

# MONOLITHIC REFRACTORIES INDUSTRIAL



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## Monolithic Refractories for Minerals Processing, Power Generation, Circulating Fluidized Bed Boilers and the Petrochemical Industries

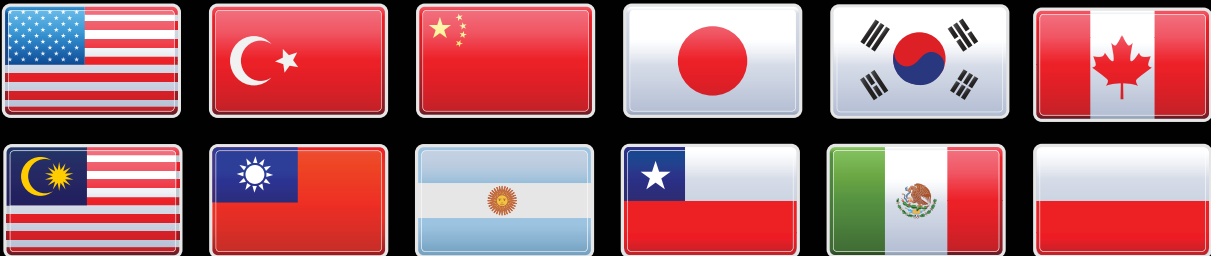
United Refractories Company (URC) designs innovative, durable refractories focusing on customer specific needs and applications. Our technically driven products manufactured at our UNI-REF, Inc. (URI) facility include our new generation (RG) low cement gunning mixes, rapid fire (RF) accelerated dry-out technology, UNI-SHOT/UNI-GUN abrasion resistant shotcrete and gunning mixes, UNI-RAM/UNI-PLAS user friendly plastics, and our UNI-BRADE wear and abrasion resistant product line. For over 40 years, URC has provided unparalleled value through outstanding quality, proven technology and customer focused service.



Quality means more than our ISO9001:2008 certification - we go even further. It's not just our standard, quality is our commitment.

Visit us at [www.unitedrefractoriesco.com](http://www.unitedrefractoriesco.com) to learn more.

## STRATEGICALLY LOCATED TO SERVE YOU BETTER...



Currently represented in 30 countries and across 5 continents with manufacturing plants in USA, China, Taiwan and Japan. With strategic partners located throughout the world, United Refractories Co. is committed to servicing our customers. Our commitment to partnering with distributors and licensees allows us to continue to grow our global presence.

# INDUSTRIAL REFRACTORIES CEMENT / LIME



CEMENT / LIME

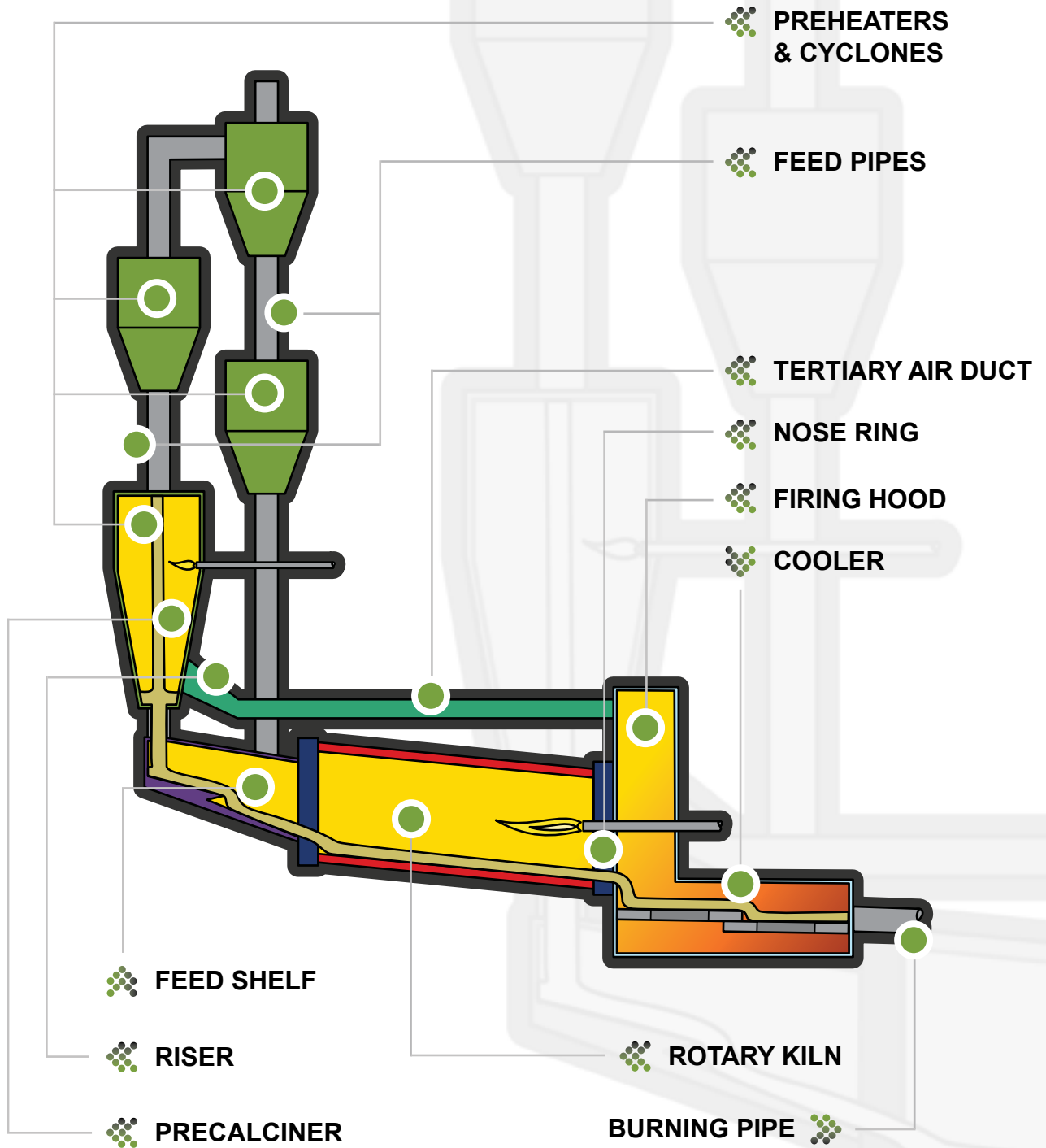
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# INDUSTRIAL REFRACTORIES

