

CHAPTER

07

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BLU -RAM® HS
Plastic

PRODUCT DATA

DESCRIPTION : BLU -RAM® HS Plastic is a phos-bonded, mullite-based refractory with properties and performance characteristics comparable to 85% and 90% alumina-containing products. BLU-RAM® HS does not require forms during installation where anchors are present except for flat arch constructions.

TEMPERATURE CLASSIFICATION : 800 - 3100°F

MATERIAL REQUIRED PER CUBIC FOOT : 171 lbs.

PCE: 39

PHYSICAL PROPERTIES:

Test Temp. (°F)	Bulk Density (pcf)	Modulus of Rupture (psi)	Permanent Linear Change (%)	Thermal Conductivity (Btu in./hr.ft/ °F)
230	160	1130	--	10.4
1000	---	1635	-0.2	9.7
1500	---	2220	0.2	9.2
2000	---	2410	-0.2	9.0
2550	---	2190	-0.2	9.1
2910	---	2110	+1.9	9.6

CHEMICAL ANALYSIS- CALCINED BASIS (Wt %):

Al ₂ O ₃	SiO ₂	Fe ₂ O ₃	TiO ₂	P ₂ O ₅	Alk	Other
72.3	20.4	1.0	1.8	4.0	0.3	0.2

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BLU -RAM® TR
Troweling Mix

PRODUCT DATA

DESCRIPTION:

BLU -RAM® TR Troweling Mix is a mullite-based patching refractory that sets at 400°F. The mix is manufactured in a trowelable consistency for ease of installation. This material is used for patching boilers, ladles, skid pipe covers and general maintenance.

TEMPERATURE CLASSIFICATION:

3100°F

MATERIAL REQUIRED PER CUBIC FOOT:

160 lbs.

PCE:

39½

BOND TYPE:

Chemical

PHYSICAL PROPERTIES:

Test Temp. (°F)	Modulus of Rupture (psi)	Permanent Linear Change (%)	Thermal Conductivity (Btu in/hr.ft. ² °F)
230	1335	---	---
1000	---	-0.5	6.7
1500	---	---	6.3
2000	---	---	7.0
2550	2895	+0.3	---

CHEMICAL ANALYSIS - CALCINED BASIS (Wt. %):

Al ₂ O ₃	SiO ₂	CaO	Fe ₂ O ₃	TiO ₂	Mgo	B ₂ O ₃	P ₂ O ₅	Alk
70.5	22.2	0.1	1.1	2.0	0.1	0.1	3.7	0.2

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**SUPER #3000®
Mortar**

PRODUCT DATA

DESCRIPTION : SUPER #3000 ® is a premium quality super duty grade mortar which has become an industry standard. This mortar has exceptional strength at low, intermediate and high temperatures. It is available in a variety of consistencies to meet individual application requirements. Excellent for all types of molten metal applications including aluminum and iron. Excellent mortar for boiler applications.

RECOMMENDED METHOD OF APPLICATION : Troweling, dipping, brushing, spraying

PCE: 33 - 3169°F

TEMPERATURE CLASSIFICATION : Air set to 3000°F

HOT BOND STRENGTH²

1200°F	1500°F	1800°F	2100°F	2500°F
1959 psi*	2561 psi*	2392 psi	697 psi	147 psi

BOND STRENGTH¹

230°F	1000°F	2000°F
1300 psi	1100 psi	1100 psi

MATERIAL REQUIRED PER 1000- 9" BRICK EQUIVALENTS : 300 - 350 lbs. (155 lbs/ft³)

CHEMICAL ANALYSIS - CALCINED BASIS (Wt %) :

Al ₂ O ₃	SiO ₂	Alk	Other
47.1	47.0	3.3	2.6

¹By ASTM C-198
²By ASTM C-583 with 70% alumina firebrick
*brick failed

Please refer to the reverse side of this Product Data Sheet for further information with respect to the product and the product data set forth herein



