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)

The product(s) represented are intended for industrial refractory applications. The values and application information in this datasheet are given for guidance only. The values and the information given are subject to normal manufacturing variation and may be subject to change without notice. Morgan Advanced Materials – Thermal Ceramics makes no guarantees and gives no warranties about the suitability of a product, and you should seek advice to confirm the product's suitability for use with Morgan Advanced Materials.

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