## CEMENT / LIME



CEMENT / LIME



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# CEMENT / LIME

## PREHEATERS & CYCLONES

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60Z RG

Zircon enriched rapid fire, high alumina, low cement gunning mix for abrasion and alkali resistance

### UNI-GUN RF-MZS RG

Rapid fire, high alumina, low cement gunning mix fortified with zircon and silicon carbide to increase penetration resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-PUMP 60

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-PUMP 60SC

High silicon carbide, low cement pumpable castable designed for abrasion and alkali resistance

### UNI-PUMP 80SC

High silicon carbide, low cement pumpable castable designed for resistance to abrasion, alkali attack and thermal shock

### UNI-PUMP AZ-SC

High alumina, low cement pumpable castable fused with AZS grain and silicon carbide to increase penetration resistance

### UNI-PUMP LC-60Z

Zircon enriched, low cement pumpable castable designed for high strengths and resistance to alkalis and thermal shock

### UNI-SHOT 80SC

High silicon carbide, low cement shotcrete refractory designed for resistance to abrasion, alkali attack and thermal shock

### UNI-SHOT AZ-SC

High alumina, low cement pumpable castable fused with AZS grain and silicon carbide to increase penetration resistance

### UNI-SHOT RF-45

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

## PREHEATERS & CYCLONES (Cont)

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT RF-60Z

Zircon enriched rapid-fire, high alumina, low cement shotcrete refractory for abrasion and alkali resistance

## FEED SHELF

### UNI-BRADE AR-85

Abrasion resistant, chemically bonded castable designed to be hand-packed, rammed or gunned

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60Z RG

Zircon enriched rapid fire, high alumina, low cement gunning mix for abrasion and alkali resistance

### UNI-GUN RF-MZS RG

Rapid fire, high alumina, low cement gunning mix fortified with zircon and silicon carbide to increase penetration resistance

### UNI-PUMP 60SC

High silicon carbide, low cement pumpable castable designed for abrasion and alkali resistance

### UNI-PUMP 80SC

High silicon carbide, low cement pumpable castable designed for resistance to abrasion, alkali attack and thermal shock

### UNI-PUMP AZ-SC

High alumina, low cement pumpable castable fused with AZS grain and silicon carbide to increase penetration resistance

### UNI-SHOT 80SC

High silicon carbide, low cement shotcrete refractory designed for resistance to abrasion, alkali attack and thermal shock

### UNI-SHOT AZ-SC

High alumina, low cement pumpable castable fused with AZS grain and silicon carbide to increase penetration resistance

## FIRING HOOD

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-PUMP 60

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-SHOT RF-45

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

## FEED PIPES

### UNI-BRADE AR-85

Abrasion resistant, chemically bonded castable designed to be hand-packed, rammed or gunned

### UNI-PUMP 60

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-PUMP AZ-SC

High alumina, low cement pumpable castable fused with AZS grain and silicon carbide

## COOLER

### UNI-PUMP 60

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-BRADE AR-P8

Abrasion resistant, pumpable, low cement castable with extremely high density and very low porosity

### UNI-PUMP LC-80HS

High alumina, low cement pumpable castable designed for high hot strength

### UNI-RAM BLU J

High alumina, mullite-based phosphate bonded plastic refractory with outstanding strength and workability

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

MORE 

# CEMENT / LIME

## BURNER PIPE

### UNI-CAST LC-94

High alumina, low cement castable with high density and low porosity

### UNI-BRADE AR-P8

Abrasion resistant, pumpable, low cement castable with extremely high density and very low porosity

## NOSE RING

### UNI-GUN RF-60Z RG

Zircon enriched rapid fire, high alumina, low cement gunning mix for abrasion and alkali resistance

### UNI-GUN RF-MZS RG

Rapid fire, high alumina, low cement gunning mix fortified with zircon and silicon carbide to increase penetration resistance

### UNI-BRADE AR-P8

Abrasion resistant, pumpable, low cement castable with extremely high density and very low porosity

