



GEORGE CERAMIC INDUSTRIES

BUILT TO WITHSTAND THE HEAT.



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Director's Message



Dear valued clients and vendors, I hope this message finds you well. As the Managing Director of George Ceramic Industries, I would like to express my heartfelt gratitude for your continued support and trust in our company. With a strong educational background including a B.tech and MBA, I am committed to driving innovation, maintaining the highest quality standards, and exceeding your expectations in the field of refractory products.

At George Ceramic Industries, we take immense pride in offering a comprehensive range of refractory solutions that cater to various industries and applications. Our dedicated team of experts, coupled with state-of-the-art manufacturing facilities, ensures that our products meet the most stringent requirements and adhere to all standards. As our valued clients and vendors, your satisfaction is our utmost priority. We strive to provide exceptional customer service, prompt delivery, and competitive pricing to forge lasting partnerships with each one of you.

I invite you to explore our catalog, which showcases our diverse product range, including fireclay bricks, insulating fire bricks, castables and refractory raw materials. We also offer customized solutions to meet your specific needs, and our knowledgeable team is always available to provide expert guidance and technical support.

It is an honor to serve you, and we look forward to a continued collaboration that drives mutual success. Thank you for your trust in George Ceramic Industries.

Warm regards,
Mr. Arugula George Babu B.Tech, MBA
Managing Director
George Ceramic Industries

About George Ceramic Industries

Welcome to GEORGE CERAMIC INDUSTRIES, your trusted partner in refractory solutions. We are an ISO certified company dedicated to delivering exceptional refractory products and services. Established by visionary Managing Director, Mr. A. George Babu, B.Tech, M.B.A, GEORGE CERAMIC INDUSTRIES embodies a passion for ceramic technology and a commitment to excellence. Mr. George is a distinguished graduate from the renowned Indian Institute of Ceramic Technology in Kolkata, ensuring that our organization is backed by expertise and knowledge of the highest caliber.

At GEORGE CERAMIC INDUSTRIES, we specialize in the manufacturing of superior-quality refractory products that cater to a wide range of industries. With our state-of-the-art facilities and advanced technology, we consistently deliver products that meet the stringent requirements of our clients.

Our extensive range of refractory solutions includes bricks, castables, mortars, other refractory raw materials and specialized products. Designed to withstand extreme temperatures, corrosive environments, and mechanical stresses. Whether you operate in the steel, cement, glass, petrochemical, or power industry, we have the expertise to provide tailored solutions that optimize your operations and enhance performance.

As an ISO certified company, we are committed to adhering to rigorous quality standards and continuous improvement. We prioritize customer satisfaction and ensure that our products undergo stringent quality control processes to meet or exceed industry standards. Our dedication to excellence has earned us the trust and loyalty of esteemed clients both nationally and internationally.

At GEORGE CERAMIC INDUSTRIES, we are not only passionate about delivering exceptional products but also about preserving the environment. We integrate eco-friendly practices into our manufacturing processes to minimize waste generation and maximize energy efficiency, contributing to a sustainable future.

We take pride in our customer-centric approach, and our team of experts is committed to understanding your unique requirements and providing personalized solutions. With prompt deliveries and exceptional after-sales support, we aim to build long-lasting relationships based on trust and reliability.

Thank you for considering GEORGE CERAMIC INDUSTRIES as your preferred refractory supplier. As you explore our catalog, we invite you to discover the quality, innovation, and excellence that define our products. We are confident that our refractory solutions will exceed your expectations and contribute to the success of your operations.

Welcome to the world of GEORGE CERAMIC INDUSTRIES, where refractory excellence meets unparalleled service.

Manufacturing Process

Belief in superior quality in products and services is paramount for excellent companies. George Ceramic Industries boasts spacious plant premises equipped with state-of-the-art advanced equipment and facilities. As steadfast followers of Good Manufacturing Practices (GMP), our company takes essential measures to improve technology for both environmental safety and enhanced quality output.

