

# REFRACTORY SHEET FIBER BOARD

Types RSBD-LD and Type RSBD-HD

Refractory Sheet Board Type RSBD-LD and TYPE RSBD-HD are rigid, high temperature ceramic fiber boards manufactured in a wet forming process using aluminasilica 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.

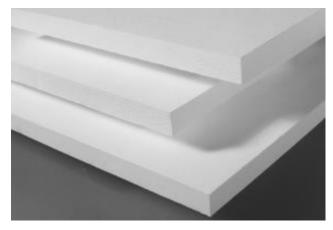
Type RSBD-HD's higher density and strength make it well-suited for applications experiencing vibration, mechanical stress and strong erosive forces. The excellent rigidity and modulus of rupture possessed by the RSBD-HD makes it strong and self-supporting, yet relatively lightweight and easy to cut or 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 alkalies. If wet by water, steam or oil, thermal and physical properties are completely restored upon drying.

#### SUGGESTED APPLICATIONS

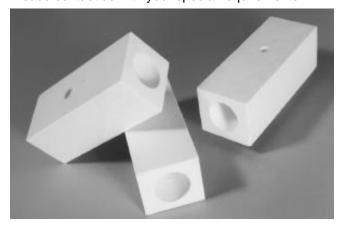
- Full thickness refractorylining
- Insulating backup to dense refractories
- Furnace hot face lining in ceramic kiln, box furnace & petrochemical furnace
- Board over blanket hot face lining
- Rigid high temperature gaskets & seals
- High-temperature baffles & muffles
- Flue & chimney linings in furnaces & 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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## Types RSBD-LD and Type RSBD-HD

## **CHARACTERISTICS & PROPERTIES**

TYPE	RSBD-LD	RSBD-HD
Nominal Composition, wt%		
AISiO <sub>2</sub>	70 - 85	60 - 65
SiO <sub>2</sub>	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. ft² °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 <sup>‡</sup> , %		
after 4 hrs. at 1200°C(2200°F)	<5	<5
Dielectric Strength, Volts/mil	27	27

<sup>\*</sup> 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.

### **AVAILIBILITY**

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"
ES07 RSBD-LD, 42 x 46 x 172 ES08 RSBD-LD. 24" x 36" x 1"	ES21	RSBD-HD, 24" x 48" x 1 1/2"
,	ES22	RSBD-HD, 12" x 36" x 2"
ES09 RSBD-LD, 24" x 48" x 1"	ES23	RSBD-HD. 24" x 36" x 2"
ES10 RSBD-LD, 24" x 36" x 1 1/2"	ES24	RSBD-HD, 24" x 48" x 2"
ES11 RSBD-LD. 24" x 48" x 1 1/2"		



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<sup>&</sup>lt;sup>‡</sup>Properties expressed perpendicular to thickness.