### UNI-SHOT AZ-SC

High alumina, low cement pumpable castable fused with AZS grain and silicon carbide to increase penetration resistance

## TERTIARY AIR DUCT

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60Z RG

Zircon enriched rapid fire, high alumina, low cement gunning mix for abrasion and alkali resistance

### UNI-GUN RF-MZS RG

Rapid fire, high alumina, low cement gunning mix fortified with zircon and silicon carbide to increase penetration resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-PUMP 60

High alumina, low cement castable designed for pumping or vibra-casting

## TERTIARY AIR DUCT (Cont)

### UNI-SHOT AZ-SC

High alumina, low cement pumpable castable fused with AZS grain and silicon carbide to increase penetration resistance

### UNI-SHOT RF-45

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

## PRECALCINER

### UNI-GUN RF-60 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60Z RG

Zircon enriched rapid fire, high alumina, low cement gunning mix for abrasion and alkali resistance

### UNI-GUN RF-MZS RG

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### UNI-SHOT AZ-SC

High alumina, low cement pumpable castable fused with AZS grain and silicon carbide to increase penetration resistance

## PRECALCINER (Cont)

### UNI-SHOT RF-45

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

## ROTARY KILN

### UNI-GUN RF-MZS RG

Rapid fire, high alumina, low cement gunning mix fortified with zircon and silicon carbide to increase penetration resistance

### UNI-BRADE AR-P8

Abrasion resistant, pumpable, low cement castable with extremely high density and very low porosity

### UNI-SHOT AZ-SC

High alumina, low cement pumpable castable fused with AZS grain and silicon carbide to increase penetration resistance

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

## RISER

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-PUMP 60

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-SHOT RF-45

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

# INDUSTRIAL REFRACTORIES HYDROCARBON PROCESSING



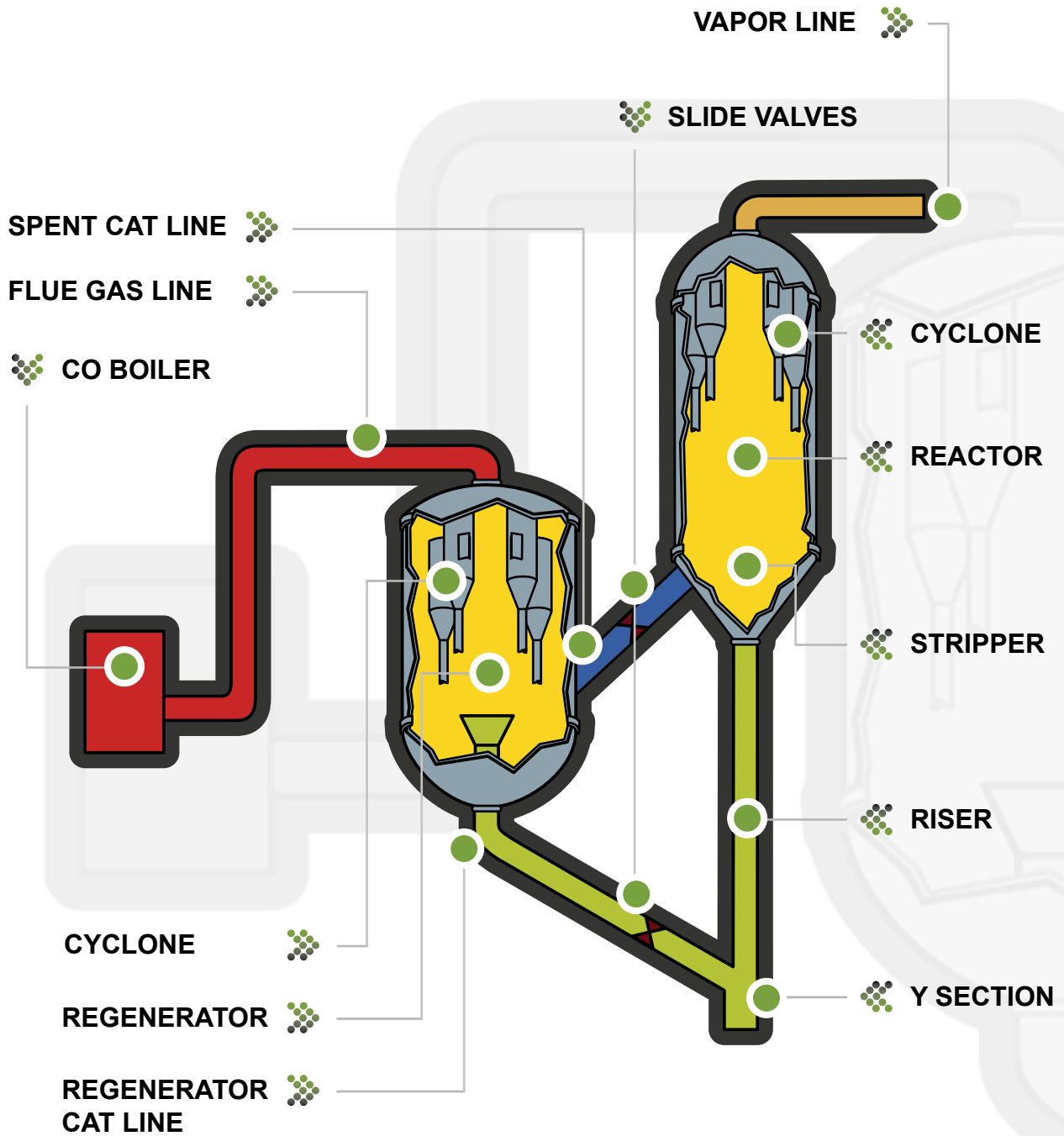
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# INDUSTRIAL REFRACTORIES

