

AKM - Microporous™ Products

Description

AKM-Microporous™ products are characterized by their much lower thermal conductivity values compared to other insulating materials. With their thermal conductivity values between 0.021 and 0.042 W/m.K and extraordinary insulating capability, they provide better insulation even than the stable air. They do not contain harmful additives for the environment and human health.

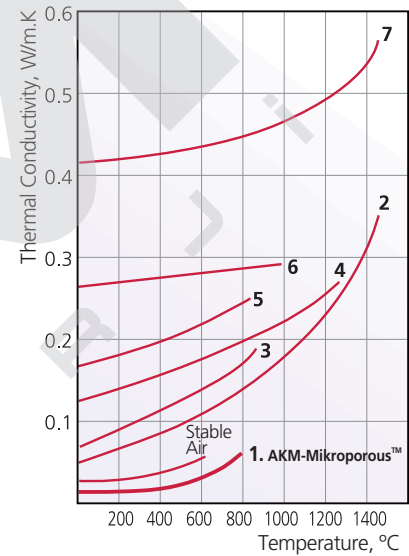
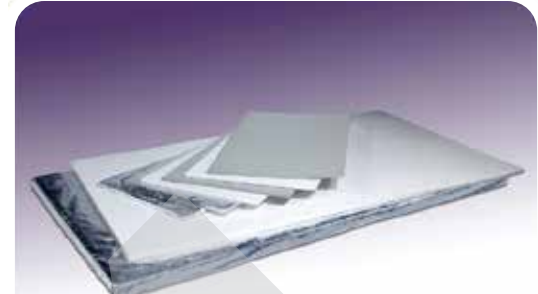
Easy flexibility of AKM-Microporous™ boards allows shorter application time and lower break risks. They also allow continuous application on the irregular surfaces and, in turn, minimum heat loss.

Thanks to their high insulating performance, the products provide noticeable thinner insulating thickness. They are resistant to the thermal shocks and have high compressive and vibration strength. Furthermore, they represent volume and dimensional stability at high temperatures.

AKM-Microporous™ boards that are coated by PE (polyethylene) foil provides protection against water during the installation process. Additionally, these products may also be supplied as coated by aluminium foil, glass fibre cloth, silica cloth or ceramic/soluble fiber paper optionally depending on the application place.

Applications

- Crucibles and tundishes in the iron-steel industry.
- Arc and induction furnaces.
- Blast furnaces.
- Runner back-up insulation and liquid metal ladles in the nonferrous metal industry.
- Pipe and chimney insulations.
- Industrial furnaces.
- Fire protection.
- Domestic appliances.



No	1	2	3	4	5	6	7
Material	AKM Microporous™	Ceramic Fibre Board	Ca-Si Board	Lightweight Insulating Brick	Vermiculite Board	Lightweight Insulating Castable	Insulating Brick
Density, kg/m ³	300	250	250	500	400	800	1040

Comparison of various insulating materials and AKM-Microporous™ product in terms of thermal conductivity values



Microbifire® 1100 HT

Classification Temperature: -70 / +1100 °C

Surface Coating Options:

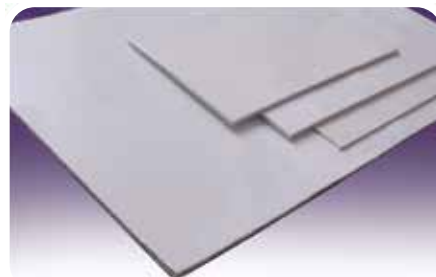
- Uncoated (rigid board).
- One-side coated by aluminium foil.
- Double side coated by aluminium foil.
- Completely coated by aluminium foil.
- Completely coated by polyethylene.

Microbifire® 1000

Classification Temperature: -70 / +1100 °C

Surface Coating Options:

- Uncoated (rigid board).
- One-side coated by aluminium foil.
- Double side coated by aluminium foil.
- Completely coated by aluminium foil.
- Completely coated by polyethylene.

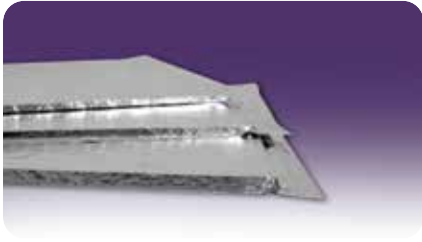


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Microbifire® Slatted

Microbifire Slatted products are the versions of Microbifire 1000 and Microbifire 1100 HT products which are slatted and completely coated by aluminium foil. With its slatted structure, it allows easy application on the different geometrical (especially those with round contours) surfaces.



Microflexibifire® 1100 HT

This product is the flexible version of Microbifire 1100 HT as coated by high temperature resistant cloth. Due to its structure, it can be easily applied to the curved surfaces.



Vacunanex® HT 1100

Vacunanex® HT 1100 is a microporous product produced under vacuum as coated by aluminium foil, flexible, break-resistant, not spreading dust and having low tensile strength. As it maintains its original form at high temperatures, it is ideal for crucible, tundish, back-up insulation applications, etc.

Vacunanex®

Produced under vacuum as coated by aluminium foil, Vacunanex® is a type of material specially developed for applications which do not require high temperature. With its thermal conductivity value of 0.0045 W/m.K, it is successfully used for building and domestic appliance insulations.

Product Type	Microbifire® 1000	Microbifire® 1100 HT	Vacunanex®	Vacunanex® HT 1100
Classification Temperature, °C	-70 / +1000	-70 / +1100	-70 / +80	-70 / +1100
Density, kg/m ³	270	300	100-300	300
Specific Heat, kJ/kg.N	1,05	1,05	1,05	1,05
Permanent Linear Shrinkage, %				
800 °C	1.4	0.8	-	0.8
900 °C	1.7	0.9	-	0.9
1000 °C	1.9	1.8	-	1.8
1100 °C	-	2.0	-	2.0
Thermal Conductivity, W/m.K				
10 °C	-	-	0.0045	-
20 °C	-	-	0.0050	-
100 °C	0.022	0.022	-	0,022
200 °C	0.023	0.023	-	0,023
300 °C	0.024	0.025	-	0,025
400 °C	0.025	0.028	-	0,028
500 °C	0.027	0.030	-	0,030
600 °C	0.030	0.034	-	0,034
700 °C	0.034	0.038	-	0,038
800 °C	-	0.042	-	0,042
*Thickness, mm	5-7-10-15-20-25-30-35-40-45-50		10-12-15-20-25-30	13-36
*Size, mm	1000x500-1020x610-1000x600-500x300		1000x500 1000x600	1000x500 1000x600

*Special sizes may also be produced according to the request and quantity.

The values given herein are typical average values obtained in accordance with standard test methods and subject to normal manufacturing variations. They are supplied as technical data and may change without notice. Contact our company to obtain detailed information.