PRODUCT BULLETIN

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ALLIED MINERAL PRODUCTS, INC.

MATRIPUMP 50

General Information

MATRIPUMP 50 is part of a complete family of products that offers a wide range of installation methods; pumping, pouring, shotcreting or vibrating. MATRIPUMP 50 is an alumina-silicate based low cement castable designed for applications including ladles, covers, coreless furnace rings, non-ferrous uppercases, launders, forge and heat treating furnaces, kiln car tops, rotary cement kiln linings, and CO boilers. For more severe applications, the MATRIPUMP family includes MATRIPUMP 60, MATRIPUMP 70, and MATRIPUMP 80. MATRIPUMP 50 offers the following features and benefits:

- Excellent abrasion resistance
- Tolerates a wide water range without sacrificing physical properties
- Good thermal shock resistance

Technical Data

Chemical Analysis (Major Components)	
Al_2O_3	54.3%
SiO_2	39.6%
CaO	2.1%

Material Required	2.47 g/cm^3 (154 lb./ft^3)
Grain Size	5 mm (4 mesh) and finer
Maximum Use Temperature	1650°C (3000°F)
Installation Method	Pouring, Vibrating or Shotcreting

Packaged in 25 kg (55-lb.) multi-wall paper bags protected with stretch wrap. Also available in bulk packaging. Storage beyond 6 months is not recommended. Store in a dry location to avoid moisture pickup.

Hydraulic Set and Water Requirements

MATRIPUMP 50 has a unique design, enabling the installer to adjust water levels for optimum casting behavior. This product can be installed at a water level between 6.2% and 6.9%.

	Vibrated	Pouring and Pumping
Water Required:	6.2%	6.9%
Working Time:	40 minutes	50 minutes
Initial Set:	2-6 hours	2-6 hours
Final Set:	8-24 hours	12-24 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, aluminum silicates, calcium aluminate cement, and silica. The International Agency for Research on Cancer (IARC) has classified crystalline silica inhaled in the form of quartz or cristoballite 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. 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.

(MXMP50)
Revised 11/11/13

LABORATORY TEST BAR DATA

MATRIPUMP 50

Casting Consistency	**Pouring/Pumping**			**Vibrated**		
Casting Water	6.9%			6.2%		
Permanent Linear Change	**%**			**%**		
After firing to:						
815°C (1500°F)	-0.22			-0.24		
1090°C (2000°F)	-0.40			-0.30		
1480°C (2700°F)	1.60			1.70		
Apparent Porosity	**%**			**%**		
After firing to:						
815°C (1500°F)	17.4			16.8		
1090°C (2000°F)	15.1			13.9		
1480°C (2700°F)	13.3			12.4		
Density	**g/cm^3**	**kg/m^3**	**pcf**	**g/cm^3**	**kg/m^3**	**pcf**
After firing to:						
815°C (1500°F)	2.40	2400	150	2.42	2420	151
1090°C (2000°F)	2.42	2420	151	2.45	2450	153
1480°C (2700°F)	2.29	2290	143	2.31	2310	144
Modulus of Rupture	**MPa**	**kg/cm^2**	**psi**	**MPa**	**kg/cm^2**	**psi**
After firing to:						
815°C (1500°F)	17.7	180.0	2560	20.5	208.9	2970
1090°C (2000°F)	13.6	138.5	1970	13.5	137.1	1950
1480°C (2700°F)	15.0	152.6	2170	16.3	166.0	2360
Hot Modulus Of Rupture	**MPa**	**kg/cm^2**	**psi**	**MPa**	**kg/cm^2**	**psi**
At: 815°C (1500°F)	21.4	218.0	3100	24.1	246.1	3500
Cold Crushing Strength	**MPa**	**kg/cm^2**	**psi**	**MPa**	**kg/cm^2**	**psi**
After firing to:						
815°C (1500°F)	82.6	841.8	11970	90.8	926.2	13170
1090°C (2000°F)	94.9	967.7	13760	107.9	1099.9	15640
1480°C (2700°F)	99.9	1018.3	14480	104.0	1060.5	15080
Abrasion Loss	**cm^3**			**cm^3**		
After firing to:						
110°C (230°F)	6.1			4.9		
815°C (1500°F)	4.2			3.1		

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