

Alumina Crucibles



Schaefer Industries' crucible technology provides casters with:

- Durability
- Longevity
- Safety
- Excellent overall performance

Chemical Analysis (Wt. %, Calcined Basis)

Al ₂ O ₃	89-91%
SiO ₂	8-9%
CaO/MgO	0.1-0.2%
Fe ₂ O ₃	0.03-0.07%
Other	1-2%
Maximum Use Temperature	3050 °F (1677 °C)
Hot Modulus of Rupture (2800 °F [1538 °C])	1700 - 1900 psi

The following crucible sizes are currently available, contact Ransom & Randolph for price and shipping details.

Item Number	Top Outside Diameter (in.)	Top Inside Diameter (in.)	Outside Height (in.)	Inside Height (in.)
ALC25	4.5	3.75	10.875	10.375
ALC40	5.875	4.875	10.875	10.375
ALC50	6.5	5.5	11	10.375
ALC65	6.5	5.5	13.25	12.5
ALC100	8.75	7.75	12.75	12.125
ALC150	9	7.75	14.5	13.75
ALC200	10.75	9.25	15	14.125
ALC300	12.25	11	16.5	15.5



RANSOM & RANDOLPH

Maumee, OH 43537 USA

Toll Free: 800.800.7496

Phone: 419.865.9497

Fax: 419.865.9997

www.ransom-randolph.com

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PRODUCT DATA SHEET

Investing with Innovation™

Alumina Crucibles

Ramming Materials For Crucibles & Ladle Liners

Backup materials for alumina crucibles serve two functions. First, they hold the part in compression to prevent cracking that can result from differential thermal expansion. If a crucible isn't rammed properly or material shifts during use, any crucible will fail prematurely - sometimes on the first or second heat.

Second, the ram acts as a safety barrier between the crucible and the furnace coil. A backup material should have the integrity to withstand molten metals without any crucible - it should be a suitable lining itself. All too often, crucibles are removed from service with useful life remaining because operators are not confident in backup safety lining performance. It is not uncommon for crucibles to be taken out of service with up to 50% of useful life remaining.

Schaefer Industries ramming products meet both of these needs. Spinel Ram is intended for a backup ram for crucibles. It is a high alumina material that forms a spinel ($MgAl_2O_4$) bond when sintered offering excellent refractoriness, erosion resistance, and non-reactivity with most investment casting ferrous alloys. It is manufactured from high quality raw materials with excellent consistency in sizing to assure maximum density is achieved when rammed and to stop coil-destroying leaks due to crucible breakout.

Chemical Analysis (Wt. %, Calcined Basis)	Spinel Ram (Dry)	Silica Ram (Dry)
Al ₂ O ₃	89	0.5
SiO ₂	0.5	99.2
MgO	10	n/a
Other	0.5	0.3
Installed Density	190 lbs/cu. ft.	130 lbs/cu. ft.

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