

High Alumina Brick-Alkali and Creep Resistant

The products in this category are all made at our Marelán plant. The alkali and creep resistant **KRIAL** brick are high purity, low alkali products based on high purity aluminas, calcined bauxitic kaolins, and high grade andalusite. Designed originally for use in blast furnaces and blast furnace stoves due to their low creep rate and carbon monoxide resistance, several of these products have also flourished in other markets including glass furnace regenerators and carbon anode baking furnaces. All of the brands listed in this category give an "A" rating in the ASTM carbon monoxide (CO) disintegration test.

KRIAL 50-A

KRIAL 50-A has a combination of creep resistance, dimensional stability, resistance to chemical attack and thermal conductivity which make it ideally suited for heat exchange applications. Its high purity microstructure with a low glass content and a high amount of mullite is extremely creep and spall resistant. It can withstand higher operating temperatures than typical low flux super duty brick. *It is an ideal product for use in high-efficiency, thin-wall blast furnace stove checkers. It is also an excellent choice for all areas of carbon anode baking furnaces where its refractoriness and superior mechanical properties are essential.* Its matrix mineralogy is very resistant to the destructive silica depletion caused by fluorine attack. **KRIAL 50-A** offers the baking pit operator the opportunity to improve productivity by significantly raising firing temperatures and reducing cycle times.

KRIAL 60

KRIAL 60 is a low alkali, low porosity brick with outstanding hot strength. Its superior resistance to thermal shock, abrasion and alkali attack help make it the cost effective solution for a variety of severe applications. **KRIAL 60** has seen extensive service in blast furnace stack linings and is highly recommended for use in torpedo ladles, chemical and waste incinerators and as tie brick in carbon anode baking furnaces.

KRIAL 60-A +

KRIAL 60-A+ is the primary answer for blast furnace and blast furnace stove applications requiring a low flux 60% alumina product. **KRIAL 60-A+** is a low porosity, high strength product and has become the choice for most thin wall stove checker applications. It has been quite successful in blast furnace stack linings and torpedo ladles.

KRIAL 65-A

KRIAL 65-A is recommended for use in the highest temperature areas of blast furnace stoves. It is extremely creep resistant at 2730°F and is primarily utilized in the uppermost checkers and dome of the stove. **KRIAL 65-A** is andalusite-based and provides all the benefits of high fired mullite products. Its matrix has an exceptionally low glass content

KRIMUL

KRIMUL is an ultra-high purity, low flux brick that provides the maximum resistance to hot load deformation and creep in the 60% alumina product range. This andalusite-based brick satisfies all ASTM requirements for classification as a mullite refractory. Its outstanding load bearing properties at 2550°F qualify it for severe blast furnace stove and hot blast main applications. Also, its resistance to low basicity slag make it a natural choice for torpedo ladles. **KRIMUL** has good abrasion and thermal shock resistance and has performed well in glass furnace regenerators due to its excellent resistance to alkali attack.

RESIN-BONDED ALUMINA-CARBON BRICK

LadleMax 80 R5

LadleMax 80 R5 is a resin-bonded alumina-carbon brick. The brick is a metal-free, 80% alumina class product with 5% carbon content. *This product is used to line the low wear areas of iron and steel ladle bottoms and sidewalls.*

LadleMax BSC · LadleMax ASC

LadleMax BSC and ASC are resin-bonded alumina-carbon brick with silicon carbide designed for hot metal car and iron charging ladle service. *BSC is a bauxite-based, iron-friendly refractory typically used in low wear area of the vessel sidewalls and bottoms. ASC contains fused alumina and is used in the iron charging ladles and hot metal cars, in applications such as tap stream impact pads or stir quadrants.*

LadleMax AMG · LadleMax AMG SL

LadleMax AMG is an 80% alumina brick containing magnesia, antioxidants, and graphite. At steelmaking temperatures the mix ingredients react to form various carbon and magnesia-spinel phases. These reactions are expansive and provide a brick lining which appears monolithic. *This product is recommended for ladle bottoms and barrels of steel shops making aluminum-killed steels. LadleMax AMG SL* is similar to **AMG**, but contains a higher quantity of magnesia for improved slag resistance.

LadleMax AMG HP

LadleMax AMG HP is an 80% alumina brick containing a blend of refractory grade alumina plus magnesia, antioxidants, and graphite. At steelmaking temperatures, these mix ingredients react to form various carbon and magnesia-alumina spinel phases. **AMG HP** is suggested for steel ladle bottoms and barrels when a 10% to 25% life improvement is needed over regular **AMG**. This product has a higher purity composition than **LADLEMAX AMG** (higher alumina and less silica, lime, and iron oxide).

