Bimal Refractories (Pvt.) Limited

An ISO 9001:2000 Certified Company
About Us

BIMAL is a Private Limited Company with Office & Manufacturing unit in Raigarh District of Chattisgarh State in India. BIMAL has been known as a Refractory Manufacturer in the specialty or different kind of refractories.

Since 2004, BIMAL is catering the refractory needs & application services of most of the steel, Power and other Industrial Construction sites in and around of Chattisgarh, Orissa, Jharkhand & W.B. States. has become a new company through installation of manufacturing unit at Raigarh, Chattisgarh[INDIA].

By Virtue of Big Plant & Machinery we have a potential to supply large demands at shortest time. And by the experienced & Technical application team BIMAL is providing the best services to the different kind of Industries ie. Steel, Power, Cement, Glass & other Chemical industries.

BIMAL now has the following manufacturing, product and application capabilities:
Product Manufactured

- Plastics
- Castables
- Insulating Castables
- Insulating Firebrick
- Fire Clay Bricks
- High Alumina Bricks
- Special products and minerals
- Bottom Pouring Refractories
- Bed Material for AFBC Boilers
- Mortar
- Acid Resistance Bricks
- Kiln furniture
- Special Shape Refractories
- Ramming mix
- Precast shapes
Application Served

- Induction Furnace
- Basic oxygen furnaces - brick tank and working linings
- Iron charging ladles
- Electric arc furnaces - brick hearth, sidewall and roof linings, precast shapes
- Steel ladles - safety and working lining brick and specialties including full monolithic ladles with Robojet maintenance.
- Tundish permanent linings - castables
- Reheat Furnaces - specialty castables and plastics
- Cement - kiln brick
- Aluminum
- Kiln Furniture
- Glass
- Lime - kiln brick
- Copper - smelter brick and specialties
- Petroleum - proprietary specialties
- Petrochemical - proprietary specialties
- Foundry - brick and specialties for melting and steel handling units
- Acid & Alkali Proof Linings for Acid Tank, Battery Rooms etc.
- Epoxy Lining, Coating, and Water proofing & other Industrial Flooring.
Product

Our brick and specialty refractory products satisfy a wide range of needs for metals processing, general industry and minerals applications.

General Industry

The General Industry Market Segment consists of a wide variety of refractory-using industries that manufacture and process materials at high temperature and under severe conditions. Specific applications would include glass, cement and lime, metals, hydrocarbon processing, petroleum, pulp and paper and incineration.

BIMAL monolithic refractories are specified and installed in a wide variety of different high temperature applications. Those general industries that rely on BIMAL monolithic refractories include oil refineries and petrochemical plants, Portland cement manufacturers, lime producers, paper mills, coal-fired boilers and circulating fluidized bed boilers for power generation, chemical waste and other types of incinerators, construction brick and block manufacturers. BIMAL monolithic refractories are also available in a variety of different types: plastics, vibration castables, pumpable and shotcrete products, gun mixes, insulating castables, ramming mixes and mortars which are provided in fireclay, high alumina, basic & other types.

In combination with extensive brick capability, BIMAL is well positioned as a full-line refractory supplier.

Block and Brick Manufacturers

BIMAL is a full line supplier of refractories to this market. To complement our product line of fired, extruded car top shapes, BIMAL offers manufacturers of brick and block a full product line of lightweight and dense castables. lightweight castable for Insulation Work. BIMAL also supplies a wide range of refractory mortars, from fireclay to 80% alumina, to these customers.
Cement, Lime, Paper

BIMAL is dealing monolithic refractories to rotary kiln operators including Portland cement manufacturers, lime producers and paper mills. BIMAL's high alumina castables and shotcrete products are installed in many preheat towers, chain sections, clinker coolers, firing hoods, Reheating Furnace, Boilers. Many cement, lime producers & Power Plants are the leading customers of BIMAL. Monolithic refractories that can be rapidly heated soon after installation.

