



*Start saving energy now.  
Contact your local distributor.*

**Unifrax Ltd.**

T:+44 (0)1744 88 7600

F:+44 (0)1744 88 9916

[www.unifrax.com](http://www.unifrax.com)

## DESCRIPTION

Silplate products are manufactured using Fiberfrax refractory ceramic fibres blended with specially selected binders to provide structural insulation boards with revolutionary characteristics. This unique product form is able to withstand elevated temperatures under high compressive loads, while still maintaining low thermal conductivity. The physical properties of Silplate are maintained when subject to high working temperatures. When used in molten metal transport equipment Silplate provides a lower casing temperature, a reduction of joint attacks in the working lining bricks, higher operational safety with significant energy savings, plus an increase in capacity volume and assures greater stability to the whole lining system.

## GENERAL CHARACTERISTICS

Silplate has the following outstanding characteristics:

- High temperature and dimensional stability
- Low thermal conductivity
- Resistance to thermal shock
- Excellent flexural and hot compressive strength
- Superior resistance to molten metal attack

## TYPICAL APPLICATIONS

- Steel transport ladles
- Torpedo cars
- Blast furnace trough runners
- Tundish linings
- E.A.F's (Electric Arc Furnace)
- Iron transport ladles

Any new and/or special use of these products, whether or not in an application listed in our literature, must be submitted to our technical department for their prior written approval.

## PRODUCT RANGE

Silplate 1108 is a medium density structural insulation board with low thermal conductivity and good strength characteristics at both ambient and elevated temperatures.

Silplate 1112 exhibits higher density, medium thermal conductivity and superior strength, particularly, hot compressive strength.

Silplate 1308 offers the highest continuous temperature resistance combined with low thermal conductivity and excellent compression resistance at elevated temperatures.

All grades within the Silplate product group combine high temperature resistance, hot compressive strength and good insulating characteristics making them ideally suited for various demanding applications.

## TYPICAL PRODUCT PARAMETERS

Silplate	1108	1112	1308
<b>Typical Chemical Analysis (wt.%)</b>			
SiO <sub>2</sub>	67.0 - 73.0	66.0 - 69.0	48.0 - 54.0
Al <sub>2</sub> O <sub>3</sub>	26.0 - 31.0	29.0 - 33.0	48.0 - 53.0
Fe <sub>2</sub> O <sub>3</sub>	<0.1	<0.1	<0.1
CaO + MgO	<0.6	<0.6	<0.6
Alkalis	<0.5	<0.5	<0.5
<b>Physical Properties</b>			
Colour	White	White	Green
Product Density (kg/m <sup>3</sup> )	800	950	800
Modulus of Rupture (MPa)	1.5	8.0	2.6
Compressive Strength (MPa) as received	>7.8	>9.8	>7.8
Hot Compressive Strength (MPa) @500°C	18.6	37.2	32.0
Use Limit (°C) *	1100	1100	1340
Loss on Ignition (wt.%)	<0.5	<0.5	<0.5
<b>Thermal Conductivity (W/mK)</b>			
<b>Mean Temp.</b>			
400 °C	0.16	0.29	
600 °C	0.19	0.35	0.19
800 °C	0.20	0.39	0.21
1000 °C	0.22	0.44	0.23
1200 °C			0.25
<b>Permanent Linear Shrinkage (%) 24 Hour Soak</b>			
1100 °C	<3.6	<3.3	-
1340 °C	-	-	<3.1

\*The maximum continuous limit temperature for these products depends upon application conditions. For certain applications operational temperature limits may be significantly reduced. For assistance or clarification please contact your nearest Unifrax Engineering office. Where appropriate Physical Properties data measured according to EN 1094-1.

## AVAILABILITY

Maximum board size is 1000 x 400mm. Other sizes, rectangular or tapered, are available to suit the application and equipment requirements. Thickness from 6 up to 50mm. Please contact your nearest sales/engineering office for application advice and a detailed technical solution incorporating Silplate.

## HANDLING INFORMATION

A Material Safety Data Sheet has been issued describing the health, safety and environmental properties of this product, identifying the potential hazards and giving advice on handling precautions and emergency procedures. This must be consulted and fully understood before handling, storage or use.

Supplied by: