PRODUCT BULLETIN

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ALLIED MINERAL PRODUCTS, INC.

MATRICAST 3110C

General Information

MATRICAST 3110C is a high alumina, high strength castable designed for severe service conditions at elevated temperatures. It has excellent resistance to chemical attack and abrasion. Typical applications include rotary furnace hearths, ladle linings, burner blocks, furnace roofs, and process air heaters. MATRICAST 3110C offers the following features and benefits:

> Excellent thermal shock resistance
> Outstanding abrasion resistance

Technical Data

Chemical Analysis

(Major Components)	
Al_2O_3	60.0%
SiO_2	32.2%
CaO	3.7%
TiO_2	1.9%
Fe_2O_3	1.0%

Material Required	2.39 g/cm^3 (149 lb./ft.^{3})
Grain Size	4.75 mm (4 mesh) and finer
Maximum Practical Use Temperature	1705°C (3100°F)
Installation Method	Casting / Vibration

Packaged in 25 kg (55-lb.) multi-wall paper bags protected with stretch wrap. Also available in bulk packaging. Storage beyond 24 months is not recommended. Store in a dry location to avoid moisture pickup.

Casting Data

Water Required:	9.30% (2.3 liters/25 kg or 2.5 quarts/55 lb.)
Working Time:	Up to 45 minutes
Initial Set:	2 – 6 hours
Final Set:	8 – 24 hours

Allied Mineral Products, Inc. supplies a complete line of monolithic refractories for the metals industry. For more information or a complete evaluation of your refractory requirements, please contact your local Allied representative.

Warning: Contains aluminum oxide, aluminosilicates, cement, and silica. The International Agency for Research on Cancer (IARC) has classified crystalline silica inhaled in the form of quartz or cristobalite carcinogenic to humans. Refer to Material Safety Data Sheet for additional information and disposal instructions. Avoid breathing dust. Wear NIOSH approved respirator during installation, removal, and disposal of product to prevent inhalation of dust. Avoid contact with skin and eyes. Cement power or freshly mixed castable may cause eye and skin irritation. Steam spalling, which can lead to personal injury, may result from improper drying and firing procedures. In case of eye contact, flush immediately and repeatedly with water and consult a physician. Hydrogen gas may be generated when product is exposed to water. Ignition of hydrogen gas in an enclosed area can lead to personal injury. Proper ventilation should be supplied to avoid gas buildup. For safest use and optimum performance, proper practices must be followed.

(MXMC3110C)
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Laboratory Test Bar Data

MATRICAST 3110C

Permanent Linear Change	**%**
After firing to:	
540°C (1000°F)	-0.15
815°C (1500°F)	-0.25
1095°C (2000°F)	-0.25
1370°C (2500°F)	1.15

Density	**g/cm^3**	**kg/m^3**	**pcf**
After firing to:			
110°C (230°F)	2.39	2390	149
540°C (1000°F)	2.34	2340	146
815°C (1500°F)	2.32	2320	145
1095°C (2000°F)	2.31	2310	144
1370°C (2500°F)	2.21	2210	138

Modulus of Rupture	**MPa**	**kg/cm^2**	**psi**
After firing to:			
110°C (230°F)	16.9	171.9	2445
540°C (1000°F)	11.0	111.8	1590
815°C (1500°F)	10.7	109.0	1550
1095°C (2000°F)	9.4	95.6	1360
1370°C (2500°F)	12.1	123.4	1755

Cold Crushing Strength	**MPa**	**kg/cm^2**	**psi**
After firing to:			
110°C (230°F)	70.5	718.7	10220
540°C (1000°F)	57.0	581.6	8270
815°C (1500°F)	47.7	486.3	6915
1095°C (2000°F)	47.3	482.4	6860
1370°C (2500°F)	53.2	542.2	7710

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