At George Ceramic Industries, we ensure smooth operations and optimal productivity by maintaining ample raw material inventory sourced from reliable and established suppliers. Our sourcing of inputs guarantees a stable and cost-effective supply chain. The process layout is meticulously designed, providing a contamination-free environment. Moreover, we have a high-tech in-house workshop that facilitates regular machine maintenance and the development of spare parts and patterns.

When it comes to superior quality and impeccable service, George Ceramic Industries is the name you can trust. Explore our catalog to discover the finest refractory solutions for your needs.

Quality Assurance

With a commitment to seamless operations, our diligent Quality Assurance Department plays a vital role in overseeing every step of the process, from conducting a comprehensive check on incoming raw materials to performing in-process checks and final testing and inspection. Our team closely monitors and studies all procedures, including grinding, mixing, blending, and kiln temperature firing. We leave no stone unturned when it comes to ensuring the highest quality standards.



Our Valuable Clients

- ABHIJEET FERROTECH LIMITED
- RAJADHIRAJ TIRUPANI VINAYAK NATRAJ PVT.LTD
- METKORE ALLOYS & INDUSTRIES LIMITED
- SAROJINI INFRA
- SHYAM ENGINEERING & CONSTRUCTION
- RAJ RAJESWAR LALITA TRIPURASUNDARI PVT.LTD
- RAASI REFRACTORIES LIMITED
- HERITAGE FOODS LIMITED
- S. K MINERALS AGENCIES PRIVATE LIMITED
- RHI MAGNESITA INDIA LTD
- RASHTRIYA ISPAT NIGAM LIMITED
- MAHAKOSHAL REFRACTORIES PVT. LTD.
- MAITHON ALLOYS LIMITED
- TUF INDIA LIMITED
- SAK INDUSTRIES LIMITED
- HI- TECH ENGINEERING & PROJECTS INDIA PVT.LTD
- VASAVI INDUSTRIES LTD
- MARKET SOLUTIONS MANUFACTURERS
- K K REFRACTORIES
- ACE ENTERPRISES
- AMSA REFRACTORIES
- PRANEETHA MINERALS
- RAJASREE CORPORATION
- MAHA REFRACTORIES AND CASTABLES



OUR PRODUCTS



Refractories

Our refractory products are designed to meet the demanding requirements of high-temperature industries. We offer a comprehensive range of refractory materials, including:

- **High-Temperature Bricks:** Durable and resistant bricks suitable for lining furnaces, kilns, and other thermal units.
- **Insulating Bricks:** Lightweight bricks with excellent insulating properties, reducing heat loss and improving energy efficiency.
- **Castables:** Self-flowing refractory mixtures ideal for forming monolithic linings in various applications.
- **Mortars:** High-quality refractory mortars for bonding bricks or repairing existing refractory linings.
- **Special Shapes:** Custom-designed refractory shapes tailored to meet specific customer requirements.

Monolithics

Our monolithic products offer versatility and ease of installation. They are suitable for applications where traditional bricks are impractical. Our monolithic offerings include:

- **Monolithic Refractories:** Single-component, ready-to-use refractory materials suitable for different areas of your industrial processes.
- **Ramming Masses:** Resilient and heat-resistant refractory materials used for furnace linings, crucibles, and other applications.
- **Castables:** Dense or insulating castable mixes formulated to withstand extreme temperatures and thermal shocks.
- **Gunning Mixes:** Highly durable, abrasion-resistant mixes used for repairing and maintaining refractory linings.

Customization and Consulting Services

We understand that each industrial process is unique. Our experienced team provides tailored solutions to meet specific requirements. We offer customization services for refractories and monolithics, ensuring optimal performance and longevity. Our experts are also available for technical consultations, helping you select the right materials and optimize your refractory systems.

