



**ALLIED
MINERAL
PRODUCTS, INC.**

ARMORMAX[®] 85

VIBRATION CAST

General Information

ARMORMAX[®] 85 is an 85% alumina, low-cement castable refractory with a high stainless steel fiber content to improve overall fracture toughness and thermal shock resistance. The enhanced flow of the refractory base mix allows this product to be mixed in most field mixers. It is particularly suitable for applications where high mechanical abuse and thermal cycling are encountered. The metal fibers used provide the optimum resistance to high temperature oxidation with continuous operation to 1200°C (2200°F) and intermittent operation to 1400°C (2600°F). The base refractory mix without the fibers is suitable for temperatures to 1700°C (3100°F).

Chemical Analysis

| | |
|--------------------------------|-------|
| Al ₂ O ₃ | 84.8% |
| SiO ₂ | 10.5% |
| CaO | 2.1% |
| TiO ₂ | 1.6% |
| Fe ₂ O ₃ | 0.6% |
| Alkalies | 0.2% |
| Other | 0.2% |

Maximum Use Temperature

1430°C (2600°F)

Material Required Vibration Cast

2.92 g/cm³ (182 lb/ft³)
2 mm (8 mesh) and finer

Grain Size

Installation Method

Vibration Cast

Standard Packaging

25 kg (55 lb) multi-wall paper bags

VIBRATION CAST DATA

| Temperature | | Density | | PLC [†] | MOR | | CCS | | Porosity |
|-------------|------|-------------------|--------------------|------------------|------|------|-------|-------|----------|
| °C | °F | g/cm ³ | lb/ft ³ | % | MPa | psi | MPa | psi | % |
| 110 | 230 | 2.96 | 185 | - | 23.8 | 3500 | 74.8 | 11000 | 10 |
| 815 | 1500 | 2.92 | 182 | -0.3 | 28.6 | 4200 | 173.4 | 25500 | 18 |
| 1093 | 2000 | 2.92 | 182 | -0.4 | 28.6 | 4200 | 115.6 | 17000 | 17 |
| 1400 | 2550 | 2.92 | 182 | -0.1 | 27.9 | 4100 | 102.0 | 15000 | 17 |

† Permanent Linear Change After Firing

SET TIMES AND WATER REQUIREMENTS

| | |
|----------------|----------------|
| | Vibration Cast |
| Water Required | 5-6% |
| Working Time | 1 - 2 hrs |
| Initial Set | 2 - 6 hrs |
| Final Set | 10-18 hrs |

THERMAL SHOCK DATA

2200°F Prefired and Shock Temperature (5 Cycles)

| | |
|----------------------|------|
| Unshocked CMOR, psi | 4500 |
| Shocked CMOR, psi | 3600 |
| Strength Retained, % | 80 |

Allied Mineral Products, Inc. supplies a complete line of monolithic refractories for industrial applications. 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 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. For safest use and optimum performance, proper practices must be followed.

(ARNMAX85)
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