Inorganic Boards

Product Data Sheet

Product Description

I-2300 is an insulating material produced by blending high purity, synthetic alumina-silica fibers with high purity silica binders. The high temperature capability is enhanced by employing ammonia stabilized colloidal silica rather than a sodium stabilized product.

I-2600 is an insulating material produced by blending aluminosilicate fibers, alumina fibers and silica fibers with high purity silica binders. The alumina fibers form a matrix within the material, and give it high temperature capability.

I-2800 is an insulating material produced by blending aluminosilicate fibers, alumina fibers and silica fibers with high purity silica binders. The polycrystalline alumina fibers form a matrix within the material, and give it high temperature capability. The high temperature capability is further enhanced by employing ammonia stabilized colloidal silica rather than sodium stabilized product.

I-A5 is an economical, ultra high temperature insulating material produced by blending alumina-silica fibers, alumina fibers and silica fibers with high purity silica binders. The alumina fibers form a matrix within the material, and give it high temperature capability. The high temperature capability is further enhanced by employing ammonia stabilized colloidal silica rather than sodium stabilized product.

Features

- Enhance mechanical properties with one of our post treatments using ultra-high purity ammonia stabilized colloidal silica
- No organic binders
- Complex shape capability
- Low thermal conductivity and minimal heat storage
- High resistance to thermal shock and spalling
- Low shrinkage
- Light weight

Applications

- Bullnose tiles
- Burner blocks
- Combustion chamber construction
- Diffusion furnaces
- Flue and exhaust stack liners
- Furnace components
- General molten metal contact
- Peep door frames and plugs
- Heat shields
- High temperature gaskets and seals
- Hot tops for super alloy casting
- Molten aluminum contact
- Semiconductor processing equipment
- Shapes for laboratory furnaces
- Shapes in ammonia reformers

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Properties	I-2300	I-2600	I-2800	I-A5
Region of Manufacture	Americas	Americas	Americas	Americas
Color	off-white	white	white	white
Continuous Use Temperature, °C (°F)	1260 (2300)	1427 (2600)	1538 (2800)	1621 (2950)
Density, kg/m^3 (pcf)	272 (17)	256 (16)	256 (16)	256 (16)
Modulus of Rupture, MOR, MPa (psi), *unfired	0.39 (56)	0.5 (72)	0.46 (66)	0.41 (60)
Compressive strength @ 5% deformation, MPa (psi)	0.05 (7)	0.13 (19)	0.07 (10)	0.07 (10)
Compressive strength @ 10% deformation, MPa (psi)	0.06 (9)	0.17 (25)	0.11 (16)	0.08 (12)
Permanent Linear Shrinkage, %, 24 hours				
816°C (1500°F)	0.3	-	-	0.1
982°C (1800°F)	1.9	0.3	0.1	0.1
1093°C (2000°F)	2.7	0.8	0.8	0.3
1204°C (2200°F)	3.4	1.2	0.9	0.2
1316°C (2400°F)	-	1.6	1.2	0.5
1426°C (2600°F)	-	1.6	1.5	0.5
1538°C (2800°F)	-	-	1	0.6
Chemical Composition, %				
Alumina, Al_2O_3	32	35	40	45
Silica, SiO_2	68	65	60	55
Other	<1	<1	<1	<1
Loss of Ignition, LOI	1.3	1.3	1.3	1.3
Thermal Conductivity, W/m•K (BTU•in/hr•ft^2), ASTM C201				
260°C (500°F)	0.069 (0.48)	0.065 (0.45)	0.063 (0.44)	0.066 (0.46)
538°C (1000°F)	0.104 (0.72)	0.097 (0.67)	0.092 (0.64)	0.098 (0.68)
816°C (1500°F)	0.148 (1.03)	0.146 (1.01)	0.134 (0.93)	0.147 (1.02)
1093°C (2000°F)	0.219 (1.52)	0.215 (1.49)	0.193 (1.34)	0.219 (1.52)
1371°C (2500°F)	-	-	-	0.319 (2.21)

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