



*Don't*  
**LET YOUR  
LADLE GO  
COMMANDO**

ADD PROTECTION ★ RETAIN HEAT



Need **ladle solutions** to optimize refractory performance?

**We've got you covered.**


[alliedmineral.com](http://alliedmineral.com)





KEEP **HEAT** WHERE  
YOU NEED IT  
*with*  
A LAYERED APPROACH

[alliedmineral.com](http://alliedmineral.com)



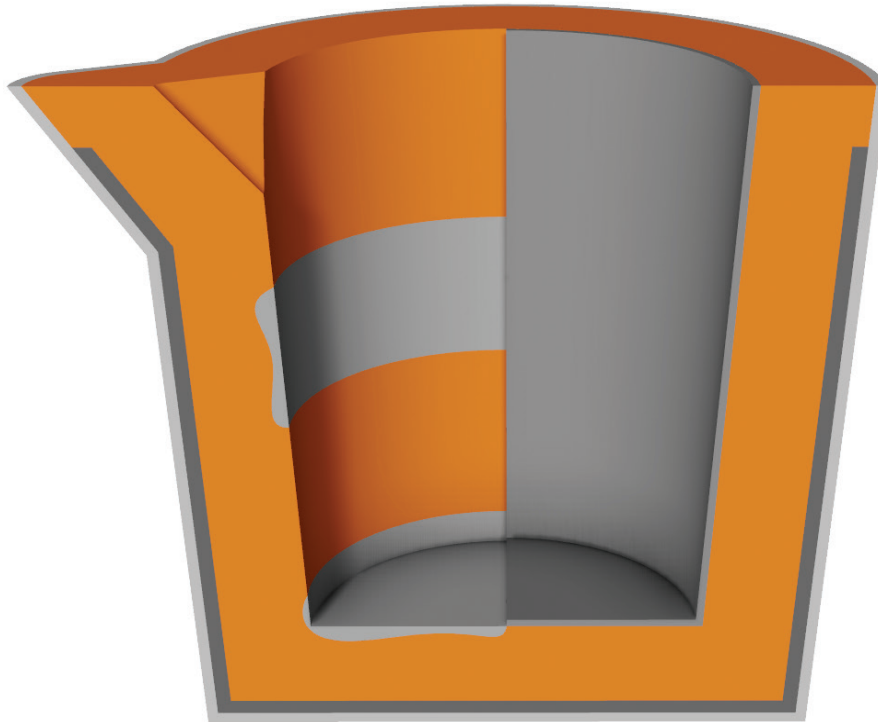
For superior refractory performance and savings, Allied Mineral Products offers the most advanced monolithic refractories to line iron, steel, copper and aluminum ladles. Get unique products for a complete refractory system that ensures your ladles get the job done — addressing optimal lining function, durability and maintenance.

Allied's products are designed to retain heat. That translates into less work for your furnace and ladle refractory savings.

Learn how our **customers are succeeding with ladle solutions** for backup insulation, working linings, maintenance and coatings.

# Working Lining

— Monolithic Cast Ladles —



## IRON ALLOYS

- CW 712 CASTABLE
- CW 965 CASTABLE
- DRI-VIBE® 916A
- MINRO-AL® PLASTIC A76
- METAL KAST 85 & 85 C
- DURACON 32
- TUFF-FLO 608
- VIB RAM 70
- DRI-VIBE® 88

