PRODUCT BULLETIN

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ALLIED MINERAL PRODUCTS, INC.

LCF 384A

General Information

LCF 384A is a low moisture, low cement, alumina-based castable designed for ladles, induction furnace structural components and producing precast shapes. Typical applications for this product include iron ladles, launder systems, coreless furnace push out plugs and rings, electric arc furnace delta sections, ladle metallurgy furnaces, and ladle treatment covers. LCF 384A offers the following benefits and features:

> Resistance to thermal shock conditions
> Excellent hot and cold strengths
> Outstanding spall resistance

Technical Data

Chemical Analysis
(Major Components)

Al_2O_3	80.0%
SiO_2	13.0%
TiO_2	3.2%
CaO	1.6%
Fe_2O_3	1.2%

Material Required	2.64 g/cm^3 (165 lb/ft^3)
Grain Size	6 mm (3 mesh and finer)
Practical Temperature Limit	1705°C (3100°F)
Installation Method	Vibration
Procedures	G-33

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

Hydraulic Set

Water Required:	6.5 - 7.0%
Working Time:	45 minutes
Initial Hydraulic Set:	2 - 5 hours
Final Hydraulic Set:	3 - 10 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, aluminosilicates, calcium aluminate 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. Hydrogen gas may be generated when product is exposed to water. Proper ventilation should be supplied to avoid gas buildup. Avoid use of enclosed forms. Ignition of hydrogen gas in an enclosed area can lead to personal injury. 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.

(LCF384)
Revised 12/30/15

Laboratory Test Bar Data
LCF384A

Density	**g/cm³**	**kg/m³**	**pcf**
After firing to:			
300°F (150°C)	2.63	2627	164
1000°F (540°C)	2.63	2627	164
1800°F (980°C)	2.63	2627	164
2700°F (1480°C)	2.55	2547	159

Permanent Linear Change	**%**
After firing to:	
300°F (150°C)	0.0
1000°F (540°C)	0.0
1800°F (980°C)	-0.1
2700°F (1480°C)	0.7

Modulus Of Rupture	**MPa**	**kg/cm²**	**psi**
After firing to:			
300°F (150°C)	6.8	69.6	990
1000°F (540°C)	7.1	72.8	1035
1800°F (980°C)	11.5	118.1	1680
2700°F (1480°C)	12.3	125.5	1785

Cold Crushing Strength	**MPa**	**kg/cm²**	**psi**
After firing to:			
1400°F (760°C)	34.5	351.5	5000
1800°F (980°C)	48.3	492.1	7000
2700°F (1480°C)	62.1	632.7	9000

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