

STEEFLEX® panels are specially designed for steel industry & 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, ...

**STEEFLEX®-1000X** has superior thermal conductivity values and can resist continuous temperatures up to 1000°C.

**STEEFLEX®-1100** offers excellent compressive strength and withstands peak temperatures of 1100°C.

**STEEFLEX®-1200** is an alumina based insulation product and is capable of withstanding peak temperatures of 1200°C.

STEEFLEX®		Water repellent covering types		
		PE foil	ALU6 (6 sides)	LV (light vacuum barrier foil)
Grades	1000X	✓	✓	✓
	1100	✓	✓	✓
	1200	✓	✓	✓
	1000X M	✓	✗	✗
	1100 M	✓	✗	✗
	1200 M	✓	✗	✗

**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.

### 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



### Typical applications

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.

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

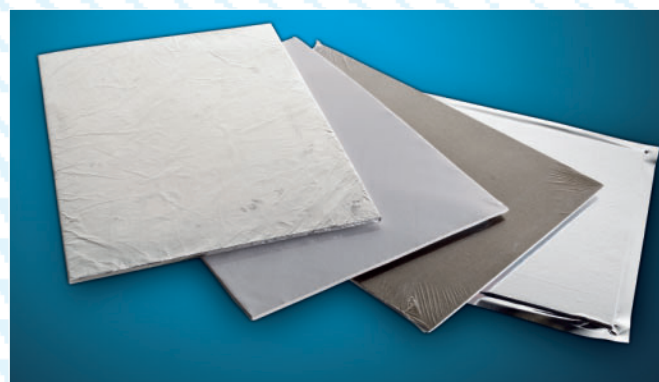
### Steel industry drivers

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

STEEFLEX® 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.

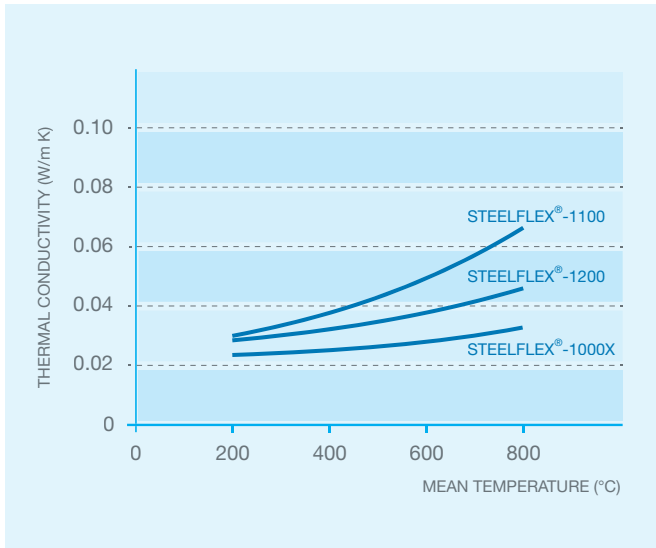




## Technical data

Brand		STEELFLEX®			
Grade		1000X	1100	1200	
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 C 165)		MPa = N/mm²	0.77	1.02	0.54
Thermal conductivity (ISO 8302, ASTM C177)					
	200°C mean	W/m.K	0.023	0.032	0.029
	400°C mean	W/m.K	0.026	0.038	0.033
	600°C mean	W/m.K	0.030	0.049	0.039
	800°C mean	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 @1050°C	%	-	< 3	< 0.2
	Full soak 24h @1150°C	%	-	-	< 3

## Thermal conductivity graph



## Product dimensions & standard sizes

The STEELFLEX® range is available in 5 sizes and 3 thicknesses.

Length [mm]	Width [mm]	Thickness [mm]
250	360	5 – 7 – 10
300	360	5 – 7 – 10
500	360	5 – 7 – 10
750	360	5 – 7 – 10
1000	360	5 – 7 – 10

Note: Thickness 10mm not available for STEELFLEX®-1100.

## Production tolerances

Length [mm]	± 3
Width [mm]	± 8
Thickness [mm]	± 0.5