LadleMax AMG 90 · LadleMax AMG 90 SL · LadleMax AMG 95

LadleMax AMG 90 is similar to regular **AMG**, but it contains fused alumina; the alumina content is 90%. *It was developed for severe operating conditions associated with tap stream impact and buffer zones between lower quality ladle barrel brick and Magnesia-Carbon slaglines. LADLEMAX AMG 90* is typically zoned with other **AMG** compositions to provide a balanced wear pattern to achieve maximum heat life. **LadleMax AMG 90 SL** is similar to **AMG 90**, but contains a higher quantity of magnesia for improved slag resistance. **LadleMax AMG 95** is similar to **AMG 90** with improved chemistry. This product has shown wear rate improvement of 20-25% above **AMG 90**.

RESCAL
FURNAL HS
PATRIOT HF
SENECA
LO-SIL SUPER
ALUMEX
KRIAL
LADLEMAX
KRIMUL
DURALITE
DURATAB
KRICOR
PATRIOT

ALUMINA BRICK



This is a general guide to the alumina brick products available from RESCO Products. These brick are manufactured with the highest quality materials at ISO-certified plants, using modern SPC procedures. The brick are formulated and shaped to meet the high temperature and corrosive conditions present in the production of industrial goods—from aggregate materials and primary metals to complex hydrocarbon chemicals used throughout the world.



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EXTRA HIGH ALUMINA BRICK

KRICOR ·RESCAL 90 XD

These unique 90+% alumina brick are made from tabular alumina with a mullite matrix. They are characterized by high resistance to slag attack, low porosity and permeability, high hot strength and density, resistance to severe abrasion and excellent dimensional stability. *These mullite bonded 90% alumina refractories are used in the working linings of coreless and channel induction furnaces. Other applications include: Carbon black reactors · Ceramic kiln linings · High temperature chemical and waste incinerators · Induction furnace linings, skid rails, and SRU linings.*

DURA-TAB CA

DURA-TAB CA is a burned, phosphate-bonded 90% alumina-chrome brick. Compared to mullite-bonded 90% alumina brick, it offers exceptional service against highly aggressive furnace slag.

DURA-TAB SC

DURATAB SC is a unique product that combines silicon carbide with high purity alumina to produce a refractory possessing exceptional resistance to very aggressive furnace slag associated with induction furnaces processing molten iron, and which is quite resistant to thermal shock. **DURATAB SC is recommended for use in the slag lines of iron melting furnaces.**

RESCAL 10 CR ·RESCAL 10 CR SR ·RESCAL 20 CR ·RESCAL 20 CR SR ·RESCAL 30 CR ·RESCAL 30 CR SR

All of these brick are alumina-chrome-solid solution-bonded 90% alumina brick. These brick are truly solid solution-bonded brick; the matrix consists of a solid solution of chromic oxide and alumina which results in extra hot load resistance and ability to withstand high temperature chemical attack. The silica-free bonding system and neutral chemistry offer excellent resistance to erosion/corrosion from iron oxide-silica rich slags. *They can be used in severe corrosion areas of channel type induction furnaces and any other applications where load-bearing and corrosion resistance are critical factors. They are recommended for the slag line of arc holding furnaces, carbon black reactors and incinerators.* The CR SR brands are the spall resistant products of the alumina-chrome family.

DURA-TAB

DURATAB is a 95% alumina mullite-bonded brick.

SUPER DUTY FIRECLAY BRICK

PATRIOT

The outstanding properties of super duty fireclay brick are high refractoriness, strength, and high temperature volume stability and low thermal conductivity. This product is a 47% alumina brick.

PATRIOT HF

Similar chemistry to **PATRIOT**, but with a higher firing temperature to provide resistance to carbon monoxide gas disintegration, low porosity, and hot load bearing characteristics.

HIGH ALUMINA BRICK FOR ALUMINUM CONTACT

LO-SIL SUPER

Among the many refractories developed for aluminum melting furnaces, this 90% alumina brick with non-wetting additive stands out for its exceptional resistance to attack by molten aluminum. **LO-SIL SUPER** is ideal in furnace linings for the production of hard alloys. **LO-SIL SUPER** brick minimize silicon pick-up and furnace downtime; they preserve the quality of the molten alloy. Their hardness and high modulus of rupture give the brick lining excellent resistance to impact and abrasion.

FURNAL HS and RESCAL 80 BP (Burned)

These two products are ideal choices for molten aluminum contact in melting and holding furnaces. They perform well in aluminum furnaces with high mechanical wear and abuse. Both are bauxite-based, burned 85% alumina brick with superior hot and cold strengths. Their non-wetting matrix and high strengths make either an ideal choice for melting or holding furnaces, especially those utilizing heavy cold charges.