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**SUPER #3000®
Mortar**

PRODUCT DATA

SUPER #3000 MORTAR			
PRODUCT NAME	MIX NO.	LID COLOR	CONSISTENCY & MIXING INSTRUCTIONS
Super 3000 #5513	22	Yellow	Stiff trowel or patching consistency (also referred to as Stopper Rod Mix or consistency). For bricksetting: mix 30, add (3) three quarts of water per 100 lbs. For dipping joints: mix 34, add (5) five quarts of water.
Special Super 3000 #5520	22F	White	Same as #5513.
Super 3000 #5532	26	Blue	Regular trowel consistency. For bricksetting: mix 30, add (1) one quart of water per 100 lbs. For dipping joints: mix 34, add (3) three quarts of water.
Super 3000 Bricksetting #5514	30	Green	Bricksetting consistency. For dipping joints: mix 34, add (2) two quarts of water per 100 lbs.
Super 3000 #5507	34	Black	Thin dipping joint consistency and surface washing.
Super 3000 #5531	62	Grey	Very thin dipping consistency and thick paint surface coating.

5513
11/25/96

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ALUGARD® FS
Low Cement Castable

PRODUCT DATA

DESCRIPTION:

ALUGARD® FS is a fused silica low cement castable that has superior densities, lower porosities and higher strengths. ALUGARD® FS is non wetting in contact with molten aluminum and with fused silica, has superior thermal shock resistance and low thermal expansion. These physical properties, coupled with its resistance to molten metal penetration, make ALUGARD® FS an excellent material for hot face linings of aluminum metal transfer devices and die casting furnaces.

TEMPERATURE CLASSIFICATION:

2000°F intermittent service (cyclic)

2500°F continuous service

MATERIAL REQUIRED PER CUBIC FOOT:

135 lbs.

PCE:

Cone 20 (2847 °F)

PHYSICAL PROPERTIES:

Test Temp (°F.)	Bulk Density (pcf)	Modulus of Rupture (psi)	Hot Modulus of Rupture (psi)	Cold Crushing Strength (psi)	Permanent Linear Change (%)	Apparent Porosity (%)	Thermal Conductivity* (Btu -in./°F.Hr.-Ft. ²)
230	137	2,105	---	10,620	---	9.5	12.5
1000	135	1,590	2,681	8,915	-0.0	14.8	9.7
1500	135	1,905	3,843	10,595	-0.1	14.9	8.9
2000	133	1,080	2,677	11,060	-0.1	14.3	9.5
2300	132	600	---	13,125	+0.5	12.6	10.7

*Estimated

Abrasion Resistance, C-704: 7.6 c c @ 1500

CHEMICAL ANALYSIS- CALCINED BASIS (WT.%):

Al ₂ O ₃	SiO ₂	CaO	Fe ₂ O ₃	TiO ₂	MgO	Others
23.9	71.0	1.9	0.3	0.3	0.1	2.5

6237
12/4/00



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QUICK FIX® 85 AL
Monolithic Refractory

PRODUCT DATA

DESCRIPTION:

QUICK FIX® 85 AL is a two component refractory castable material. This phosphate bonded material results in a material that has quick setting and rapid curing capabilities. The material is extremely non-wetting, with a specially designed matrix for aluminum contact applications. The material is dense and abrasion resistance. It will strongly adhere to existing refractory material making it ideal for repairs.

TEMPERATURE CLASSIFICATION:

3000°F

WATER REQUIRED:

Use special binder %

MATERIAL REQUIRED PER CUBIC FOOT:

168 lbs.

PHYSICAL PROPERTIES:

TEST TEMP. (°F)	BULK DENSITY (pcf)	MODULUS OF RUPTURE (psi)	HOT MODULUS OF RUPTURE (psi)	COLD CRUSHING STRENGTH (psi)	PERMANENT LINEAR CHANGE (%)	APPARENT POROSITY (%)	THERMAL CONDUCTIVITY (Btu in./hr.ft. ² /°F)
230	170	2003	—	7403	—	14.7	30.2
1000	168	2003	—	7606	-0.1	17.8	25.0
1500	168	1698	1698	8201	-0.1	20.2	21.2
2000	168	2670	1394	9508	-0.1	20.6	17.6
2500	—	4195	450	—	-0.1	—	—

CHEMICAL ANALYSIS - CALCINED BASIS (Wt %):

Al ₂ O ₃	SiO ₂	CaO	Na ₂ O	TiO ₂	MgO	P ₂ O ₅	Others
72.0	12.0	1.3	0.2	1.6	0.2	5.5	2.7

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