Applications

Our refractories and monolithics find applications in various industries, including:

- **Iron and Steel Industry:** Blast furnaces, ladles, tundishes, converters, and more.
- **Cement Industry:** Rotary kilns, preheaters, cyclones, and coolers.
- **Non-Ferrous Metals**

HIGH ALUMINA BRICKS

Introducing our Premium High Alumina Bricks: Engineered with utmost precision, these bricks are meticulously crafted using top-grade bauxite chamotte as the primary raw material. Undergoing a rigorous manufacturing process, they are fired at temperatures ranging from 1450 to 1470 °C, ensuring exceptional quality control.

Our High Alumina bricks boast an impressive array of benefits, including exceptional high temperature performance, remarkable resistance to corrosion and wear, high bulk density, and minimal iron content. Widely sought-after, these bricks find extensive applications in the mining, metallurgy, cement, chemical, refinery, and refractory industries.

Experience the unrivalled durability and longevity these bricks bring to industrial furnaces and high temperature areas, substantially extending the lifespan of your equipment.

HIGH ALUMINA BRICKS TECHNICAL DATA SPECIFICATIONS

Technical data for other firebricks are available upon request.

High Alumina Bricks	GCI HA60	GCI HA70	GCI HA75	GCI HA80
Al ₂ O ₃ (%)	≥ 60	≥ 70	≥ 75	78-80
SiO ₂ (%)	32	22	20	≥ 18
Fe ₂ O ₃ (%)	≤ 1.7	≤ 2.0	≤ 1.8	≤ 1.8
Na ₂ O+K ₂ O (%)	< 2.3	< 2.0	< 1.2	/
Refractoriness	>1790	>1800	>1825	≥ 1850
Refractoriness under load 0.2MPa (°C)	1450	>1510	>1530	≥ 1550
Porosity (%)	22	<22	<21	20
Bulk density (g/cm ³)	2.33	2.43-2.48	2.40-2.50	2.55
Cold crushing strength (MPa)	≥ 45	≥ 50	≥ 54	≥ 60

Fireclay Bricks

Introducing our Fireclay Bricks : The unparalleled choice for refractory applications. Renowned for their exceptional qualities, these bricks offer a multitude of advantages. With low thermal conductivity, they provide excellent thermal insulation performance while demonstrating remarkable resistance to thermal shock, abrasion, and chemical attacks, ensuring a prolonged service life. Their ease of operation and installation, versatile applications, and affordable pricing further contribute to their widespread popularity.

At George Ceramic Industries, we take pride in offering an extensive selection of Fireclay brick options, comprising 30-45% alumina content, all exhibiting outstanding strength. For heightened requirements, we present the "Super duty" Fireclay brick, specially engineered with exceptional mechanical strength.

Highlighting our featured product in this category, the High density, low porosity fire clay brick is designed to excel. With its remarkably low apparent porosity rate, it showcases remarkable attributes such as strong resistance to erosion, high refractoriness under load, exceptional cold crushing strength, and remarkable mechanical durability.

Located in Rajahmundry, East Godavari District Andhra Pradesh, India. George Ceramic Industries proudly distributes Fireclay Bricks of unparalleled quality at highly competitive prices, catering to customers worldwide.

FIRE CLAY BRICKS TECHNICAL DATA SPECIFICATIONS

Technical data for other firebricks are available upon request.

Grade		GCI 40 - 45% Alumina Fireclay Bricks	GCI 30 - 35% Alumina Fireclay Bricks
Recommended Service Temperature		1600°C	1500°C
Bulk Density	g/cm ³	2.2	2.1
Apparent Porosity	%	22	24
Modulus of Rupture	kg/cm ²	90	80
Cold Crushing Strength	kg/cm ²	300	250
Pyrometric Cone Equivalent		32	31
Linear Expansion @ 1350°C	%	0.2	0.2
Refractoriness Under Load	°C	1450	1300

Insulating Fire Bricks

Introducing our Insulating Fire Bricks (IFBs), also known as soft bricks, which offer exceptional lightweight properties compared to hard bricks or Fireclay bricks. These bricks can be effortlessly cut using handheld hack saws or other hand tools like chisels. With a high porous rate and excellent insulating capabilities, our white-colored IFBs from George Ceramic Industries guarantee precise dimensions.