FURNAL and RESCAL 80 PA (Baked)

FURNAL and **RESCAL 80 PA** are 85% alumina, phosphate containing baked brick, each with a unique non-wetting matrix, which minimizes silicon pickup and facilitates fast and easy furnace cleaning. They are strong and can withstand the severe mechanical abrasive conditions encountered in today's aluminum furnaces. Dimensional stability and exacting manufacturing tolerances assure fast, long lasting installations. Both products are recommended for metal contact with a broad range of aluminum alloys.

GENERAL PURPOSE ALUMINA BRICK

RESCAL BB

This product is a low duty fireclay backup brick for cryolite cells. This is a resale product.

KRIAL 50

This is a general purpose 50% alumina brick.

RESCAL 60

This general purpose 60% alumina brick is an excellent choice as an upgrade to super duty brick. *This brick is not recommended for CO atmospheres, high temperatures, alkali environments, or load-bearing applications.*

ALUMEX 70-HS ·ALUMEX 70-E ·SENECA ·RESCAL 70 D

These general purpose, bauxite-based 70% alumina brick feature an extraordinary degree of corrosion and thermal shock resistance. *They are ideally suited where cost effectiveness is essential. These brick are used to line iron and steel ladles, EAF furnaces, mineral processing units, and non-ferrous furnaces. These general purpose brick are NOT recommended for CO atmospheres, high temperature alkali environments, or load bearing applications.*

DURALITE 70 G ·DURALITE 80 G

DURALITE 70 G and **80 G** are bauxite based brick made with higher purity and more refractory raw materials than general purpose 70% and 80% alumina brick, respectively. They can be used in all applications where general purpose 70% and 80% alumina brick would normally be recommended, but operating conditions require an upgrade.

RESCAL B 75L ·SENECA 80 ·RESCAL 80

These general purpose 80% alumina, bauxite-based brick are used as economical upgrades over the general purpose 70% alumina brick for steel, iron, nonferrous, and minerals processing applications.

SENECA 80 XD ·SENECA 80 SXD

These general purpose 80% alumina brick have improved matrix chemistry over standard general purpose 80% alumina brick.

SENECA 80 KR

SENECA 80 KR is a bauxite-based 85% alumina brick with a chrome ore addition. This unique composition is used for slaglines in steel ladles with acid slags, minimal gas stirring, and no arc reheating.

R 80 B

This bauxite-based brick is made with higher purity and more refractory raw materials than general purpose 80% alumina brick.

SENECA 85

This is a general purpose, burned 85% alumina brick. It can be used in all applications where general purpose 70 or 80% alumina brick would normally be recommended, but operating conditions require an upgrade.

PHOS-BONDED ALUMINA BRICK

This complete line of high alumina brick in the range of 70% to 85% alumina is phosphate-bonded to give optimum strength burned brick. Along with the development of unusually high strength, these phosphate-bonded brick have low porosity, with excellent resistance to abrasion, erosion, and alkali attack.

SENECA 60 P

SENECA 60 P is a phosphate-bonded, mullite-based brick with excellent alkali resistance. It is not recommended for load bearing or in reducing atmospheres.

ALUMEX P-7 ·ALUMEX P-8

These are phosphate-bonded with high strength and load-bearing ability, low porosity and modulus of elasticity, and excellent resistance to abrasion, erosion and mechanical abuse. *They are recommended for: skid rail tile in billet heating furnaces; hearths subject to severe abrasion; foundry ladles; cupola troughs, and are widely used at either end of cement kiln hot zones and in nose rings, because their low modulus of elasticity gives the products excellent resistance to torsional stresses created by rotation of the kiln.* **ALUMEX P-8** brick are more refractory and stronger than the **ALUMEX P-7**.

KRIAL CFB

KRIAL CFB is a low iron, high strength 70 % alumina brick *designed for resistance to impact, abrasion, and carbon monoxide (CO) attack in severe wear blast furnace, circulating fluidized bed, and DRI applications.*

ALUMEX P-85 HS

ALUMEX P-85 HS exhibits a combination of very high strengths, high abrasion resistance, and excellent thermal shock resistance. Its high purity composition yields a refractory product that can withstand severe alkali attack. *It is recommended for use in electric furnace roofs, rotary cement kilns, reheat furnace skid rails and other furnace applications where erosion and abrasion from slag and metal are severe at high temperature.* **ALUMEX P-85 HS** ceramic anchors will be made and stocked at East Canton.