

Refractory Sheet Board Type RSBD-LD and TYPE RSBD-HD are rigid, high temperature ceramic fiber boards manufactured in a wet forming process using alumina-silica fibers and binders. They are rated to 1260°C (2300°F) and have densities of 0.26 g/cc (16 pcf) and 0.46 g/cc (25 pcf). They offer low thermal conductivity, high temperature stability, uniform density, and excellent resistance to thermal shock and chemical attack.

Type RSBD-HD's higher density and strength make it well-suited for applications experiencing vibration, mechanical stress and strong erosive forces. The excellent rigidity and modulus of rupture possessed by the RSBD-HD makes it strong and self-supporting, yet relatively lightweight and easy to cut or machine. This allows for quick, efficient handling and high installation rates, thereby enabling fast turnaround times in a variety of industrial insulation applications.

Type RSBD-LD exhibits similar properties, but is lower in density and has lower thermal conductivity.

These materials exhibit excellent chemical stability, resisting attack by most corrosive agents. Exceptions are hydrofluoric, phosphoric, hydrochloric and sulfuric acids, as well as concentrated alkalis. If wet by water, steam or oil, thermal and physical properties are completely restored upon drying.

SUGGESTED APPLICATIONS

- Full thickness refractory lining
- Insulating backup to dense refractories
- Furnace hot face lining in ceramic kiln, box furnace & petrochemical furnace
- Board over blanket hot face lining
- Rigid high temperature gaskets & seals
- High-temperature baffles & muffles
- Flue & chimney linings in furnaces & kilns
- Glass tank side & end wall
- Heat shields for personal protection
- Hot gas duct linings
- Low & high-temperature dryers
- Pouring forms for castable
- Expansion joints
- Insulating backup to brick & castable



To provide handling strength during the manufacturing process, small quantities of organic and inorganic binders are typically added to the board formulation. Where present, the organic binding agents burn out at temperatures between 232°C (450°F) to 316°C (600°F) during initial heat up by the end user. Following burnout of the organic binder, the boards are white in color.

Custom boards, shapes and preparations are available on request. Our forming processes, large inventory of custom tooling and state of the art machining techniques allow a wide variety of sizes and shapes to be made. Special geometries such as disks, rings and custom-machined shapes can be fabricated. Tight tolerance machining, compositional variations and the application of surface rigidizers and hardening agents are available.

Please contact us with your special requirements.



ZIRCAR Refractory Composites, Inc.

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Technical Data
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Types RSBD-LD and Type RSBD-HD

CHARACTERISTICS & PROPERTIES

TYPE	RSBD-LD	RSBD-HD
Nominal Composition, wt%		
AlSiO ₂	70 - 85	60 - 65
SiO ₂	10 - 15	10 - 15
Kaolin Clay		15 - 20
Organic content	5 - 10	5 - 10
LOI, wt. %	6 - 7	6 - 7
Density, gm/cc(pcf)	0.26(16)	0.42(26)
Color	Cream/ White	White
Max. Use Temp. *, °C(°F)	1260(2300)	1260(2300)
Modulus of Rupture**, MPa(psi)		
as received	1.40(200)	2.10(300)
after 24 hrs at 1010°C(1850°F)	0.56(80)	0.87(125)
Compressive Strength**, MPa (psi)		
at 5% compression		
as received	0.29(42)	0.4(59)
after 24 hrs at 1010°C(1850°F)	0.16(23)	0.24(35)
Thermal Conductivity,		
W/m°K(BTU/hr. ft ² °F/in)		
204°C(400°F)	0.05(0.4)	0.11(0.8)
649°C(1200°F)	0.11(0.8)	0.17(1.2)
1010°C(1850°F)	0.20(1.3)	0.22(1.5)
Linear Shrinkage‡, %		
after 4 hrs. at 1200°C(2200°F)	<5	<5
Dielectric Strength, Volts/mil	27	27

* Maximum use temperature is dependent on variables such as stresses, both thermal and mechanical, and the chemical environment that the material experiences.

** Properties expressed parallel to thickness.

‡ Properties expressed perpendicular to thickness.

AVAILABILITY

Item #	Description	Item #	Description
ES01	RSBD-LD, 42" x 48" x 1/8"	ES12	RSBD-LD, 24" x 36" x 2"
ES02	RSBD-LD, 24" x 36" x 1/4"	ES13	RSBD-LD, 24" x 48" x 2"
ES03	RSBD-LD, 24" x 48" x 1/4"	ES16	RSBD-HD, 12" x 36" x 1"
ES04	RSBD-LD, 42" x 48" x 1/4"	ES17	RSBD-HD, 24" x 36" x 1"
ES05	RSBD-LD, 24" x 36" x 1/2"	ES18	RSBD-HD, 24" x 48" x 1"
ES06	RSBD-LD, 24" x 48" x 1/2"	ES19	RSBD-HD, 12" x 36" x 1 1/2"
ES07	RSBD-LD, 42" x 48" x 1/2"	ES20	RSBD-HD, 24" x 36" x 1 1/2"
ES08	RSBD-LD, 24" x 36" x 1"	ES21	RSBD-HD, 24" x 48" x 1 1/2"
ES09	RSBD-LD, 24" x 48" x 1"	ES22	RSBD-HD, 12" x 36" x 2"
ES10	RSBD-LD, 24" x 36" x 1 1/2"	ES23	RSBD-HD, 24" x 36" x 2"
ES11	RSBD-LD, 24" x 48" x 1 1/2"	ES24	RSBD-HD, 24" x 48" x 2"



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