## HYDROCARBON PROCESSING





# HPI

## CO BOILER

### UNI-CAST 99C

Coarse grained, high purity castable refractory with exceptional strength, volume stability and erosion resistance

### UNI-CAST LC-94

High alumina, low cement castable with high density and low porosity

## CYCLONES

### UNI-BRADE AR-85

Abrasion resistant, chemically bonded castable designed to be hand-packed, rammed or gunned

### UNI-BRADE AR-P8

Abrasion resistant, pumpable, low cement castable with extremely high density and very low porosity

### UNI-BRADE AR-VC8

Abrasion resistant, low cement vibra-cast well suited for hot strength and designed for extreme conditions

## FLUE GAS LINE

### UNI-CAST 28 LW-HS

High strength, medium weight abrasion resistant castable

### UNI-GUN 28AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

## REACTOR

### UNI-GUN 28AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

## REGENERATOR

### UNI-CAST 28 LW-HS

High strength, medium weight abrasion resistant castable

### UNI-GUN 28AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

## REGENERATOR CAT LINE

### UNI-CAST 28 LW-HS

High strength, medium weight abrasion resistant castable

### UNI-GUN 28AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

## RISER

### UNI-CAST 28 LW-HS

High strength, medium weight abrasion resistant castable

### UNI-GUN 28AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

MORE 

# HPI

## SIDE VALVES

### UNI-BRADE AR-85

Abrasion resistant, chemically bonded castable designed to be hand-packed, rammed or gunned

### UNI-BRADE AR-P8

Abrasion resistant, pumpable, low cement castable with extremely high density and very low porosity.

### UNI-BRADE AR-VC8

Abrasion resistant, low cement vibra-cast well suited for hot strength and designed for extreme conditions

## SPENT CAT LINE

### UNI-CAST 28 LW-HS

High strength, medium weight abrasion resistant castable

### UNI-GUN 28AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-FS RG

High strength, low cement, fused silica gunning mix designed for abrasion and thermal shock resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

## STRIPPER

### UNI-GUN 28AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

## VAPOR LINE

### UNI-CAST 28 LW-HS

High strength, medium weight abrasion resistant castable

### UNI-GUN 28AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-FS RG

High strength, low cement, fused silica gunning mix designed for abrasion and thermal shock resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