Discover the complete range of insulating firebricks (IFBs) offered by George Ceramic Industries, delivering unparalleled performance and value across diverse industries and applications. Manufactured to international standards, our IFBs are available in different grades, designed to withstand various temperatures and atmospheres up to 3000°F. The remarkable features of our Insulating Firebricks are listed on the lower right side of this page.

For insulation needs at higher temperatures, we also provide Alumina Bubble Bricks, renowned for their elevated hot strengths.

Description	GCI-JM23	GCI-JM26	GCI-JM28	GCI-JM30
Chemical Composition (%)				
Al ₂ O ₃	42	56	67	73
SiO ₂	55	41	30	24
Fe ₂ O ₃	≤1	≤0.8	≤0.7	≤0.7
K ₂ O + Na ₂ O	1.1	1.7	1.7	1.7
Physical Properties				
Density (kg/m ³)	600	800	900	1000
Classification Temperature (°C)	1300	1400	1500	1550
Cold Crushing Strength (MPa)	1.2	1.8	2.5	3.3
Modulus of Rupture (MPa)	1	1.7	2.3	3.1
Permanent Linear Change (%) x 24 hrs	≤0.6	≤0.6	≤0.8	≤0.9
Thermal Expansion (%) 1000°C	0.5	0.52	0.52	0.53
Thermal Conductivity (W/mK)				
350°C	0.18	0.25	0.33	0.38
400°C	0.2	0.29	0.35	0.4
600°C	0.24	0.32	0.37	0.42
800°C/1472°F	0.22	0.30	0.35	
1000°C/1832°F	0.25	0.32	0.38	

REFRACTORY RAW MATERIALS

Pyrophyllite



Quartz



China Clay



Fire Clay



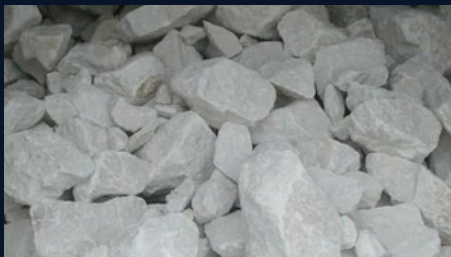
Ball Clay



Magnesite



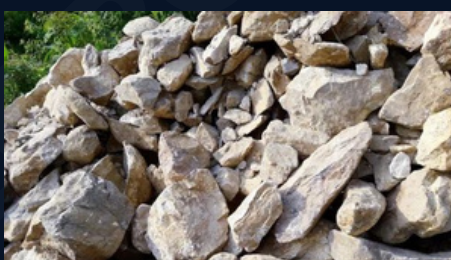
Dolomite



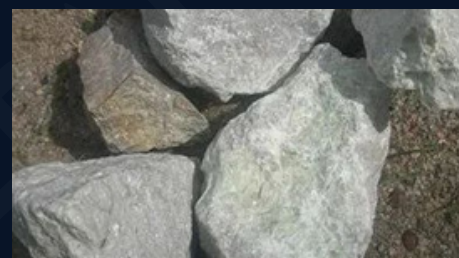
Bauxite



Sillimanite



Diaspore



MONOLITHICS

Fire Clay Mortar

Fireclay Mortar as defined has no cement or binder. It might be okay in very thin joints for firebrick not exposed to moisture.

