



ARMORMAX[®] AZS 5 HZR

VIBRATION CAST

General Information

ARMORMAX[®] AZS 5 HZR is an alumina-zirconia-silica based mix with an SiC addition. It is combined with a high percentage of 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 alkali, 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 1315°C (2400°F). The base refractory mix without the fibers is suitable for temperatures to 1650°C (3000°F).

Chemical Analysis

Al ₂ O ₃	40.9%	Maximum Use Temperature	1315°C (2400°F)
SiO ₂	28.7%	Material Required Vibration Cast	3.16 g/cm ³ (197 lb/ft ³)
ZrO ₂	26.8%	Grain Size	2 mm (8 mesh) and finer
CaO	1.9%	Installation Method	Vibration Cast
Fe ₂ O ₃	0.2%	Standard Packaging	25 kg (55 lb) multi-wall paper bags
Other	1.5%		

VIBRATION CAST DATA

Temperature		Density		PLC [†]	MOR		CCS		Porosity
°C	°F	g/cm ³	lb/ft ³	%	MPa	psi	MPa	psi	%
110	230	3.11	194	-	35.5	5147	-	-	-
815	1500	3.16	197	-0.1	38.0	5519	112.8	16360	17
1093	2000	3.14	196	-0.2	29.0	4207	144.6	20,977	17
1400	2550	3.17	198	0.7	31.1	4508	143.0	20751	14

† Permanent Linear Change After Firing

SET TIMES AND WATER REQUIREMENTS

	Vibration Cast
Water Required	5.4 - 6%
Working Time	1 - 2 hrs
Initial Set	2 - 10 hrs
Final Set	5 - 18 hrs

Thermal Shock Data

2200°F Prefired and Shock Temperature (5 Cycles)

Unshocked CMOR, psi	4750
Shocked, CMOR, psi	4212
Strength Retained, %	88.7

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, zirconium oxide, silicon carbide 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.

(ARNMAX5HZR)

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