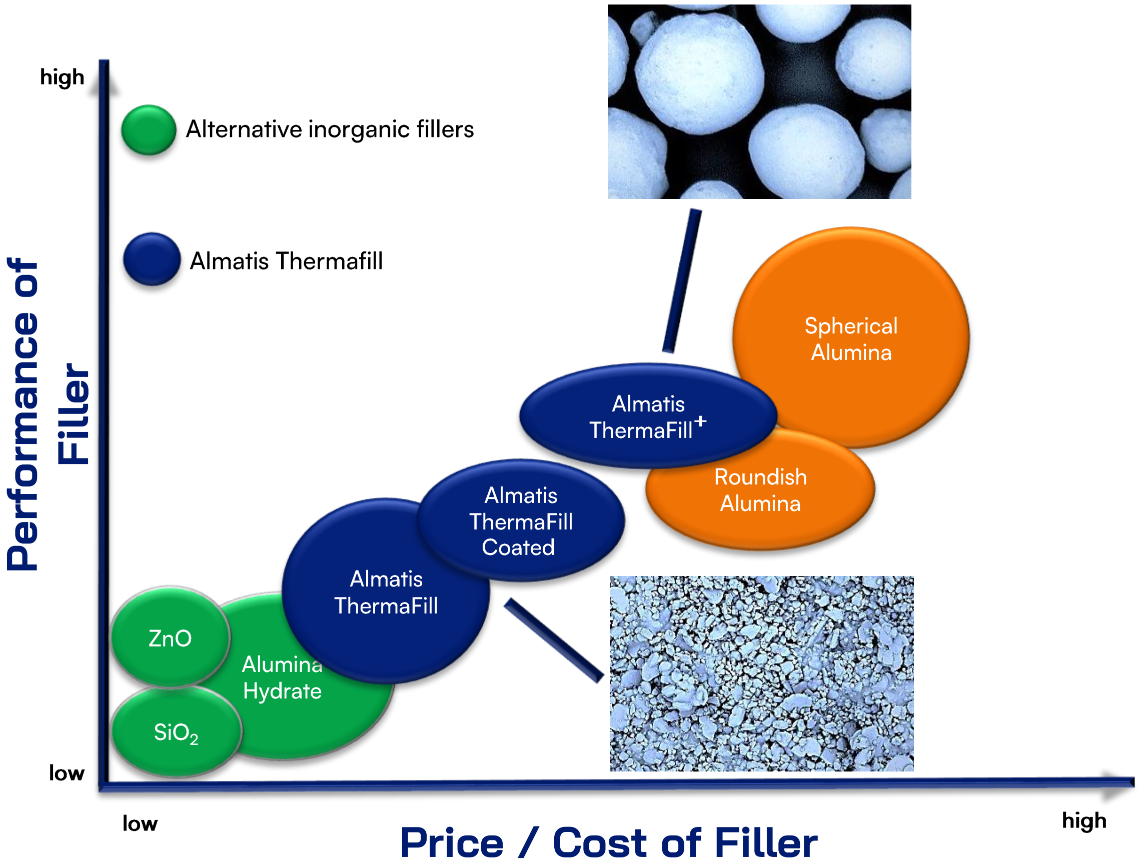
Aluminas for Thermal Interface Materials



Aluminas for Thermal Interface Materials

ThermaFill-Series

ThermaFill products are specially designed alumina fillers to yield higher performance in thermal interface applications. Alumina fillers provide a high value/cost option to increase thermal conductivity in polymer systems such as silicone, epoxy and more. The lower viscosity and higher packing efficiency with ThermaFill products allows a higher filler loading and the potential to increase thermal conductivity further.

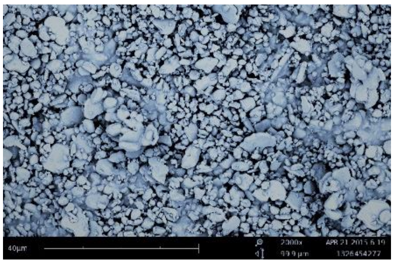


Aluminas for Thermal Interface Materials

ThermaFill-Series

ThermaFill products are the economic solution for basic functional filler applications.

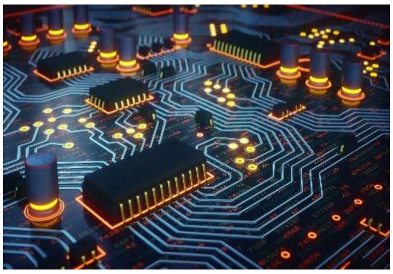
The ThermaFill product series is available as a surface treated version, which enables the user to increase the solids loading in compounds for optimized thermal conductivity. There are solutions for Epoxy (E), Silicone (S) and Polyurethane (P) available, which are labeled with a suffix accordingly.