Brand	Al ₂ O ₃ % (Min)	Fe ₂ O ₃ % (Max)	Grain size in mm (Max)	Setting	PCE Softening Point °C (Min)	Sintering Temp. °C	Service Temp. °C (Max)
GCIMOR-20A	20	4.5	0 to 0.5	Air	1600	1200	1350
GCIMOR-40	40	3.5	0 to 0.5	Air	1680	1200	1400
GCIMOR-HS	50	2	0 to 0.5	Air	1700	1200	1550
GCIMOR-HG	42	2	0 to 0.5	Air	1750	1200	1500
GCISSET-50F	50	2.5	0 to 0.1	Chemical	1700	1150	1550
GCISSET-50N	50	3	0 to 0.5	Air	1700	1100	1550
GCIMOR-60	55	3	0 to 0.5	Air	1700	1100	1600
GCIMOR-70	65	3.5	0 to 0.5	Air	1750	1100	1600
GCIMOR-70A	69	2.5	0 to 0.3	Chemical	1750	1200	1650
GCIMOR-80A	75	2	0 to 0.5	Chemical	1750	1300	1600
GCIMOR-90K	89	0.5	0 to 0.1	Chemical/ Ceramic	1750	1200	1750

Insulation Castable

Insulating castable refers to a specific family of refractory castable (refractory concrete). Insulating castable is designed to display low density and low thermal conductivity to keep heat energy and to reduce fossil energy consumption. This castable is premixed combinations of refractory aggregates, matrix components or modifiers, bonding agents, and admixtures.

Brand	Service Temp. °C (Max)	Dry Density kg/cm ³	CCS kg/m ²		PLC %		Thermal Conductivity @1000°C	Fe ₂ O ₃ % (Max)
			@110°C	@1100°C	@50°C	@1100°C		
GCI INC 11	1350	1150-1250	35-45	25-30	+/-0.20	+/-1.0	0.31	4
GCI INC 13	1450	1250-1350	40-50	30-40	+/-0.20	+/-1.0	0.35	3.5
GCI INC 15	1500	1350-1400	45-55	40-45	+/-0.20	+/-1.0	0.40	2.5

Alumina Castables

These Castables are kinds of refractory which uses bauxite, andalusite, sillimanite etc. as raw material aggregates and then be mixed proportionately with a binding agent. These castables have extremely high strengths and volume stability at all temperatures. Designed with high proportions of alumina, high-alumina castables contain between 60 to 90 percent alumina.

Brand	Al ₂ O ₃ % (Min)	Fe ₂ O ₃ % (Max)	Grain Size mm (Max)	Dry Density (g/cc) at 10°C/ 24 hr (Min)	CCS kg/cm ² (Min)	PLC % °C (Max)	Refractoriness °C (Min)	Recommended Service Temp. in °C (Max)
GCI CAST (NOR)	45	4.0	5	2.1	250	±1.0 % @ 1400 /2 hrs	1580	1400
GCI CAST (SPL)	45	3.5	5	2.25	350	±0.8 % @ 1400 /2 hrs	1580	1400
GCI CAST (SUPER)	70	41	5	2.4	350	±1.0 % @ 1400 /2 hrs	1680	1400
GCI HEAT "C"	50	2.0	5	2.2	350	±1.5 % @ 1550/2 hrs	1665	1550
GCI HEAT "K"	60	1.5	5	2.4	400	±1.5 % @ 1550 /2 hrs	1683	1600
GCI HEAT "M"	80	1.5	5	2.65	600	±1.5 % @ 1550 /2 hrs	1804	1700
GCI HEAT "A"	88	1.0	5	2.75	650	±1.0 % @ 1550 /2 hrs	1820	1750

Low and Special Cement Castables

We are involved in producing Low and special Cement Castables. It contents low cement, low calcium oxide content. Compared with the common castable, High Strength Castable Refractory consumes less water. Thus the density is much higher while the porosity is lower than common castable. It is different from traditional castables, these castables grade aggregated superfine with the same or similar chemical composition as the main material (with a particle size of less than 10 microns) replace most or all of the cement, and refined and scientifically optimized particles. Grading, fine powder, particle morphology and other factors.

