

PRODUCT BULLETIN

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**ALLIED
MINERAL**
PRODUCTS, INC.

MTRICAST TUFFLOOR

General Information

MTRICAST TUFFLOOR is a high strength, abrasion resistant castable with excellent thermal shock properties. This product is designed for flooring applications which are exposed to extreme heat and metal splash. MTRICAST TUFFLOOR is resistant to hot slag, dross, skim and molten metal splash. Excellent for flooring and furnace decking around metal melting and holding equipment, MTRICAST TUFFLOOR is also well suited for dross pads and sow cooling stations.

Technical Data

<u>Chemical Analysis</u> (Major Components)		Material Required	2.11 g/cm ³ (132 lb./ft. ³)
		Material Required	2.11 MT/m ³ (1.78 ton/yd ³)
SiO ₂	42.5%	Grain Size	5 mm (4 mesh) and finer
Al ₂ O ₃	35.1%	Installation Method	Pumping/Pouring/Vibration
CaO	15.8%	Maximum Continuous Use Temperature	650°C (1200°F)
TiO ₂	1.8%	Maximum Intermittent Use Temperature	1040°C (1900°F)
Fe ₂ O ₃	1.4%		

Packaged in 25 kg (55-lb.) multi-wall paper bags protected with stretch wrap. Also available in bulk packaging. Store in a dry location to avoid moisture pick-up. Storage beyond 24 months is not recommended. The use of a curing compound is recommended with this product, please contact a Matrix Refractories representative for additional information.

Casting Data

Water range: vibrated	11.5%	(2.9 liters/25 kg or 3.0 quarts/55 lb.)
pouring	13.5%	(3.5 liters/25 kg or 3.6 quarts/55 lb.)
Slump value: @ 11.5% water	1.50 inches	
@ 13.5% water	4.25 inches	
Initial Hydraulic Set:	1 - 6 hours	
Final Hydraulic Set:	4 - 8 hours	

Allied Mineral Products, Inc. supplies an entire line of monolithic refractories for the heat containment 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 or eyes. Cement powder 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.

(MXMCTUFF)
7/24/12

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THE INFORMATION STATED IS BASED ON THE BEST LABORATORY AND LITERATURE DATA AND IS NOT A WARRANTY OR A GUARANTEE, NOR A VIOLATION OF ANY PATENT. IT IS PRESENTED FOR CONSIDERATION AND VERIFICATION ONLY, AND IS NOT TO BE USED FOR SPECIFICATION PURPOSES.

Laboratory Test Bar Data

MATRICAST TUFFLOOR

Casting Water 13.5%

Permanent Linear Change %

After heating to:	
110°C (230°F)	-0.10
425°C (800°F)	-0.15
650°C (1200°F)	-0.30

Density

	<u>g/cm³</u>	<u>kg/m³</u>	<u>pcf</u>
After heating to:			
110°C (230°F)	2.12	2120	132
425°C (800°F)	2.10	2100	131
650°C (1200°F)	2.08	2080	130

Modulus of Rupture ASTM (C133)

	<u>MPa</u>	<u>kg/cm²</u>	<u>psi</u>
As cured:	8.00	81.5	1160
After heating to:			
110°C (230°F)	8.62	87.9	1250
425°C (800°F)	6.55	66.8	950
650°C (1200°F)	4.48	45.7	650

Cold Crushing Strength ASTM (C39)

	<u>MPa</u>	<u>kg/cm²</u>	<u>psi</u>
As cured:			
1 day	31.0	316.4	4500
3 days	37.9	386.7	5500
7 days	39.3	400.8	5700
28 days	50.0	499.3	7250

Thermal Conductivity

(Hot Wire Method ASTM C – 1113)

	<u>W/mK</u>	<u>BTU-in/hr-ft²-°F</u>
After heating to:		
100°C (210°F)	1.17	8.11
250°C (480°F)	1.15	7.97
450°C (840°F)	1.26	8.74
600°C (1110°F)	1.27	8.81

Coefficient of Thermal Expansion

From 100°F-1600°F	3.75 x 10 ⁻⁶ /°F
From 38°C-871°C	6.72 x 10 ⁻⁶ /°C



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