Microporous insulating board

SILCAPOR

Ultra 950, Shape 950, High 1050, FP 1050

SILCAPOR is a light microporous insulating material for back-up insulation with extremely good thermal insulation properties. SILCAPOR are inorganic boards on the basis of highly dispersed amorphous silica with special infrared opacifier. SILCAPOR is non-flammable and available with different laminations of aluminium foil or glass fibre fleece.

SILCAPOR Shape 950 is a microporous insulation material with an extremely low coefficient of thermal conductivity, i. e. with very good insulation properties.

SILCAPOR Ultra 950 and **SILCAPOR High 1050** are rigid boards. For the protection of the microporous structure they are available with different coatings (PE foil, aluminium foil, glass fibre fleece). Besides the dust-free handling depending on the variant there is an additional protection against humidity.

SILCAPOR-FP 1050 is a thin, flexible board. The coating with bio-soluble felt (thickness of approx. 0,5 mm) on both sides as well as the standard cover with PE foil ensure an easy and dust-free handling.

The fibres used for mechanical strengthening are not respirable according to the definition of the WHO. **SILCAPOR** is no dangerous good according to Regulation (EC) No. 1907/2006, it does not release any hazardous decomposition products an does not cause any health risk for human beings according to current knowledge.

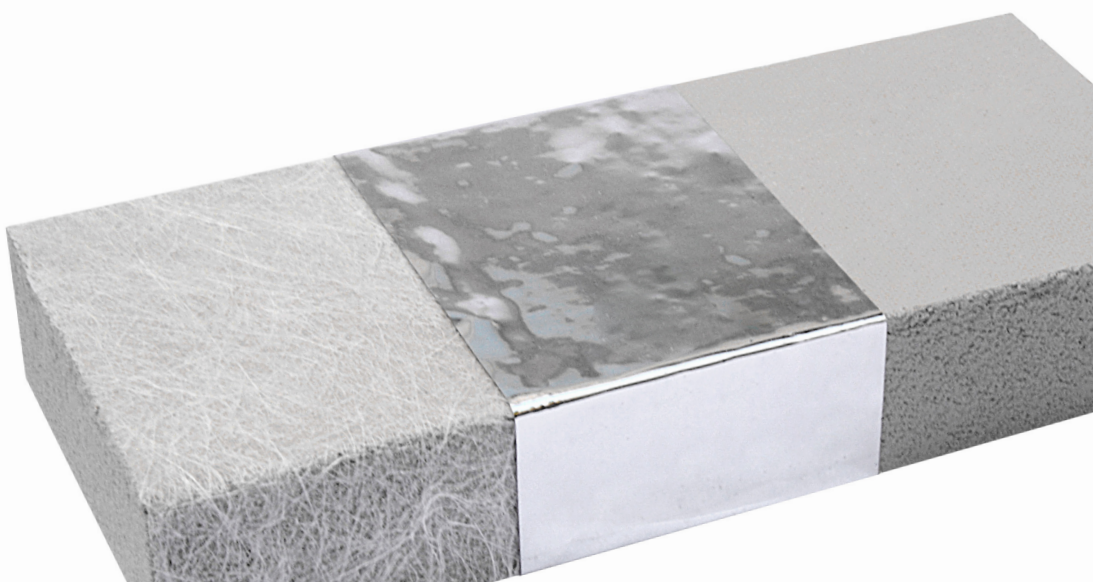
Wetting with liquids e.g. water, oil, petrol etc. irreversibly destroys the microporous structure of the material and has a negative impact on the thermal conductivity. Suitable surface treatment or lamination with aluminium foil prevents or clearly reduces the penetration of liquids. However, vapour diffusions do not produce any negative impacts since the insulating material is diffusion-stable.

SILCAPOR is to be stored and processed in dry surroundings and has an unlimited shelf life.