Brand	Al ₂ O ₃ % (Min)	Fe ₂ O ₃ % (Max)	Refractoriness Std Orton Cone (Min)	Service Temp. °C (Max)	Dry Density gm/cc (Min)	CCS at 110 °C (Min)	CCS at 1100°C (Min)	CCS at 1500°. C (Min)	PLC at 1110°. C (Max)	PLC at 1500°. C (Max)	Water Required for Casting %	Grain Size mm (Max)
GCI LC 45	45	1.50	32	1500	2.20	600	750	900	±0.5	±1.0	6 to 6.5	6
GCI LC 60	60	1.50	36	1600	2.45	650	800	1000	±0.5	±1.0	5.5 to 6	6
GCI LC 70	70	1.80	36	1600	2.60	700	900	1100	±0.5	±1.0	5 to 5.5	6
GCI LC 80	80	1.80	37	1700	2.70	800	1000	1200	±0.5	±1.0	5 to 5.5	6
GCI LC 90	90	1.00	38	1750	2.85	900	1100	1200	±0.5	±1.0	4 to 4.5	6
GCI MULYTE LC 60	60	1.00	36	1600	2.50	700	900	1000	±0.5	±1.0	6 to 6.5	6

Gunning Mass

We make excellent quality gunning material from the highest quality Dead Burnt Magnesite which has MGO content ranging from (88 – 94%) and very low silica residue, when mixed with appropriate binders they help reduce rebound loss. Refractory Gunning products are versatile since it can be used as new lining material as well as for repair of the worn-out lining.

Brand	Grading (mm) Max	MgO % (Min)	Fe ₂ O ₃ % (Max)	SiO ₂ % (Max)	CaO % (Max)	Setting	BD at 110 °C g/cc	CCS at 110°C kg/cm ² (Min)	PLC % at 1500 °C	Sintering Temp in °C	Appl Temp in °C
GCI GUN - 82	0-3	82 (±1)	1.50	4 to 5	4	Chemical	2.65	200	-2.0	1100	1700
GCI GUN - 90	0-3	90 (±2)	1.20	3 to 3.5	2.5	Chemical	2.70	250	-1.5	1200	1750
GCI GUN - 92	0-3	92	1.20	2	2	Chemical	2.75	250	-1.5	1200	1750

Ramming Mass

Neutral Ramming Mass

Brand	Al ₂ O ₃ % (Min)	MgO % (Max)	Fe ₂ O ₃ % (Max)	Rammed B.D at 110° C (Min)	Setting	Grading (mm)	Sintering Temp °C	Service Temp °C
GCI-Al-Ram-40	38 to 40	20	2.5	2.00	Air	0 to 5	1100	1500
GCI-Al-Ram-70	68 to 70	20	2.5	2.5	Chemical	0 to 5	1100	1650
GCI-Al-Ram-EAF	60 to 65	18 to 20	2.8	2.45	Air	0 to 5	1100	1650
GCI-Plast-90	88 to 90	12 to 14	1.0	2.75	Chemical	0 to 5	1200	1750

Basic Ramming Mass

Product	Setting	Sintering temp °C	MgO % (Min)	Fe ₂ O ₃ % (Max)	Cr ₂ O ₃ % (Max)	Rammed B.D at 110° C Min	SiO ₂ % (Max)	CaO% (Max)	Grading in mm (Max)	Service Temp in °C
GCI Mag Ram (IF)	Chemical	800 to 1200	70	3.5	8	2.40	6.00	2.5	0 to 5	1750
GCI Mag Ram (LFX)	Chemical	800 to 1200	85	1.5	1.5	2.60	8.00	2	0 to 5	1750
GCI Mag Ram 84	Chemical	1200	84	1.5	2	2.60	8.50	2	0 to 5	1750
GCI Mag Ram 87	Chemical	1200	87	1.5	1	2.65	7.50	2	0 to 5	1750
GCI Mag Ram 92P	Chemical	1250	90	1	0.5	2.70	4.50	1.5	0 to 2 or 0 to 5	1700
GCI Mag Ram 95	Chemical	1300	94	1	0.5	2.80	1.50	1.5	0 to 5	1750
GCI MagFet	Chemical	1200	65	3	Traces	2.40	10.00	2	0 to 5	1650