Microporous insulation boards

SILCAPOR

Ultra 950, Shape 950, FP 1050

SILCAPOR is a lightweigth microporous insulation 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 opacifiers. **SILCAPOR** is non-flammable and available with different laminations of aluminium foil or glass fibre fleece.

SILCAPOR Ultra 950 and **Shape** are rigid boards. For the protection of the microporous structure these 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 not a hazardous material according to Regulation (EC) No. 1907/2006, it does not release any hazardous decomposition products and does not represent a 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 insulation material is diffusion-stable.

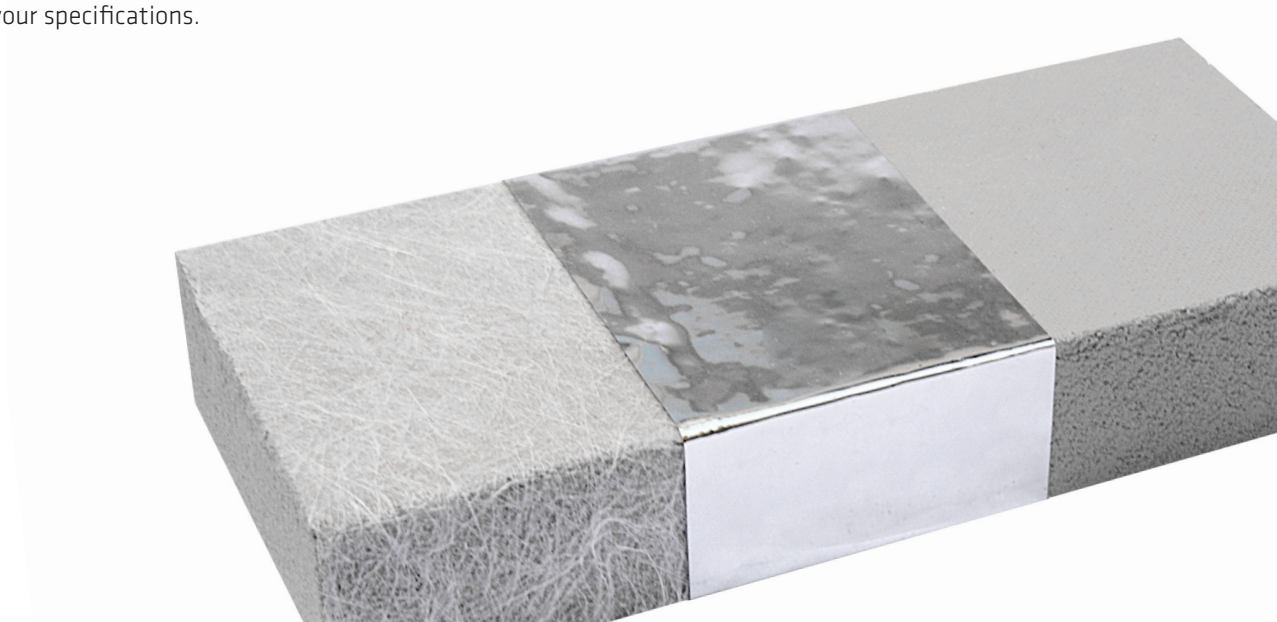
SILCAPOR is to be stored and processed in dry surroundings and has an unlimited shelf life.

Processing

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

SPECIAL FEATURES

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



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Ultra 950, Shape 950, FP 1050

SILCAPOR		Unit	Ultra 950	Shape 950	FP 1050
Upper temperature limit of application		°C	950	950	1.050
Colour			Grey	White	White
Bulk density		kg/m³	230	325	375
Compression strength (ASTM C165)		MPa	> 0.38	> 0.34	0.94
Linear shrinkage after 12 h	800 °C	%	-	-	-
(unilateral temperature loading)	1,000 °C		-	< 1.0	< 1.0
Linear shrinkage after 24 h	950 °C	%	< 2.0	< 3.0	-
(temperature loading from all sides)	1,000 °C		-	< 4.5	< 4.0
Thermal conductivity λ at t_m	200 °C	W/(m K)	0.022	0.025	0.022
	400 °C		0.027	0.031	0.027
	600 °C		0.034	0.037	0.034
ASTM C177	800 °C		0.044	0.042	0.046
Specific heat capacity	400 °C	kJ/(kg K)	-	-	0.94
Typical chemical analysis	SiO_2	%	75 - 85	40 - 60	55 - 75
	SiC		12 - 20	-	-
	$ZrSiO_4$		-	35 - 55	20 - 40
	other		3 - 10	0 - 5	0 - 3
Loss of Ignition		%	< 1.5	-	
Dimensions			X = available, other dimensions are available on request.		
Length x width					
500 x 600		mm	-	-	X
1,000 x 600		mm	-	-	X
1,000 x 650		mm	X	X	-
1,320 x 650		mm	X	-	-
Thickness					
10/12/15/17/20/25/30/35/40/45/50		mm	X	X	-
5/10		mm	-	-	X

The properties mentioned are typical values obtained according to the listed methods. Product variations have to be taken into account. The data do not represent guaranteed properties and cannot be used for any warranty claim. Data are subject to technical modifications.

silca refractory solutions

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