



SKAMOLEX customized lining solutions

Vermiculite insulating panels and shapes – up to 1150°C (2102°F)

Description

SKAMOLEX customized lining solutions include a large variety of specialized and versatile, highly insulating refractory panels and shapes made from vermiculite containing no ceramic fibres.

Designed to meet specific customer requirements, SKAMOLEX panels and shapes are ideally suited for insulation of heating and hearth appliances such as night storage heaters, stoves, gasfires, fireplaces, domestic boilers, and various cooking appliances. The products are also used for back-up or hot-face insulation in industrial kilns and furnaces providing tailor-made shapes to match individual construction designs.

SKAMOLEX customized shapes and panels can be made with surface patterns to meet special design requirements. The applied precision-moulding technique makes it possible to produce complex designs with two-dimensional effects.

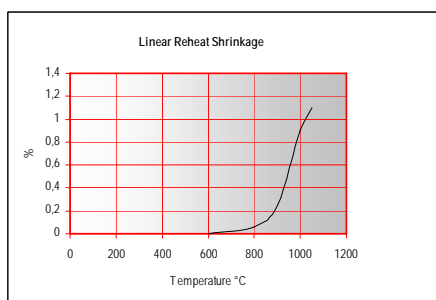
The SKAMOLEX Panel Designs – a new panel concept for lining gasfires and stoves – is now available. It includes a range of six textures ranging from traditional masonry look to three completely new designs matching current trends of today's gasfires and stoves. For easy installation the panels are customized to fit the specific firebox. Please see separate literature on "SKAMOLEX Panel Designs".

SKAMOLEX shapes and panels

SKAMOLEX vermiculite shapes and panels are available in various combinations of bulk density, insulation properties and compressive strength. SKAMOLEX customized shapes are available in densities ranging from 450 kg/m³ (28 lbs/cu.ft.) to 800 kg/m³ (50 lbs/cu.ft.). The standard grades - identified by density - include:

- V-1100 (475)
- V-1100 (600)
- V-1100 (700)
- V-1100 (800)

Other densities are made upon request. A high-density grade VIP-12 is available for special applications demanding high mechanical strength, however in plain slab form only.



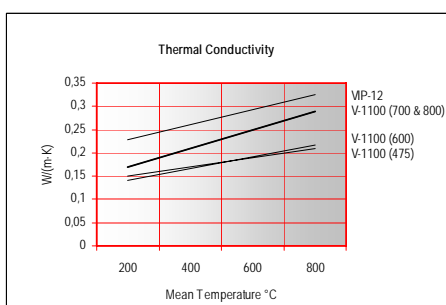
From nature the vermiculite products are beige coloured. SKAMOLEX Panel Designs, however, are offered in black as well (surface coating).

Applications

Due to their excellent resistance to high temperatures, thermal shock and direct flame impingement as well as their good electrical resistivity and low linear reheat shrinkage SKAMOLEX customized shapes are ideal insulation of heating and hearth appliances such as:

- Night storage heaters
- Gasfires, fireplaces and stoves
- Boilers, oil-, gas- or solid fuel-fired
- Various cooking appliances

The SKAMOLEX products are non-irritant, odourless and clean to handle. Non-dusting surfaces, clean edges and close dimensional tolerances provide easy installation and clean working conditions. For all grades the product composition allows for easy cutting and shaping using ordinary woodworking tools.



Night storage heaters

In night storage heaters the SKAMOLEX moulded shapes are ideally suited as side, top and bottom insulation. Shapes are designed individually to match specific customer requirements and are made to fit perfectly into cabinets thus providing easy installation.



Photo: Stiebel Eltron GmbH Germany: Night storage heater ETS series lined with SKAMOLEX customized shapes.

Gasfires, fireplaces, and stoves

SKAMOLEX customized shapes and SKAMOLEX Panel Designs are ideally suited for lining gasfires, fireplaces and stoves or as heat protection shielding.

Special and unique shapes can be made with various surface patterns matching special design and construction requirements. The choice of density and thickness will depend on the specific geometry and the requirements of strength. In each case Skamol will guide you with choice of lining solution and assist with proposed construction of the firebox lining, optimizing of material requirements, and heat calculations. The SKAMOLEX shapes or panels are made according to your drawings.



Photo: Fireplace Products International, Inc. Canada. Regency Panorama P33 Gas Fireplace featuring optional gold louvers lined with SKAMOLEX Panel Design, "Cleaved sandstone".