## Y SECTION

### UNI-CAST 28 LW-HS

High strength, medium weight abrasion resistant castable

### UNI-GUN 28AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

# INDUSTRIAL REFRACTORIES POWER GENERATION

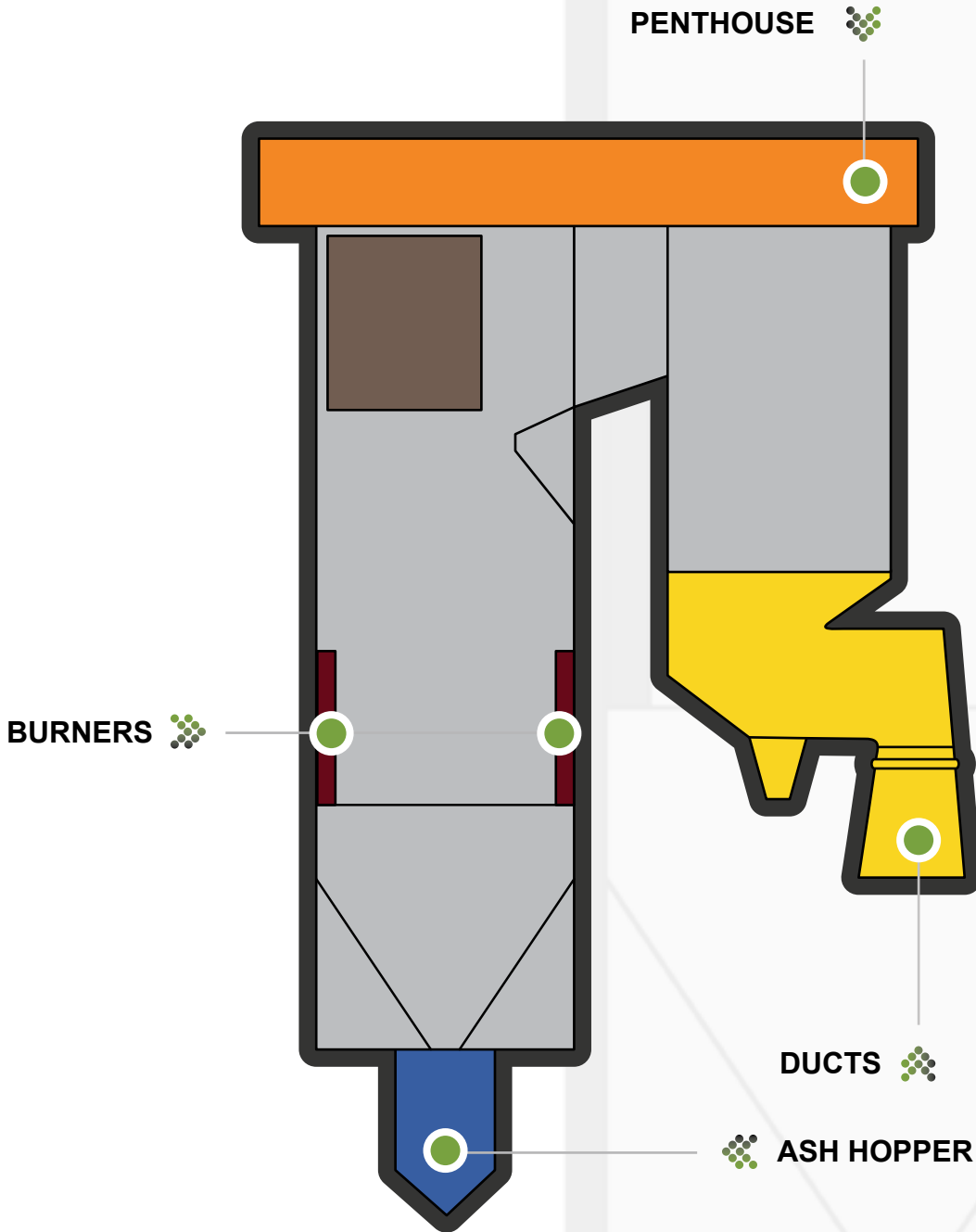


POWER GENERATION

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# INDUSTRIAL REFRACTORIES

## POWER GENERATION



POWER GENERATION

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# POWER GENERATION

## ASH HOPPER

### UNI-CAST 2600

High strength castable refractory with good thermal shock resistance

### UNI-GUN 26AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN 28AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN RF-FS RG

High strength, low cement, fused silica gunning mix designed for abrasion and thermal shock resistance

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-SHOT RF-45

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT FS-6

High strength, low cement, fused silica shotcrete refractory designed for abrasion and thermal shock resistance

## BURNERS

### UNI-BRADE AR-85

Abrasion resistant, chemically bonded castable designed to be hand-packed, rammed or gunned

### UNI-BRADE AR-P8

Abrasion resistant, pumpable, low cement castable with extremely high density and very low porosity.

### UNI-BRADE AR-VC8

Abrasion resistant, low cement vibra-cast well suited for hot strength and designed for extreme conditions.

### UNI-GUN RF-60 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PLAS SC-70HS

High silicon carbide, phosphate bonded soft plastic refractory for excellent workability and corrosion resistance

### UNI-RAM BLU J

High alumina, mullite-based phosphate bonded plastic refractory with outstanding strength and workability

## DUCTS

### UNI-CAST 2600

High strength castable refractory with good thermal shock resistance

### UNI-GUN 26AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

## PENTHOUSE

### UNI-CAST 2600

High strength castable refractory with good thermal shock resistance

### UNI-GUN 26AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN 28AR

High strength, low iron, abrasion resistant gunning mix

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-SHOT 45

High alumina, low cement shotcrete refractory

## BOILER WALLS (WASTE TO ENERGY)

### UNI-PLAS SC-70HS

High silicon carbide, phosphate bonded soft plastic refractory for excellent workability and corrosion resistance

### UNI-PLAS SC-80HS

High silicon carbide, phosphate bonded soft plastic refractory for excellent workability and corrosion resistance