## ALUMINUM ALLOYS

- MATRICAST 82 SiC
- QUICK CAST® 61ACX
- MATRILITE HS AC
- MATRIPUMP 63ACX
- QUICK CAST® 62

## STEEL ALLOYS

- METAL KAST 85 & 85 C
- METAL KAST 90
- DRI-VIBE® 916A
- DRI-VIBE® 88
- MINRO-AL® RAM A60-W

## COPPER ALLOYS

- TUFF-FLO 608
- CW METAL KAST 85
- CW METAL KAST 60
- LCF 798A

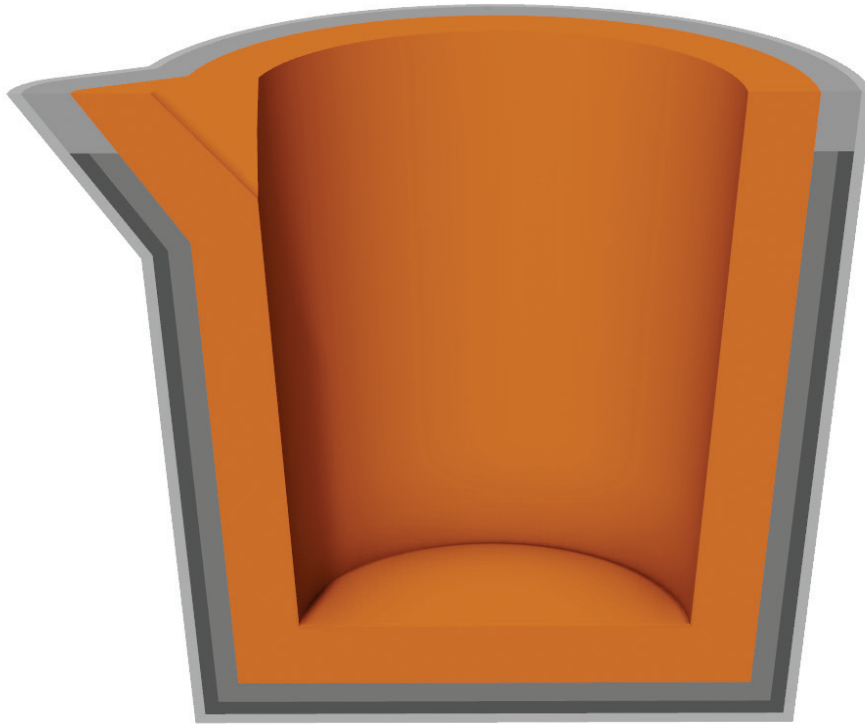
## ZINC ALLOYS

- MATRIFIRE® 8085ACX
- QUICK-FIRE® 88
- MINRO-AL® PLASTIC A76
- QUICK CAST® 62AC



# Working Lining

— Precast Shape Ladles —



## IRON ALLOYS

- CW 712 CASTABLE
- CW 965 CASTABLE
- METAL KAST 85 & 85 C
- DURACON 32
- TUFF-FLO 608

## ALUMINUM ALLOYS

- MATRICAST 82 SiC
- QUICK CAST® 61ACX
- MATRIPUMP 63ACX
- QUICK CAST® 62

## STEEL ALLOYS

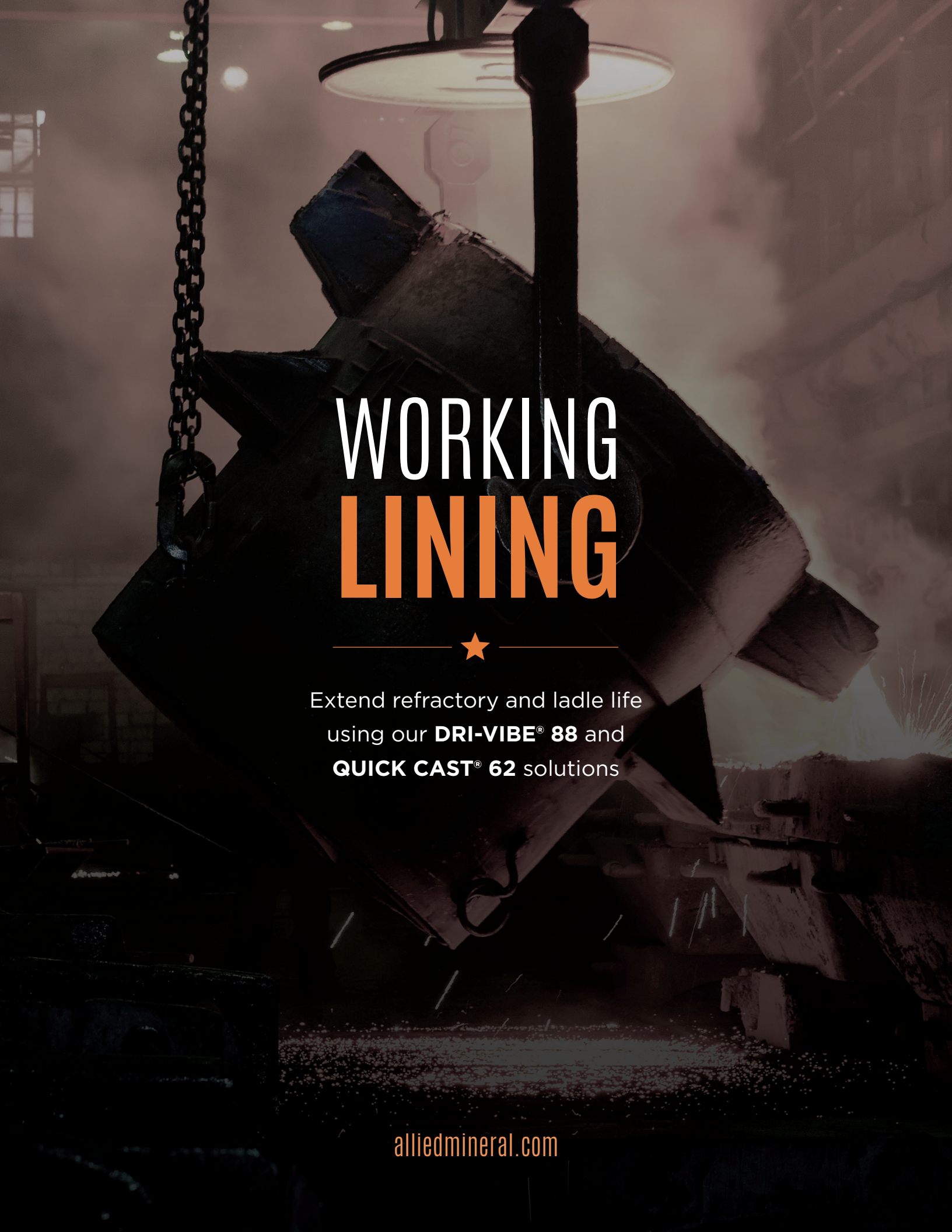
- METAL KAST 85 & 85 C
- METAL KAST 90

## COPPER ALLOYS

- TUFF-FLO 608
- CW METAL KAST 85
- CW METAL KAST 60

## ZINC ALLOYS

- QUICK CAST® 62



# WORKING LINING



Extend refractory and ladle life  
using our **DRI-VIBE® 88** and  
**QUICK CAST® 62** solutions

[alliedmineral.com](http://alliedmineral.com)



## CASE STUDY

# POURING LADLE WITH QUICK CAST® 62 AND BREAST PLATE

## EQUIPMENT

- Pouring ladle, 1765 lb (800 kg) capacity

## PRODUCT

- QUICK CAST® 62 and Precast Breast Plate

## APPLICATION

- Pouring ladle

## INSTALLATION

- Used pan mixture and needle vibrator, with mica combination as backup
