

# Core Products For ALUMINUM

## Typical Uses & Applications

*All metal contact areas including hearths, ramps, sills, sidewalls and bellybands*

URC PRODUCT	Description (All with unique Al additive package)	4 Day Alcan Immersion Test at 1562°F & 5% Mg	72 Hour 7075 Alloy Cup Test at 1500°F	Hot MOR Strengths at 1500°F	C-704 Abrasion Resistance Test	Thermal Shock Resistance Test	Alkali Resistance Test	Corundum Resistance
UNI-PUMP 65 A	60% Al <sub>2</sub> O <sub>3</sub> , Low Cement	—	• Passed • No Penetration • Weak Adherence	Excellent	Very Good	Fair	Very Good	N/A
UNI-PUMP RF 65 A SR	62% Al <sub>2</sub> O <sub>3</sub> , Low Cement <i>With enhanced thermal shock resistance</i>	—	• Passed • No Penetration • No Adherence	Good to Very Good	Good to Very Good	Very Good	Very Good	N/A
UNI-PUMP 70 A	70% Al <sub>2</sub> O <sub>3</sub> , Low Cement	—	• Passed • No Penetration • Weak Adherence	Excellent	Very Good	Very Good	Fair to Good	N/A
UNI-SHIELD 70 A	70% Al <sub>2</sub> O <sub>3</sub> , Low Cement <i>(With a SiC &amp; Zircon Fortified Matrix)</i>	#1 Rating	• Passed • No Penetration • No Adherence	Excellent	Excellent	Very Good	Good	Yes- Uniquely fortified matrix and non-wetting characteristics
UNI-PUMP LC-80 HS A	80% Al <sub>2</sub> O <sub>3</sub> , Low Cement	—	• Passed • No Penetration • Weak Adherence	Outstanding	Excellent	Very Good	Very Good	Yes- As a higher alumina, lower silica option
UNI-PUMP 85 AL	84% Al <sub>2</sub> O <sub>3</sub> , Low Cement	#1 Rating	• Passed • No Penetration • No Adherence	Very Good	Very Good	Very Good	Fair to Good	Yes- High purity, lower silica system provides good chemical stability
UNI-PUMP LC-94 A	90% Al <sub>2</sub> O <sub>3</sub> , Low Cement	—	• Passed • No Penetration • Weak Adherence	Adequate	Fair to Good	Fair	Fair	Yes- Very high purity, low silica system provides optimum chemical stability

## Installation Versatility:

All UNI-PUMP products are designed for installation flexibility and can be cast, pumped and/or shotcreted

## Customer Challenges & Product Qualification

All above UNI-PUMP products have been qualified in specific tests that simulate aluminum corrosion resistance, hot strength properties, abrasion resistance, thermal shock resistance and alkali resistance to address critical wear mechanisms in the aluminum casthouse

## Process Analysis & Product Selection:

The URC team is ready to initiate process audits by furnace to develop a more prescriptive solution and optimize refractory selection



Scan for the URC:  
PROCESS AUDIT For The  
Aluminum Casthouse

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