1.275" H X .625" W

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# INDUSTRIAL REFRACTORIES

## CIRCULATING FLUIDIZED BED BOILERS



CFB

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# INDUSTRIAL REFRACTORIES

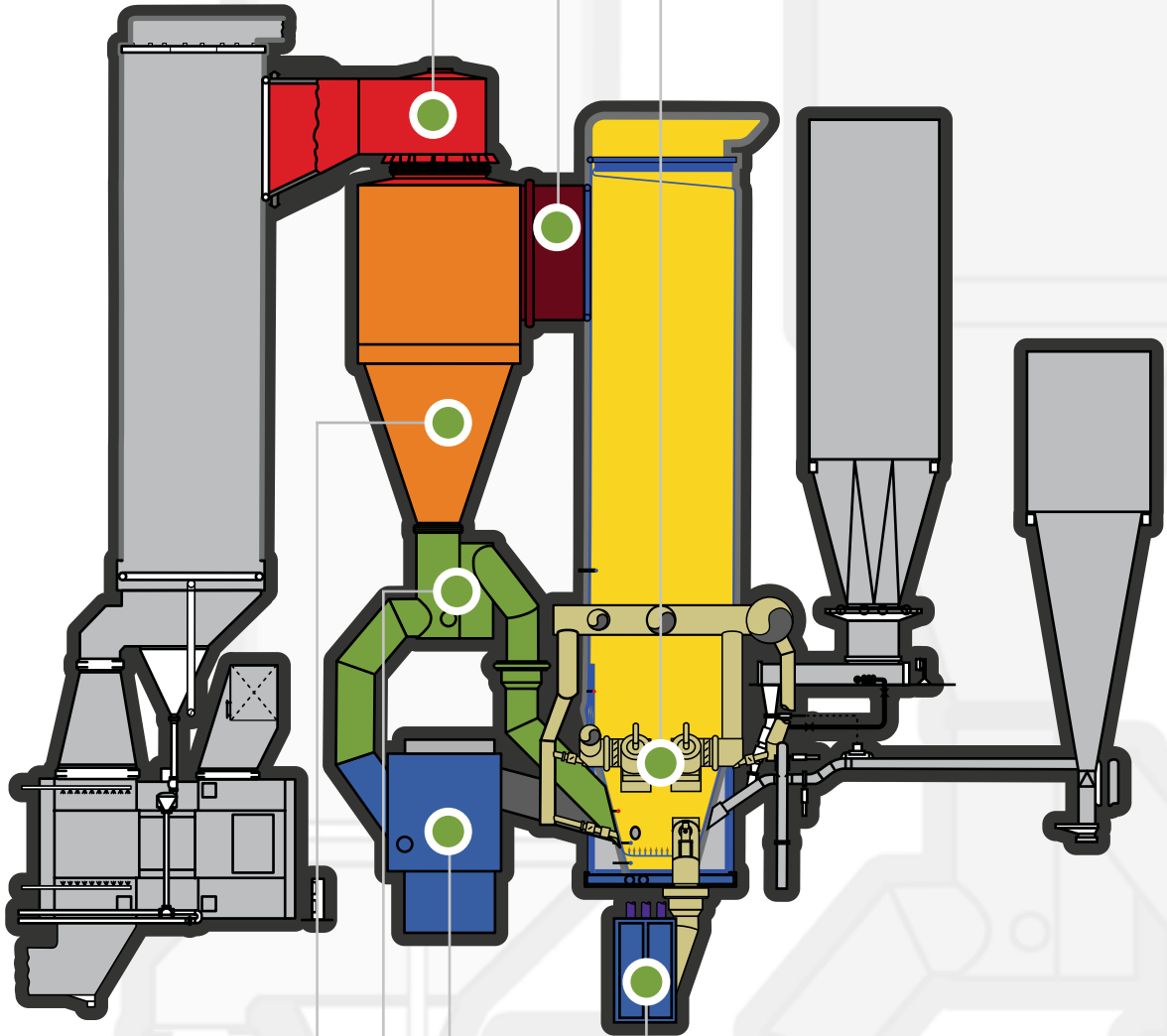
## CIRCULATING FLUIDIZED BED BOILERS



INLET DUCT  

OUTLET DUCT  

 COMBUSTION ZONE 



CYCLONE 

SEAL POT 

 ASH COOLER

 HEAT EXCHANGER

# CFB BOILERS

## ASH COOLER

### UNI-BRADE AR-85

Abrasion resistant, chemically bonded castable designed to be hand-packed, rammed or gunned

### UNI-BRADE AR-P8

Abrasion resistant, pumpable, low cement castable with extremely high density and very low porosity.

### UNI-BRADE AR-VC8

Abrasion resistant, low cement vibra-cast well suited for hot strength and designed for extreme conditions.

### UNI-GUN RF-FS RG

High strength, low cement, fused silica gunning mix designed for abrasion and thermal shock resistance

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-PUMP 60

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-SHOT FS-6

High strength, low cement, fused silica shotcrete refractory designed for abrasion and thermal shock resistance

### UNI-SHOT RF-45

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

## COMBUSTION ZONE

### UNI-BRADE AR-85

Abrasion resistant, chemically bonded castable designed to be hand-packed, rammed or gunned

### UNI-BRADE AR-P8

Abrasion resistant, pumpable, low cement castable with extremely high density and very low porosity

### UNI-BRADE AR-VC8

Abrasion resistant, low cement vibra-cast well suited for hot strength and designed for extreme conditions

### UNI-GUN RF-80SC RG

High silicon carbide, low cement gunning mix designed for abrasion and shock resistance

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PLAS SC-70HS

High silicon carbide, phosphate bonded soft plastic refractory for excellent workability and corrosion resistance

### UNI-PLAS SC-80HS

High silicon carbide, phosphate bonded soft plastic refractory for excellent workability and corrosion resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-PUMP 60

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-RAM BLU J

High alumina, mullite-based phosphate bonded plastic refractory with outstanding strength and workability

### UNI-SHOT 80SC

High silicon carbide, low cement shotcrete refractory designed for resistance to abrasion, alkali attack and thermal shock

### UNI-SHOT RF-45

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

## CYCLONE

### UNI-BRADE AR-85

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### UNI-BRADE AR-P8

Abrasion resistant, pumpable, low cement castable with extremely high density and very low porosity

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### UNI-GUN RF-60 RG

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### UNI-SHOT RF-45

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### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT RF-65

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

## INLET DUCT

### UNI-BRADE AR-85

Abrasion resistant, chemically bonded castable designed to be hand-packed, rammed or gunned

### UNI-BRADE AR-P8

Abrasion resistant, pumpable, low cement castable with extremely high density and very low porosity

