



Refractory Hardboard Type BM

General Information

ZIRCAR Ceramics' Refractory Hardboard Type BM products are a range of structural insulation boards that combine calcium silicate cements with inorganic binders and reinforcing fillers. BM boards are designed to deliver low thermal conductivity and high strength to a wide variety of thermo-mechanical insulation applications. BM products exhibit high dielectric strength, very good thermal shock resistance and when coated with BN are non-wetting to molten non-ferrous metals. BM products are manufactured in sheet form on large filter bed presses, autoclaved to maximum strength, then sanded and milled to final dimensions. Uniform in density and structure, Type BM Refractory Hardboards are readily cut, drilled and assembled using conventional carbide tooling. Type BM is available in three varieties.



Characteristics & Properties

Type	BM-54	BM-65	BM-85
Density, g/cc (pcf)	0.865 (54)	1.041 (65)	1.362 (85)
MOR, MPA (psi)	6.25(900)	9.65 (1400)	20.68(3000)
Compressive Strength**, MPA (psi) @ 5% deformation	11.03(1600)	16.54(2400)	44.12(6400)
Compressive Strength**, MPA (psi) @ ultimate load	15.16(2200)	20.68(3000)	71.01(10300)
Shrinkage, %, L&W/T			
24 hrs. at 732°C (1350°F)	2.3/9.4	0.1 / 0.8	-
24 hrs. at 868°C (1600°F)	-	-	0.24 / 2.0
Moisture Content, %	2.5	2.5	1.0
Arc Resistance, ASTM D 495	-	-	304
Volume Resistivity, ohm-cm, ASTM D 257	-	-	4.52 x 10 ¹²
Dielectric Strength, v/mil, ASTM D 495	-	-	61
Thermal Conductivity**, W/m°K			
400°C	0.110	0.276	0.27
600°C	0.116	0.287	0.29

The data presented herein is intended to help the user to determine the appropriateness of this material for their application. This data is a nominal representation of this product's properties and characteristics and therefore should not be used in preparing specifications. * 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.

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Technical Data Bulletin
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www.zircarceramics.com
Page 1 of 2

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Suggested Applications

BM-54: At a density of 54 pcf, BM-54 is light in weight and is most suitable for use in molten aluminum contact applications such as floats, and in thermal insulation applications requiring a strong low-density structural insulation.

BM-65: At a density of 65 pcf, BM-65 is thermally processed and more structural. BM-65 provides significant value when used for applications such as furnace linings, molten metal delivery troughs and headboxes. High dielectric strength make BM-65 useful as an electrical terminal board and electrical insulation in high-temperature applications.

BM-85: At a density of 85 pcf, BM-85 provides high physical and dielectric strength required in electro-mechanical insulation applications, such as induction melting furnace components, electrical terminal boards and buss supports. BM-85 is also used in induction hot-pressing applications

Availability of Standard Boards

ITEM #	DESCRIPTION
D185LD-01*	BM-54, 24"W x 48"L x 1"T
D185LD-02*	BM-54, 24"W x 48"L x 2"T
D185-01*	BM-65, 24"W x 48"L x 1"T
D185-02*	BM-65, 24"W x 48"L x 2"T
D185-03*	BM-65, 24"W x 48"L x 3"T
D185-04*	BM-65, 48"W x 48"L x 1"T
D185-05*	BM-65, 48"W x 48"L x 2"T
D185-06	BM-65, 48"W x 48"L x 3"T
D185-07	BM-65, 96"W x 48"L x 1"T
D185-08	BM-65, 96"W x 48"L x 2"T
D185-09	BM-65, 96"W x 48"L x 3"T
D185HD-01*	BM-85, 24"W x 48"L x 1"T
D185HD-02	BM-85, 24"W x 48"L x 2"T
D185HD-03	BM-85, 24"W x 48"L x 3"T
D185HD-04	BM-85, 48"W x 48"L x 1"T
D185HD-05	BM-85, 48"W x 48"L x 2"T
D185HD-06	BM-85, 48"W x 48"L x 3"T
D185HD-07	BM-85, 96"W x 48"L x 1"T
D185HD-08	BM-85, 96"W x 48"L x 2"T
D185HD-09	BM-85, 96"W x 48"L x 3"T

*Denotes Standard Stocked Item

To Order

Standard boards: order online or specify quantity, item # and description.

Stocked Standard boards are available for immediate shipment from stock. Non-stocked board will ship within 10 days.

Standard tolerances for boards are +1.0"/-0.0" on length, +0.0"/-0.2" on width and +/- 0.03" on thickness unless specified.

Custom boards in sizes not listed above can be manufactured.

Custom shapes: our state-of-the-art tight-tolerance machining techniques allow a wide variety of sizes and shapes to be made.

Surface treatments including Alumina-Silica and Boron Nitride coatings are available.



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