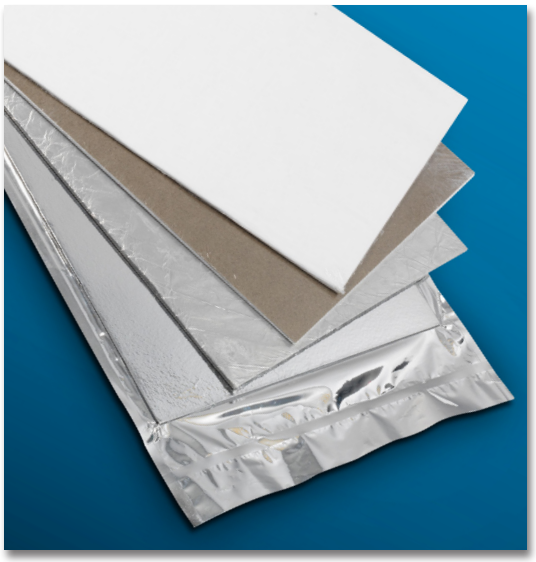
STEELFLEX®



High temperature microporous insulation

STEELFLEX® panels are specially designed for steel industry and other hot metal applications. The flexible microporous insulation panels have very good thermal and mechanical properties. The formulation is an opacified blend of filament reinforced pyrogenic silica (alumina for 1200 grade).

The product range consists of three temperature grades, all available in different covering types. All coverings are water repellent to ensure the stability of the microporous core when moisture might occur due to castables, mortar, …

STEELFLEX®–1000X has superior thermal conductivity values and can resist continuous temperatures up to 1000 °C.

STEELFLEX®–1100 offers excellent compressive strength and withstands peak temperatures of 1100 °C.

STEELFLEX®–1200 is an alumina based insulation product and is capable of withstanding peak temperatures of 1200 °C.

M-series. As an option, a reinforcement mica layer can be applied on one side (hot face). This M-series increases the strength of the panel while also adding to the handling and durability.

Technical data				
Grade		**-1000X**	**-1100**	**-1200**
Standard finishing		PE foil – ALU6 (6 sides) – LV (light vacuum)		
Additional protection option		Mica		
Classification temperature	°C	1000	1100	1200
Nominal density	kg/m³	360	430	450
Compressive strength (ASTM C165)	MPa = N/mm²	0.77	1.02	0.54
Thermal conductivity (ISO 8302, ASTM C177)				
200 °C	W/m K	0.023	0.032	0.029
400 °C	W/m K	0.026	0.038	0.033
600 °C	W/m K	0.030	0.049	0.039
800 °C	W/m K	0.036	0.064	0.044
Specific heat capacity				
200 °C	kJ/kg K	0.86	0.91	0.89
400 °C	kJ/kg K	0.96	1.00	0.99
600 °C	kJ/kg K	1.03	1.05	1.04
800 °C	kJ/kg K	1.07	1.10	1.07
Shrinkage				
1-sided 12h – 1000 °C	%	< 0.5	< 0.5	< 0.05
Full soak 24h –1000 °C	%	< 3	< 1	< 0.1
Full soak 24h –1100 °C	%	–	< 3	< 0.2
Full soak 24h –1150 °C	%	–	–	< 3

Delivery sizes		
The STEELFLEX® range is available in 5 sizes and 3 thicknesses.		
Length	mm	250 / 300 / 500 / 750 / 1000
Width	mm	360
Thickness	mm	5 / 7 / 10
Note: Thickness 10 mm not available for STEELFLEX®-1100.		

Production tolerances				
Grade		**-1000X**	**-1100**	**-1200**
Length	mm		± 3	
Width	mm		± 8	
Thickness	mm	± 0.5	± 1.0	± 0.5

STEELFLEX®

Properties & advantages

- Extremely low thermal conductivity
- High thermal stability
- Available in various temperature grades
- Different water repellent covering types
- High compressive strength
- Non-combustible
- Easy to handle
- No harmful respirable fibres
- Environmentally friendly, free of organic binders
- Resistant to most chemicals

Application areas

Microporous insulation offers an extremely low thermal conductivity, close to the lowest theoretically possible at high temperatures. Microporous materials are the preferred choice when a large temperature reduction is required within a limited space, or when strict heat loss or surface temperature requirements are specified.

HEAVY INDUSTRY

- Ladles
- Torpedo cars
- Tundish
- EAF (Electric Arc Furnace)
- Degassers

Steel industry drivers

Our years of experience in the steel industry and the close collaboration with our customers have repeatedly demonstrated the clear benefits of the use of microporous materials.

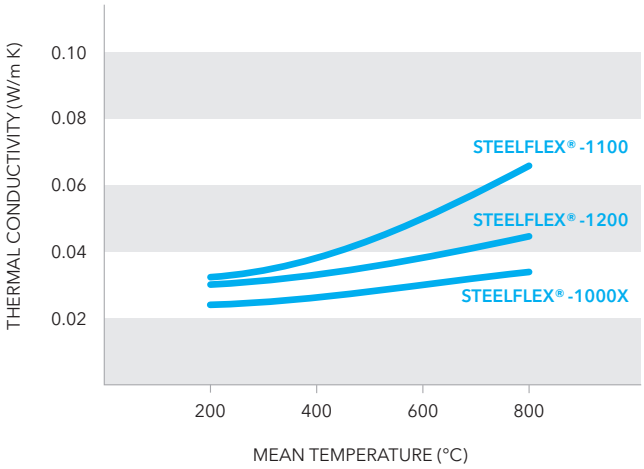
- Safety
- Reduction of heat loss and energy cost
- Reduction of ladle shell temperature
- Increasing capacity
- Increasing of holding times
- Reduce or avoid reheating
- Reduction of TCO (Total Cost of Ownership)

Working & processing

STEELFLEX® panels can be shaped easily with a simple cutter and taped off with aluminium tape. The panels can be fixed in place with the same adhesives that are used for the refractory lining.

Water repellent covering types			
Grade	PE foil	ALU6 (6 sides)	LV (light vacuum barrier foil)
1000X	✓	✓	✓
1100	✓	✓	✓
1200	✓	✓	✓
1000X M	✓	×	×

Thermal conductivity



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