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CERAMIC

RSLE-56

Description

The RSLE-56 is flexible(formable), and is composed of silica reinforced ceramic fiber. It molds (shapes), and cuts easily. When dried it becomes a rigid structure. Further heat treatment or exposures to process temperatures significantly increase the physical strength of this material.

With a very low thermal expansion coefficient, combined with its high temperature strength gives it thermal shock resistance not found in other structural ceramic materials. This material also has a low thermal conductivity and is resistant to corrosion. It is an excellent electrical insulator, in addition to having a high chemical purity.

Applications

Molten non-ferrous alloys do not bond to the RSLE-56 making it useful in numerous molten metal contact applications. It can also be used in other applications such as : induction coil liners, glass furnace repairs, hot flue linings, hot press insulation, hot face insulation where gas velocity is of concern, casting tables and trough liners.

Specifications

Properties & characteristics	
Temperature	1 200°C (2 192°F)
Nominal composition, wt % SiO2	99
Nominal composition, wt % Other oxides	< 1
Nominal composition, wt % Organics	0
Nominal composition, wt % LOI	2
Nominal composition, wt % Solids Content, % by weight	73

Nominal composition, wt % Density Dry, g/cc(pcf)	1.36 (84)
Nominal composition, wt % Porosity, %	36
Nominal composition, wt % Color	White
Nominal composition, wt % MOR, dry, psi	1100
Nominal composition, wt % MOR, 10 hr. to 370°C (698°F), psi	2300
Nominal composition, wt % MOR, 16 hr. to 1000°C (1832°F), psi	3800
Nominal composition, wt % Compressive strength, dry, room temp. At 8% consolidation, psi	1700
Nominal composition, wt % Compressive strength, 16 hr. to 1000°C (1832°F), at 7% consolidation, psi	7200
Nominal composition, wt % Dying shrinkage, linear (%)	2
Nominal composition, wt % Dying shrinkage, thickness (%)	3
Hardness, Durometer «D» Dry	54
Hardness, Durometer «D» 10 hr. to 370°C (698°F)	70
Hardness, Durometer «D» 16 hr. to 1000°C (1838°F)	83
Thermal Conductivity** ASTM C-1113 - W/m°K (BT/hr ft² °F/in) 200°C (392°F)	0.55 (3.8)
Thermal Conductivity** ASTM C-1113 - W/m°K (BT/hr ft² °F/in) 400°C (752°F)	0.64 (4.4)
Thermal Conductivity** ASTM C-1113 - W/m°K (BT/hr ft² °F/in) 600°C (1112°F)	0.61 (4.2)
Thermal Conductivity** ASTM C-1113 - W/m°K (BT/hr ft² °F/in) 800°C (1472°F)	0.67 (4.6)
Thermal Conductivity** ASTM C-1113 - W/m°K (BT/hr ft² °F/in) 1000°C (1832°F)	0.75 (5.2) ** Parallel to thickness