

PRODUCT BULLETIN

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**ALLIED
MINERAL**
PRODUCTS, INC.

COIL CAST M

General Information

COIL CAST M is a mullite-based, conventional cement level, alumina castable refractory designed for use in lining the inside surface of induction heating coils or for use in place of the grout layer in coreless induction furnaces. COIL CAST M can be pour cast, spade cast or lightly vibrated. Excessive vibration should not be used. COIL CAST M offers the following benefits and features:

- > Outstanding corrosion resistance to scale
- > Excellent resistance to thermal shock
- > Self-leveling
- > Fine-grained to provide smooth surface finish

Technical Data

Chemical Analysis

(Major Components)

Al ₂ O ₃	66.3%
SiO ₂	26.7%
CaO	4.0%
TiO ₂	1.6%
Fe ₂ O ₃	0.4%

Material Required	2.37 g/cm ³ (148 lb/ft ³)
Grain Size	2.5 mm (8 mesh) and finer
Maximum Use Temperature	1650°C (3000°F)

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

Hydraulic Set

Water Required:	8.6 – 9.4%
Working Time:	15 minutes
Initial Set:	1 – 5 hours
Final Set:	3 – 8 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, aluminosilicate, 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 powder or freshly mixed castable may cause eye and skin irritation. In case of eye contact, flush immediately and repeatedly with water and consult a physician. Steam spalling, which can lead to personal injury, may result from improper drying and firing procedures. For safest use and optimum performance, proper practices must be followed.

(CCM)

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Laboratory Test Bar Data

Coil Cast M

<u>Permanent Linear Change</u>	<u>%</u>
After heating to:	
815°C (1500°F)	-0.25
1095°C (2000°F)	-0.21
1315°C (2400°F)	-0.46
1370°C (2500°F)	-0.94
1400°C (2550°F)	-1.27
1480°C (2700°F)	-1.93

<u>Density</u>	<u>g/cm³</u>	<u>kg/m³</u>	<u>pcf</u>
After heating to:			
110°C (230°F)	2.40	2403	150
815°C (1500°F)	2.37	2371	148
1095°C (2000°F)	2.34	2339	146
1315°C (2400°F)	2.35	2355	147
1370°C (2500°F)	2.40	2403	150
1400°C (2550°F)	2.45	2451	153
1480°C (2700°F)	2.52	2515	157

<u>Modulus of Rupture:</u>	<u>MPa</u>	<u>kg/cm²</u>	<u>psi</u>
After heating to:			
110°C (230°F)	10.4	106	1509
815°C (1500°F)	7.5	77	1094
1095°C (2000°F)	7.1	73	1035
1315°C (2400°F)	16.3	166	2368
1370°C (2500°F)	18.5	189	2690
1400°C (2550°F)	20.8	212	3015
1480°C (2700°F)	21.4	219	3110

<u>Cold Crushing Strength</u>	<u>MPa</u>	<u>kg/cm²</u>	<u>psi</u>
After heating to:			
110°C (230°F)	102.1	1042	14821
815°C (1500°F)	64.3	656	9331
1095°C (2000°F)	40.2	410	5835
1315°C (2400°F)	82.5	842	11976
1480°C (2700°F)	143.3	1462	20804



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