

PRODUCT BULLETIN

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**ALLIED
MINERAL**
PRODUCTS, INC.

MINRO-MAG RAM M20

General Information

MINRO-MAG RAM M20 is a high-purity magnesia based DRI-VIBE® refractory. The primary application for M20 is lining air melt and vacuum melt coreless induction furnaces for the production of steel and high temperature alloys. M20 is also suitable for use as a crucible backup material. MINRO-MAG RAM M20 is a magnesium oxide refractory which contains no additives or sintering agents. This results in a refractory that has the highest temperature capability among all those manufactured for induction furnace applications. M20 has outstanding high temperature resistance to chemical attack under most conditions, except those where an acid slag exists.

- > Completely dry
- > Loose backup minimizes metal fin penetration
- > Compatible with basic slag constituents

Technical Data

Chemical Analysis

(Major Components)

MgO	98.5%
CaO	0.5%
SiO ₂	0.5%
Fe ₂ O ₃	0.3%

Material Required	2.80 g/cm ³ (180 lbs. per lb./ft. ³)
Grain Size	4 mesh (5 mm) and finer
Maximum Use Temperature	1815°C (3300°F)
Minimum Use Temperature	1480°C (2700°F)
Installation Method	Dry ram or vibrate
Procedure(s)	CL-1, CL-4, CL-14, CL-18

Packaged in 25kg (55lb.) multi-wall paper bags. Storage beyond 12 months is not recommended. Store in a dry location to avoid moisture pickup.

Sintering Data

Minimum Temperature: 1595°C (2900°F)
Sinter Rate (Maximum): 222°C (400°F) /Hour
Consumable Form Required

Allied Mineral Products, Inc. supplies an entire 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 magnesium oxide 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. Avoid breathing dust. Wear NIOSH approved respirator during installation, removal, and disposal of product to prevent inhalation of dust. Refer to Material Safety Data Sheet for additional information and disposal instructions. 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.

M20
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