PRODUCT BULLETIN

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ALLIED MINERAL PRODUCTS, INC.

QUICK CAST® 61ACX

General Information

QUICK CAST® 61ACX is part of a complete family of products that offers a wide range of installation methods: pumping, pouring, shotcreting or vibrating. QUICK CAST® 61ACX is a mullite based, low cement castable designed for molten aluminum applications including furnace sidewalls, hearth, sills, jambs, ramps, troughs, ladles, and degas/demag boxes. For more severe applications, the QUICK CAST® family includes QUICK CAST® 72AC, QUICK CAST® 81ACX and QUICK CAST® 82AC; whereas QUICK CAST® 52AC can be used for less demanding applications. This product offers the following features and benefits:

- Excellent aluminum non-wetting characteristics
- Ideally suited for aluminum contact applications
- Tolerates a wide water range without sacrificing physical properties
- Abrasion resistant

Technical Data

Chemical Analysis*
(Major Components)

Al_2O_3	65.3 %
SiO_2	29.0 %
CaO	2.2 %
TiO_2	1.9 %
Fe_2O_3	0.9 %

Material Required, vibration casting	2.59 g/cm^3 (162 lb./ft.^{3})
Material Required, pour casting	2.51 g/cm^3 (157 lb./ft.^{3})
Grain Size	5 mm (4 mesh) and finer
Maximum Use Temperature	1650°C (3000°F)
Installation Method	Self-flow or Vibrated

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

QUICK CAST® 61ACX 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 5.0% and 6.5%.

	Vibrated	Self-flow
Water Required:	5.0%	6.5%
Working Time:	40 minutes	>60 minutes
Initial Set:	2-6 hours	2-6 hours
Final Set:	4-14 hours	6-14 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.

*Proprietary ingredient not included in chemistry.

Warning: Contains aluminum oxide, calcium aluminate cement, aluminosilicates, 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. 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.

(MXQC61ACX)
Issue 3/18/08

LABORATORY TEST BAR DATA

QUICK CAST® 61ACX

Casting Consistency	Self-flow			Vibrated		
Casting Water	6.5%			5.0%		
Density	**g/cm³**	**kg/m³**	**pcf**	**g/cm³**	**kg/m³**	**pcf**
After firing to:						
110°C (230°F)	2.59	2590	162	2.63	2630	164
815°C (1500°F)	2.51	2510	157	2.59	2590	162
1090°C (2000°F)	2.50	2500	156	2.58	2580	161
1370°C (2500°F)	2.45	2450	153	2.51	2510	157
Modulus Of Rupture	**MPa**	**kg/cm²**	**psi**	**MPa**	**kg/cm²**	**psi**
After firing to:						
110°C (230°F)	13.4	137.1	1950	17.1	174.4	2480
815°C (1500°F)	17.4	177.9	2530	23.5	239.7	3410
1090°C (2000°F)	19.5	199.0	2830	26.8	273.5	3890
1370°C (2500°F)	28.3	288.3	4100	33.8	345.2	4910
Hot Modulus Of Rupture	**MPa**	**kg/cm²**	**psi**	**MPa**	**kg/cm²**	**psi**
815°C (1500°F)	25.1	342	4870	40.0	408	5810
Cold Crushing Strength	**MPa**	**kg/cm²**	**psi**	**MPa**	**kg/cm²**	**psi**
After firing to:						
110°C (230°F)	90.3	921	13100	116.5	1188	16900
815°C (1500°F)	86.9	886	12600	117.9	1202	17100
1090°C (2000°F)	119.3	1216	17300	153.7	1568	22300
1370°C (2500°F)	125.5	1280	18200	133.7	1364	19400
Permanent Linear Change	**%**			**%**		
After firing to:						
110°C (230°F)						
815°C (1500°F)	-0.3			-0.4		
1090°C (2000°F)	-0.1			-0.1		
1370°C (2500°F)	0.4			0.7		
Apparent Porosity	**%**			**%**		
After firing to:						
110°C (230°F)	10.2			4.1		
815°C (1500°F)	17.6			14.6		
1090°C (2000°F)	16.7			13.4		
1370°C (2500°F)	16.7			14.5		
Abrasion Loss	**cm³**			**cm³**		
After firing to:						
110°C (230°F)	5.8			6.4		
815°C (1500°F)	6.1			4.0		
1090°C (2000°F)	6.1			4.7		

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