- 715 lb (325 kg) of QUICK CAST® 62 was installed
- 100 lb (50 kg) of MINRO-AL® PLASTIC A76 was used for a repair
- 88 lb (40 kg) of LADLE WELL was used as a coating
- Precast pre-fired plate was used as a dam to use the lip pouring ladle as a teapot ladle

## RESULTS

- The ladle performed 1,000 tappings before the customer took it offline
- The pre-fired breast plate looked brand new
- Due to Allied's recommendation to clean the slag after 50 to 60 tappings and coat with LADLE WELL, the customer does not have to repair dams

## CASE STUDY

# DRI-VIBE® 88 LADLE INSTALLATION

## EQUIPMENT

- Sliding tundish ladle, 1765 lb (800 kg) capacity

## PRODUCT

- DRI-VIBE® 88 was chosen due to easy sintering and equipment availability to install the castable

## APPLICATION

- Product was installed in grey iron treatment ladle
- It took 990 lb (450 kg) to finish the ladle lining

## INSTALLATION

- Completed according to Allied procedures

## RESULTS

The ladle is still in service after 10 months of use

# THERMAL EFFICIENCY



Conserve energy with Allied's high-performance backup insulation product,

**MINRO-SIL® RAM 1001 NO BA**

## IRON, STEEL, ALUMINUM, COPPER & ZINC ALLOYS

- Skamol VIP-12 HS Board
- Skamol VIP-12 HS Clickboard
- Kaowool Paper
- Microporous Board