### UNI-BRADE AR-VC8

Abrasion resistant, low cement vibra-cast well suited for hot strength and designed for extreme conditions

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

MORE 

# CFB BOILERS

## INLET DUCT *(Cont.)*

### UNI-GUN RF-60 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-RAM BLU J

High alumina, mullite-based phosphate bonded plastic refractory with outstanding strength and workability

### UNI-SHOT RF-45

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

## OUTLET DUCT

### UNI-BRADE AR-85

Abrasion resistant, chemically bonded castable designed to be hand-packed, rammed or gunned

### UNI-BRADE AR-P8

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### UNI-SHOT RF-45

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

## HEAT EXCHANGER

### UNI-BRADE AR-85

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### UNI-GUN RF-FS RG

High strength, low cement, fused silica gunning mix designed for abrasion and thermal shock resistance

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High silicon carbide, phosphate bonded soft plastic refractory for excellent workability and corrosion resistance

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### UNI-PUMP FS-6

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### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

## SEAL POT

### UNI-BRADE AR-85

Abrasion resistant, chemically bonded castable designed to be hand-packed, rammed or gunned

### UNI-BRADE AR-P8

Abrasion resistant, pumpable, low cement castable with extremely high density and very low porosity

### UNI-BRADE AR-VC8

Abrasion resistant, low cement vibra-cast well suited for hot strength and designed for extreme conditions

### UNI-GUN RF-FS RG

High strength, low cement, fused silica gunning mix designed for abrasion and thermal shock resistance

### UNI-GUN RF-50 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-GUN RF-60 RG

Rapid fire, high alumina, low cement gunning mix for excellent gunnability and abrasion resistance

### UNI-PLAS SC-70HS

High silicon carbide, phosphate bonded soft plastic refractory for excellent workability and corrosion resistance

### UNI-PUMP 45

High alumina, low cement castable designed for pumping or vibra-casting

### UNI-PUMP FS-6

High strength, low cement, fused silica pumpable castable designed for abrasion and thermal shock resistance

### UNI-RAM BLU J

High alumina, mullite-based phosphate bonded plastic refractory with outstanding strength and workability

### UNI-SHOT FS-6

High strength, low cement, fused silica shotcrete refractory designed for abrasion and thermal shock resistance

### UNI-SHOT RF-45

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

### UNI-SHOT RF-60

Rapid fire, high alumina, low cement shotcrete refractory for abrasion resistance

# INDUSTRIAL REFRACTORIES PRODUCTS | BY TYPE



# INDUSTRIAL REFRACTORIES

## PRODUCTS BY TYPE



URC offers extensive monolithic and specialty refractory products for the aluminum, iron, steel, non-ferrous metals, cement, lime, petrochemical and power generation industries. Listed below is a sampling of our products specifically for the industrial applications featured in this booklet.

For a complete, up to date listing of all of our products, please visit [www.unitedrefractoriesco.com](http://www.unitedrefractoriesco.com).

### GUNNING MIXES

ABRASION RESISTANT	MAXIMUM TEMP.		MATERIAL REQ'D		CHEMICAL ANALYSIS %			
	°F	°C	Lbs/ft <sup>3</sup>	Kg/m <sup>3</sup>	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	CaO	Other
UNI-BRADE AR-85	2500	1370	175	2800	83.1	8.8	2.6	3.8 1.7 P <sub>2</sub> O <sub>5</sub>
<b>CONVENTIONAL</b>								
UNI-GUN 26AR	2600	1430	133	2130	46.6	43.2	6.2	4.0
UNI-GUN 28AR	2800	1540	138	2210	49.2	41.3	6.8	2.7
<b>RAPID FIRE / LOW CEMENT / NEW GENERATION</b>								
UNI-GUN RF-50 RG	3000	1650	133	2130	51.5	43.4	2.8	2.3
UNI-GUN RF-60 RG	3100	1700	137	2200	58.9	35.6	2.8	2.7
UNI-GUN RF-60Z RG	3100	1700	143	2290	58.0	31.9	2.8	4.6 z <sub>2</sub> O <sub>2</sub>
UNI-GUN RF-FS RG	2300	1260	121	1940	27.8	69.0	2.2	1.0
UNI-GUN RF-MZS RG	3100	1700	145	2320	53.5	31.9	2.8	4.7 z <sub>2</sub> O <sub>2</sub>
UNI-GUN RF-80SC RG	3100	1700	144	2310	10.7	7.7	2.7	78.4 sic
<b>LIGHTWEIGHT</b>								
UNI-CAST LW-35G	2000	1100	37	590	29.6	49.5	13.8	7.1
UNI-CAST LW-60G	2300	1260	62	990	31.2	46.2	14.2	8.4
UNI-CAST LW-80G	2500	1370	85	1360	44.1	39.8	11.6	4.5
UNI-GUN 28 LW-HS	2800	1540	108	1730	49.4	43.3	4.9	2.4

### HAND PACK

	MAXIMUM TEMP.		MATERIAL REQ'D		CHEMICAL ANALYSIS %			
	°F	°C	Lbs/ft <sup>3</sup>	Kg/m <sup>3</sup>	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	Other
UNI-BRADE AR-85	2500	1370	170	2720	83.1	8.8	1.7	6.4