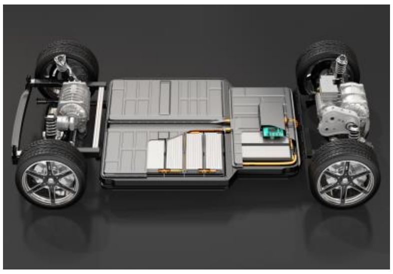
SEM Image: ThermaFill 5

		ThermaFill									
Chemical Composition	**Unit**	**15**	**10**	**9**	**8**	**7**	**5**	**4**	**3**	**2**	**1**
Al_2O_3 Typical	[%]	99.7	99.5	99.7	99.5	99.5	99.7	99.7	99.7	99.7	99.7
Na_2O Typical	[%]	0.08	0.4	0.03	0.1	0.3	0.08	0.1	0.1	0.08	0.08
Particle Size Distribution											
		Mono-modal	Mono-modal	Mono-modal	Mono-modal	Mono-modal	Mono-modal	Mono-modal	Bi-modal	Mono-modal	Mono-modal
D50 Typical*	[µm]	15	10	9	8	7	4	3	3	1.2	0.5
> 45 µm / 325 mesh	[%]	≤ 10	≤ 5	≤ 5	≤ 5	≤ 1.5	≤ 0.3	≤ 0.1	≤ 0.1		
> 20 µm / 635 mesh	[%]						≤ 3			≤ 1	≤ 1
Properties / Method											
Specific Surface Area BET Typical	[m^2/g]	0.4	0.8	0.8	0.5	1.2	0.9	2	3	3	7

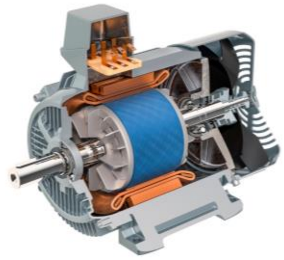
All data are based upon Almatis standard test methods and published as typical or range limits. All test methods are available upon request.
* Laser granulometry Bettersizer S3 Almatis global standard



APPLICATION: Electronics



APPLICATION: potting materials for battery packs



APPLICATION: Encapsulation for electric motors

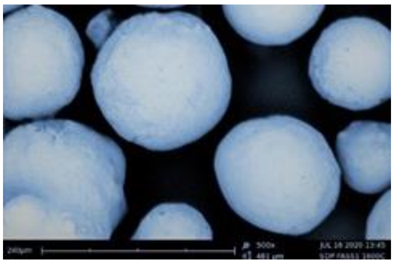
Provisional Global Product Data

ALMATIS

Aluminas for Thermal Interface Materials

ThermaFill^{+}

ThermaFill^{+} is used as an alumina filler designed to yield a higher performance in polymer resin systems, such as silicone, epoxy, etc., for heat dissipation applications. The higher packing efficiency of ThermaFill^{+} compared to standard aluminas allows for a higher filler loading and lower viscosity of the filled resin, offering the potential to significantly increase the thermal conductivity. ThermaFill^{+} provides a cost efficient, high value solution for thermal interface materials.
ThermaFill^{+} is available as a surface treated version, including Epoxy (E), Silicone (S) and Polyurethane (P), which are labeled with a suffix accordingly.



SEM image: ThermaFill^{+}

ThermaFill^{+} 80		
Chemical Composition	Unit	Typical
Al_2O_3 Content	[%]	99.7
Na_2O	[%]	0.01
Particle Size Distribution		
		Mono-modal
D50 Typical*	[µm]	75
> 200 µm / 74 mesh	[%]	0.1
< 45 µm / 325 mesh	[%]	10
Properties / Method		
Specific Surface Area BET Typical	[m²/g]	0.25

The typical properties are based upon the actual averages from production data.
All data are based upon Almatis standard test methods. All test methods are available upon request.
* Laser granulometry Bettersizer S3 Almatis global standard

APPLICATION: Electronics

APPLICATION: Telecommunication

APPLICATION: EV Mobility

Standard Packaging

- 25 kg paper bags
- 1000 kg big bags

Contact for sales, technical information and application assistance

Head Office
Almatis GmbH
Lyoner Straße 9
60528 Frankfurt/Germany

info@almatis.com
www.almatis.com

SDS 387