



# QUICK-FIRE® & QUICK-FIRE® ONE

## RAPID TURNAROUND FOR YOUR FURNACE



**ALLIED  
MINERAL**  
PRODUCTS

Global **Refractory** Solutions



# ABOUT ALLIED

Allied Mineral Products is a world leader in the design and manufacture of monolithic refractories. With strong sales and service teams in the foundry, aluminum, steel, heat treat/forge and industrial markets, our success is based on our dedication to *Being There Worldwide with Refractory Solutions*.

Producing quality, consistent products is top priority at Allied and we have the products to meet your refractory needs. Our extensive product line includes innovative refractory technology and longstanding refractory alternatives.

Allied's focus on quality at every stage in the production process is unparalleled. A stringent raw material standard and global quality control testing before and after each batch is produced, provides customers with consistent products. We provide quick response times to any urgent request through flexible manufacturing systems at all our manufacturing facilities.

## Global **Refractory** Solutions



**14 MANUFACTURING FACILITIES**  
OVER 160 INTERNATIONAL SALES REPRESENTATIVES  
**3 RESEARCH AND TECHNOLOGY FACILITIES**  
SALES ACTIVITY IN MORE THAN 130 COUNTRIES  
**7 PRECAST SHAPE FACILITIES**





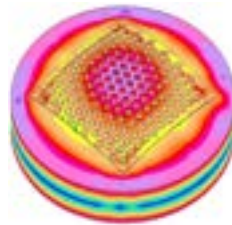
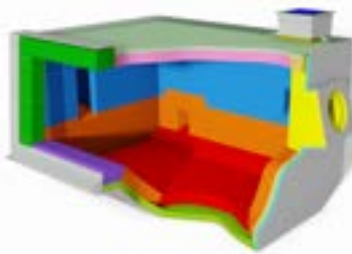
# RESEARCH & ENGINEERING

After gaining a detailed understanding of your specific needs, our team evaluates operating criteria and physical design parameters to create a detailed engineered design encompassing:

- Patented technologies
- Optimized product zoning
- Thermal models to optimize and validate designs
- Proven safety lining system designs
- Unique installation properties and techniques
- Leading edge refractory system designs

We're focused on developing new products, improving existing products and perfecting installation techniques. Our product development and testing is conducted in our state of the art research and technology center. We have an on-site gunning and shotcreting lab allowing extensive testing of installation properties.

As an innovative, technology-driven supplier we're devoted to providing customized refractory solutions for various industry operations. We offer a wide variety of high performance refractory products with superior raw material quality.



FEA Thermal Analysis



Flow Testing



Contact Tests



Strength Tests



Gunning/Shotcrete Lab



The two-component technology in QUICK-FIRE® products utilizes a liquid phosphate bonding system that improves performance and can drastically reduce downtime. Like its name states, QUICK-FIRE® is a rapid-turnaround material that can set in half the amount of time as other cement bonded castables.

Allied supplies a mix suitable for all applications, including harsh metal contact areas below the melt line and non-metal contact areas such as doors, burner blocks and maintenance above the melt line.

QUICK-FIRE® is a versatile product. It can be used as a veneer on top of an existing lining, or as a repair for full lining thickness. The product can be gunned or cast into place.

### Benefits

- Non-wetting properties
- Short mixing and working time and improved flow ability
- Quick set time & rapid dry out
- Bonds to itself and existing refractories
- Thermal shock resistance



Product	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	Density	Max. Temp
QUICK-FIRE® 60G	65.5	25.5	2.21 g/cm <sup>3</sup> (138 lb/ft <sup>3</sup> )	1650°C (3000°F)
QUICK-FIRE® 65	68.6	26.7	2.48 g/cm <sup>3</sup> (155 lb/ft <sup>3</sup> )	1650°C (3000°F)
QUICK-FIRE® 85G	87.1	4.3	2.50 g/cm <sup>3</sup> (156 lb/ft <sup>3</sup> )	1650°C (3000°F)
QUICK-FIRE® 88	88.6	3.5	2.84 g/cm <sup>3</sup> (177 lb/ft <sup>3</sup> )	1650°C (3000°F)
QUICK-FIRE® 90	89.2	3.7	2.90 g/cm <sup>3</sup> (181 lb/ft <sup>3</sup> )	1650°C (3000°F)
QUICK-FIRE® PATCH B	78.5	11.2	2.53 g/cm <sup>3</sup> (158 lb/ft <sup>3</sup> )	1650°C (3000°F)
QUICK-FIRE® PATCH M	63.4	26.5	2.33 g/cm <sup>3</sup> (145 lb/ft <sup>3</sup> )	1650°C (3000°F)



# QUICK-FIRE® ONE

QUICK-FIRE® ONE is a line of single-component, rapid turnaround products that set faster than most cement bonded castables.

