

FuSiO<sub>2</sub>N™ represents a family of high purity fused silica material tailored to achieve optimum properties required for molten metal applications.

FuSiO<sub>2</sub>N™ products and technology permit to supply to customers with a wide range of precision-made shapes such as thimbles, spouts, filter bowls, small and intricate to extremely large shapes and shapes with complex internal structures which do not require costly additional machining.

### • Thimble

FuSiO<sub>2</sub>N™ provides long life and thermal insulation for molten metal applications and specially formulated for thimbles that are used in Wagstaff billet casting machines. Thimble products are also offered for use in variety size for Hot-Top casting tables.

### • Casting Table Refractories

All table refractories necessary for Wagstaff and traditional Hot-Top casting tables are produced in the requested sizes. Featuring long life and low cost, FuSiO<sub>2</sub>N™ products are successfully used worldwide with its RMG quality.

### • Pin-Spout

Pin-spout are developed to control the flow of molten metal for rolling ingot and billet casting or T-ingot casting operations. Possible to supply in a set of Pin and Spout, the product can operate with both automatic or float systems harmoniously. It leads the sector with its excellent thermal shock resistance.

Properties
Low coefficient of thermal expansion
Low thermal mass and thermal conductivity
Chemical stability
High hardness
Unique cast technology

### • Filter Box

It is supplied in required sizes according to ceramic foam filters 9", 12", 15", 17", 20" and 23". Furthermore, the versions suitable for deployment of vertical and horizontal filters are also available in the portfolio. If required, the filter boxes are also supplied together with steel construction structure and preheating equipment.



Main Properties		
Product Type	SS	SA
Chemical Composition, %		
SiO <sub>2</sub>	98.0	98.0
Al <sub>2</sub> O <sub>3</sub>	0.4	0.4
Fe <sub>2</sub> O <sub>3</sub>	0.1	0.1
CaO	1.4	1.7
MgO	Trace	Trace
Other Alkaline	Trace	Trace
Density, g/cm <sup>3</sup>	1.70	1.76
Modulus of Rupture, MPa (psi)		
At room temperature	10.5 (1530)	13.8 (2000)
1093 °C	20.1 (2920)	-
1371 °C	16.2 (2365)	-
1462 °C	14.8 (2150)	-
Cold Crushing Strength, MPa (psi)	36.2 (5250)	41.3 (6000)
Porosity, %	25	19
Thermal Expansion Coefficient (1000 °C x 10 <sup>-6</sup> /°C) at 1000 °C	0.7	0.7
Thermal Conductivity (ASTM C-1113)		
260 °C	4.9	5.1
537 °C	5.8	6.1
537 °C	6.7	7.0
1092 °C	7.3	7.7
Maximum Use Temperature, °C	870	870



The values given herein are typical average values obtained in accordance with standard test methods and subject to normal manufacturing variations. They are supplied as technical data and may change without notice. Contact our company to obtain detailed information.