In addition to being an excellent reflector the application of SKAMOLEX vermiculite products has proved to be an important factor in improving combustion efficiency in certain modern types of stoves, resulting in higher purity of flue gases.

Boilers

The combination of good thermal values, high strength and the accuracy of the precision-moulding technique make SKAMOLEX vermiculite shapes well suited for insulation of combustion chambers in domestic boilers. Due to their resistance to flame impingement vermiculite shapes are also used as flame projectors.

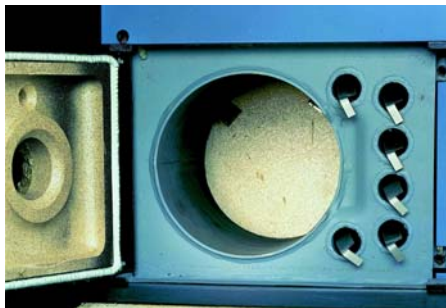


Photo: Baxi A/S, Denmark: Boiler lined with SKAMOLEX customized shapes.

Cooking appliances

SKAMOLEX vermiculite shapes or panels can be used in a wide range of cooking appliances as insulation of for instance heating elements around hotplates, in ovens and in deep fryers as well as for protecting regulating controls.

What is vermiculite?

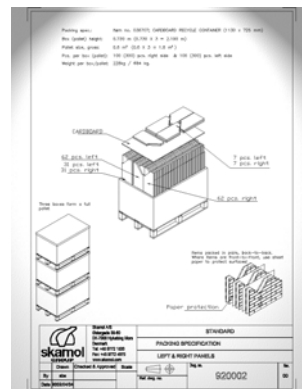
The SKAMOLEX customized shapes and panels are made from exfoliated vermiculite having excellent insulating properties. Vermiculite is the geological name given to a group of hydrated laminar minerals, which are aluminium-iron magnesium silicates. When subjected to sudden, intense heat vermiculite has the unique property of exfoliating.

Packing

SKAMOLEX panels and shapes are securely packed on a pallet or in special boxes to protect the items during transportation. For easy installation the SKAMOLEX panels and shapes can be packed as kits in logical order.

Quality assurance

Maintaining a high quality in every business process is important to us. All phases of production are constantly supervised, and we are continuously dedicated to improving our quality standards. Skamol A/S is certified according to DS/EN ISO 9001.



Example: Packing specification for SKAMOLEX Panel Designs.

Benefits

The versatility in shape and design gives you a multitude of high quality, customized lining solutions to choose from. Dimensional accuracy and smooth, dust-free surfaces of the products enable easy handling and installation. Combined with the high-temperature resistance this makes the range of SKAMOLEX customized shapes and panels the obvious choice when you require an efficient and environmentally friendly solution.

Product data

Please refer to individual data sheets on V-1100 grades.



SKAMOLEX Customized Lining Solutions

Vermiculite insulating panels and shapes - up to 1100°C (2012°F)



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Grade		V-1100 (475)	V-1100 (600)	V-1100 (700)	
Maximum service temperature					
	°C	1100	1100	1100	
	°F	2012	2012	2012	
Bulk density, dry					
	kg/m ³	475	600	700	
	lbs/cu.ft.	29.6	37.5	43.8	
Compressive strength (EN 1094-5: 1995)					
@ room temperature	MPa	2.5	4.2	4.5	
	lbs/sq.in.	363	609	653	
Modulus of rupture (EN 993-6: 1995)					
	MPa	0.8	1.6	2.0	
	lbs/sq.in.	116	232	290	
Specific heat					
	kJ/(kg×K)	0.94	0.94	0.94	
	BTU/(lb×°F)	0.224	0.224	0.224	
Linear reheat shrinkage (EN 1094-6: 1999)					
12 h at 1000°C (1832°F)	%	1.0	1.0	1.1	
Thermal conductivity (ASTM C-182)					
mean temp.	@ 200°C	W/(m×K)	0.14	0.16	0.19
	@ 400°C		0.17	0.18	0.20
	@ 600°C		0.19	0.20	0.21
	@ 800°C		-	-	-
	@ 392°F	BTU/(sq.ft.×h×°F/in)	0.97	1.11	1.28
	@ 752°F		1.18	1.21	1.35
	@ 1112°F		1.32	1.35	1.42
	@ 1472°F				
Colour		SAND	SAND	SAND	

Data are average results of tests conducted under standard procedures and are subject to variation. Data contained in this data sheet are supplied in good faith as a technical service and are subject to change without notice. Misprint and errors excepted.

February 2009