QUICK-FIRE® ONE products require only a water addition for mixing instead of liquid phos acid. This single-component system allows the product to ship like typical refractory materials without the need for special transportation requirements.

## Benefits

- Non-wetting properties
- Short mixing and working time and improved flow ability
- Quick set time & rapid dry out
- Bonds to itself and existing refractories
- Thermal shock resistance



Product	Al <sub>2</sub> O <sub>3</sub> %	SiO <sub>2</sub> %	Density	Max. Temp
QUICK-FIRE® ONE 83 ABR	82.9	3.9	2.58 g/cm <sup>3</sup> (161 lb/ft <sup>3</sup> )	1650°C (3000°F)
QUICK-FIRE® ONE 84 G	87.2	4.5	2.42 g/cm <sup>3</sup> (151 lb/ft <sup>3</sup> )	1650°C (3000°F)
QUICK-FIRE® ONE 86	86.4	4.2	2.55 g/cm <sup>3</sup> (159 lb/ft <sup>3</sup> )	1650°C (3000°F)
QUICK-FIRE® ONE PATCH B	79.9	10.3	2.46 g/cm <sup>3</sup> (153 lb/ft <sup>3</sup> )	1650°C (3000°F)





# BEFORE & AFTER

## QUICK-FIRE®



**BEFORE:** Furnace with material needing repair



**AFTER:** QUICK-FIRE® 85 G installed



**BEFORE:** Furnace with material needing repair



**AFTER:** QUICK-FIRE® 85 G installation completed



# BEFORE & AFTER

## QUICK-FIRE® ONE



**BEFORE:** Furnace with material needing repair



**AFTER:** QUICK-FIRE® ONE 84 G installed



**BEFORE:** Furnace with material needing repair



**AFTER:** QUICK-FIRE® ONE 84 G installation completed



# CASE STUDY

## QUICK-FIRE®

### QUICK-FIRE® 88 ROUND TOP WALL VENEER

#### EQUIPMENT

- 220,000 lb top charge melting furnace

#### PRODUCT

- 145,000 lbs (65,770 kg) of QUICK-FIRE® 88, a high alumina, two-component castable that can be used to repair existing linings or cast in place as a new lining

#### APPLICATION

- Lower and upper walls
- Veneer cast 3 - 4" on average

#### INSTALLATION

- QUICK-FIRE® 88 cast in panels
- QUICK-FIRE® 88 placed via a conveyor system

#### RESULTS

- Previously this furnace required quarterly maintenance, but after installing QUICK-FIRE® 88 the 220,000 lb furnace has run without maintenance for nearly 2 years







# CASE STUDY

## QUICK-FIRE® ONE

### QUICK-FIRE® ONE

#### EQUIPMENT

- 70-ton reverb furnace

#### PRODUCT

- QUICK-FIRE® ONE 84 G

#### APPLICATION

- Diecaster uses mostly 380 and 383 series alloys
  - One of the highest diecasting producers
- QUICK-FIRE® ONE 84 G was installed in the jambs, sill, upper & lower sidewalls to replace a competitive 80% low-cement castable that had premature wear.
- The competitive material lasted 12 months of operation.

#### INSTALLATION

- QUICK-FIRE® ONE 84 G was installed using a standard pneumatic gunning installation material
- Installed December 2021.

#### RESULTS

- The lining has been in service for 19 months.
- The customer noted that Allied's QUICK-FIRE® product line has performed better than anything else they have tried in the last 20 years.



August 2022 - 7 months in service



August 2023 - 19 months in service



# QUICK-FIRE® GUN KIT

Allied's QUICK-FIRE® GUN KIT is available for rent or purchase. We offer this convenience as a one stop shop for your gunning needs. Contact your Allied representative for more details.





process



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NOTES

refractory

$\Sigma$

research



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thermal expansion

$\Delta$

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= %

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The Allied Difference

Being There Worldwide with Refractory Solutions





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Global **Refractory** Solutions



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