SPECIAL FEATURES

- microporous
- extremely good thermal insulation properties
- light
- low thermal shrinkage
- availability of different surface laminations
- dimensionally stable
- flexible (SILCAPOR-FP 1050)
- good for processing
- resistant against thermal and cold shocks

Reduction of energy and lining costs in thermal engineering plants: We will be pleased to inform you about the thermal and economic advantages in combination with our calcium silicates SILCAL and MICROCAL®.



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Processing

The boards can be processed with standard woodworking tools, preferably with cutters with smooth polish. We recommend an adequate dust extraction system. We have our own outstandingly equipped machining workshop. On modern, computer-operated machines we manufacture tailor-made parts according to your specifications.

Material description	Method	Unit		SILCAPOR Ultra 950	SILCAPOR Shape 950
Upper temperature limit of application		°C		950	950
Colour				grey	white
Bulk density		kg/m³		200-250	300-350
Flammability properties	DIN EN 13501-1			A1	
Cold-pressure resistance	ASTM C165	MPa		0,417	0,342
Hot-pressure resistance	ASTM C165	MPa	600 °C	0,71	0,56
Linear shrinkage after 12 h (unilateral temperature loading)		%	1000 °C	0,6	0,4
Linear shrinkage after 24 h (temperature loading from all sides)		%		1,1 (900 °C) 1,4 (950 °C)	1,1 (950 °C) 2,0 (1000 °C)
Thermal conductivity λ at t_m	ASTM C177	W/(m K)	23 °C 100 °C 200 °C 400 °C 600 °C 800 °C	- - 0,022 0,027 0,034 0,044	- 0,022 0,025 0,031 0,037 0,042
Typical chemical analysis		% % % %	SiO_2 SiC $ZrSiO_4$ other	80 15 - 5	50 - 45 5
Standard dimensions		mm		1.000x650	
Standard thicknesses		mm		10/15/20/25/30/35/40/45/50	
Further thicknesses and dimensions are available on request.					

The properties indicated are typical values obtained in serial testing and determined by acknowledged test methods. Product specific spreading of results should be taken into account. The indications do not represent guaranteed properties and cannot be used for any warranty claim. Subject to technical modifications.

silca refractory solutions

SILCA Service- und Vertriebsgesellschaft für Dämmstoffe mbH
Postfach 20 02 65, 40811 Mettmann | Auf dem Hüls 6, 40822 Mettmann
Telefon: +49 2104 9727-0 | Fax: +49 2104 76902 | info@silca-online.de | www.silca-online.de

SILCAPOR

Ultra 950, Shape 950, High 1050, FP 1050

Material description	Method	Unit		SILCAPOR High 1050	SILCAPOR-FP 1050
Upper temperature limit of application		°C		1000	1050
Colour				white	white
Bulk density		kg/m³		250-310	280-350
Flammability properties	DIN EN 13501-1			A1	
Cold-pressure resistance	ASTM C165	MPa		0,939	0,607
Hot-pressure resistance	ASTM C165	MPa	600 °C	1,3	-
Linear shrinkage after 12 h (unilateral temperature load)		%	1000 °C	0,6	0,6
Linear shrinkage after 24 h (temperature load from all sides)		%		1,1 (900 °C) 1,4 (950 °C)	1,1 (950 °C) 2,0 (1000 °C)
Thermal conductivity λ at t_m	ASTM C177	W/(m K)	23 °C 50 °C 200 °C 400 °C 600 °C 800 °C	- < 0,022 0,022 0,030 0,043 0,060	0,022 - 0,023 0,027 0,034 0,046
Typical chemical analysis		% % % %	SiO_2 SiC $ZrSiO_4$ other	50 - 45 5	50 - 45 5
Standard dimensions		mm		1.000x600	500x600 / 1.000x600
Standard thicknesses		mm		10/15/20/25/30/ 35/40/45/50	5/10

The properties indicated are typical values obtained in serial testing and determined by acknowledged test methods. Product specific spreading of results should be taken into account. The indications do not represent guaranteed properties and cannot be used for any warranty claim. Subject to technical modifications.

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