## CASE STUDY

# PRECAST LADLE LINER

### EQUIPMENT

- 700 lb (315 kg) ladle

### PRODUCT

- Allied precast shape

### APPLICATION

- Pouring ladle with dam wall
- Customer was initially achieving about 1 month of ladle life/campaign

### INSTALLATION

- Lined the shell with 1/4" ceramic fiber paper
- Rammed floor with MINRO-SIL® RAM 1001 NO BA
- Set precast ladle and rammed sidewalls with MINRO-SIL® RAM 1001 NO BA

### RESULTS

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- Customer now achieves a shape life of 3 months with improved maintenance and pouring practices
- Using Allied's precast ladles vs. competitive material liners, which were replaced daily, will save the customer an estimated \$60,000 annually in lining, material and man hour costs

# MAINTENANCE



Use Allied's **PLASTER 55AC** to  
increase ladle performance

## IRON ALLOYS

STEEL-PAK  
90CR

CW 85 HS  
PLASTIC

RAM MAX  
BR 70-P

PLASTER 55AC

## STEEL ALLOYS

STEEL-PAK  
90CR

MINRO-AL®  
PLASTIC A91

CW 608 SEAL

PHOS FREE  
PLASIC FINE

## ALUMINUM ALLOYS

QUICK-FIRE®  
PATCH B

QUICK-FIRE®  
PATCH B

MINRO-AL®  
PLASTIC A76

CW 608 SEAL

## COPPER ALLOYS

CW 620 SEAL

CW 608  
SEAL

CW 85 HS  
PLASTIC

RAM MAX  
BR 70-P

## ZINC ALLOYS


PLASTER 55AC

MATRIFIRE®  
8085 ACX

STEEL-PAK  
90CR

QUICK-FIRE®  
88





## CASE STUDY

# TOP CAP AND SPOUT PATCHING MATERIAL

### EQUIPMENT

- 5 ton ladle

### PRODUCT

- PLASTER 55AC

### APPLICATION

- Patching top cap and spout

### INSTALLATION

- Mix in 5-gallon bucket using a paint mixer; added water to desired consistency

### RESULTS

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- Customer saw successful patching lasting an entire week of production
- The customer now uses PLASTER 55AC to successfully repair 5-ton ladles

# COATINGS



Improve casting quality and surface  
finish with Allied's **LCF 384A** and  
**T-COAT® 692M** coatings





## CASE STUDY

# INSTALLATION OF LCF 384A AND T-COAT® 692M IN T-SPOUT LADLE

## EQUIPMENT

- 2425 lb (1100 kg) T-spout ladle

## PRODUCT

- LCF 384A and T-COAT® 692M

## APPLICATION

- LCF 384A was installed for the working lining
- T-COAT® 692M for the coating

## INSTALLATION

- Lining thickness for the sidewall was 3 inches and 3.5 inches for the bottom
- Used a removable form, mixer and forking tools for installation
- After dry-out, 8 to 10 mm of T-COAT® 692M was applied
- The temperature of the spout was raised and liquid metal was later poured for tapping

## RESULTS

- Customer has used T-COAT® 692M with LCF 384A for 5 months and is very happy with the results
- T-COAT® 692M helped improve refractory lining performance by 50%





**12** MANUFACTURING FACILITIES  
OVER **130** INTERNATIONAL SALES REPRESENTATIVES  
**3** RESEARCH AND TECHNOLOGY FACILITIES  
SALES ACTIVITY IN MORE THAN **100** COUNTRIES  
**5** PRECAST SHAPES FACILITIES





# WE ARE A GLOBAL REFRACTORY SOLUTIONS PROVIDER

Allied Mineral Products is a global leader in developing, designing and manufacturing monolithic refractories and precast refractory shapes. With more than 1,400 products, we provide leading-edge refractory technology and valued-added alternatives.

We're dedicated to being there for you. Partner with us to get the smartest refractory solutions, with quality and consistency, for every furnace and industry application. From research and engineering to manufacturing and service, it's all in our element.



*we are a*

# GLOBAL REFRACTORY SOLUTIONS PROVIDER

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[alliedmineral.com](http://alliedmineral.com)

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