## CASTABLES

CONVENTIONAL	MAXIMUM TEMP.		MATERIAL REQ'D		CHEMICAL ANALYSIS %			
	°F	°C	Lbs/ft <sup>3</sup>	Kg/m <sup>3</sup>	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	CaO	Other
UNI-CAST 2600	2600	1430	133	2130	47.1	37.9	10.7	4.3
UNI-CAST 99C	3400	1870	175	2800	95.4	<0.1	4.3	0.2
LOW CEMENT								
UNI-BRADE AR-VC8	3200	1760	177	2840	82.3	12.3	2.2	3.2
UNI-CAST LC-94	3300	1820	192	3080	93.1	5.1	1.5	0.3
LIGHTWEIGHT								
UNI-CAST 28 LW-HS	2800	1540	115	1840	46.2	46.4	4.5	2.9
UNI-CAST LW-35G	2000	1100	37	590	29.6	49.5	13.8	7.1
UNI-CAST LW-60G	2300	1260	62	990	31.2	46.2	14.2	8.4
UNI-CAST LW-80G	2500	1370	85	1360	44.1	39.8	11.6	4.5

## PUMPABLES

	MAXIMUM TEMP.		MATERIAL REQ'D		CHEMICAL ANALYSIS %			
	°F	°C	Lbs/ft <sup>3</sup>	Kg/m <sup>3</sup>	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	CaO	Other
UNI-BRADE AR-P8	3200	1760	177	2840	82.7	11.8	2.1	3.4
UNI-PUMP 45	2950	1620	148	2370	50.4	44.3	3.0	2.3
UNI-PUMP 60	3100	1700	153	2450	59.0	36.5	2.0	2.5
UNI-PUMP 60SC	3000	1650	160	2560	23.4	15.0	1.6	59.0 SiC
UNI-PUMP 80SC	3100	1700	158	2530	12.8	10.0	1.9	74.6 SiC
UNI-PUMP AZ-SC	2800	1540	178	2850	50.2	19.9	1.8	4.6 SiC 20.9 Z <sub>2</sub> O <sub>2</sub>
UNI-PUMP FS-6	2300	1260	135	2160	25.9	71.6	1.5	1.0
UNI-PUMP LC-60Z	3100	1700	152	2440	56.0	35.6	2.6	3.3 Z <sub>2</sub> O <sub>2</sub>
UNI-PUMP LC-80HS	3200	1760	183	2930	82.5	11.8	2.1	3.6

## PLASTICS

	MAXIMUM TEMP.		MATERIAL REQ'D		CHEMICAL ANALYSIS %			
	°F	°C	Lbs/ft <sup>3</sup>	Kg/m <sup>3</sup>	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	SiC
UNI-PLAS SC-70HS	3200	1760	158	2530	21.7	3.2	6.8	67.4 0.9 OTHER
UNI-PLAS SC-80HS	3200	1760	155	2480	8.8	3.3	6.8	80.3 0.8 OTHER

## PLASTICS

	MAXIMUM TEMP.		MATERIAL REQ'D		CHEMICAL ANALYSIS %			
	°F	°C	Lbs/ft <sup>3</sup>	Kg/m <sup>3</sup>	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	P <sub>2</sub> O <sub>5</sub>	Other
UNI-RAM BLU J	3200	1760	165	2640	67.5	25.8	4.1	2.6

## SHOTCRETES

STANDARD	MAXIMUM TEMP.		MATERIAL REQ'D		CHEMICAL ANALYSIS %			
	°F	°C	Lbs/ft <sup>3</sup>	Kg/m <sup>3</sup>	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	CaO	Other
UNI-SHOT 45	2950	1620	148	2370	50.4	44.3	3.0	2.3
UNI-SHOT 80SC	3000	1650	159	2550	12.7	10.3	1.9	74.6 <sub>SiC</sub>
UNI-SHOT AZ-SC	2800	1540	177	2840	50.2	19.9	1.8	20.9 <sub>ZrO<sub>2</sub></sub> 4.6 <sub>SiC</sub>
UNI-SHOT FS-6	2300	1260	135	2160	25.9	71.6	1.5	1.0
RAPID FIRE								
UNI-SHOT RF-45	2950	1620	148	2370	50.4	44.3	3.0	2.3
UNI-SHOT RF-60	3100	1700	155	2480	59.0	36.5	2.0	2.5
UNI-SHOT RF-65	3150	1730	163	2610	63.1	32.3	2.1	2.5





## 4 DISTINCT ADVANTAGES 4 INDUSTRIAL CUSTOMERS

### ❖ ISO 9001 QUALITY

- ISO 9001: 2008 Certified
- With traceable documentation, we test every batch.

### ❖ IMMEDIATE RESPONSE

- Immediate order confirmation and one (1) day emergency response is routine.
- Special capabilities for packaging and private labeling.

### ❖ PRODUCT CUSTOMIZATION

- Unique compositions designed for core applications.
- Compositions are “customized” for contractors, distributors, and end users.

### ❖ U.S. OWNED, GLOBALLY TRUSTED

- U.S. privately owned with close ties to customers and suppliers.
- Global network of licensees, suppliers, and distributors.

# URC | UNITED REFRACTORIES CO.

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