Hydrocarbon Processing

The conditions inside the vessels and reactors of a modern oil refinery are very severe against refractories. Monolithic refractories must withstand severe abrasion due to alumina catalyst, carbon monoxide exposure, carbon penetration and thermal shock for long periods of time if they are to be specified for the next maintenance turnaround in a refinery. BIMAL monolithic refractories have a long history of superior performance under these conditions. BIMAL supplies abrasion resistant lightweight and medium weight castables, shotcrete and gun mixes. BIMAL has built its good reputation on products like PLASTO and BIMAL-REFRACRETE'S is the standard for abrasion resistant linings in cyclones. BIMAL-CASTS is the most widely specified abrasion resistant castable in the industry. BIMAL conducts extensive product development on monolithic refractories for many industries to insure that state-of-the-art monolithic refractories are available to our customers.

Power Generation

BIMAL's monolithic products are installed in many different types of boilers used for power generation. These types of boilers are wood-fired and coal-fired boilers, including cyclone boilers, and circulating fluidized bed boilers, or CFB's. The type of monolithic refractories used are varied and include silicon carbide gun mixes, castables and plastics for high thermal conductivity and resistance to coal slag, fireclay gun mixes for ash hoppers, high alumina plastics for general maintenance, high alumina brick for CFB's cyclones plus insulating gun mixes, castables and shotcrete products to minimize heat loss. Fire-clay based plastics are installed in smaller capacity steam boilers. BIMAL can supply most of the refractory types used in both large and small scale boilers.
Metals Processing

The Metals Processing Market Segment consists of industries that manufacture metals directly from raw materials. Specific applications include iron, steel, foundry, aluminum, nickel and copper.

Iron and Steel

BIMAL Products, Inc. offers the cumulative experience and expertise of service in crafting heat resistant materials for the steel industry. Throughout those time, we have continuously developed proprietary heat resistant products, special formulations and hands-on problem solving to help meet every requirement. Today, we are stronger and better than ever. BIMAL has greatly enhanced our production capabilities and product selection.

BIMAL monolithic refractories are used in most iron and steel making processes such as ladles, hot metal, electric arc furnace. BIMAL supplies a wide variety of monolithic refractories for iron and steel applications including high alumina castables, gun mixes and shotcrete products, high alumina plastics, alumina-spinel castables and shotcrete products and basic gun mixes and castables.

Aluminum

BIMAL Products, Inc. offers a full line of specialty refractories for monolithic repairs and perpetual linings for applications such as carbon baking, primary smelting, secondary melting, die casting and foundry operations. These brick monolithics and specialty refractories provide the dependable performance you require under the harshest conditions and in the most corrosive atmospheres.

Along with our aluminum-resistant high alumina brick products, BIMAL has a complete product line of aluminum-resistant monolithic for the lower sidewall, ramp and hearth. High strength, alkali and creep resistant castables for the upper sidewall and roof of aluminum melting reverberatory furnaces complete the product offerings. Most of these these monolithic refractories can also be pumpcast into place. BIMAL also offers a complete line of castables for carbon baking furnace applications.
Copper

The corrosive atmospheres of copper processing can severely impact the life of ordinary refractories. But BIMAL Products, Inc. offers you a full line of brick monolithic repair and perpetual lining refractories specifically formulated for copper processing.

Non-Ferrous Metals

BIMAL offers a variety of monolithic refractories to producers of non-ferrous metals ranging from high alumina castables for induction furnaces to basic gun mixes and castables for maintenance of smelting furnaces.

Refractories to meet every need

BIMAL has been supplying performance-proven refractory products. Regardless of what products you manufacture, if you require heat resistant material in the form of corrosion resistant or chemical resistant specialty refractories for cost-effective performance, BIMAL Products, Inc. is your full line source.
PRODUCTS

Castable Product Selections

BIMAL’s monolithic refractories have been designed to meet the exacting requirements of numerous industries. These products deliver what they promise. Greater dependability. Longer application life. Easier installation. Lower energy costs. Lower maintenance costs. Reduced downtime. Greater productivity. And that’s just the beginning. At BIMAL we’re constantly engineering even better refractories that do more, do it better and do it at a lower cost!

Monolithic refractories, painstakingly developed by BIMAL’s team of engineers, are products that deliver exactly what they promise. Greater dependability. Longer application life. Easier installation. Lower energy costs. Lower maintenance cost. Reduced downtime. Greater productivity. And that’s just the beginning. At BIMAL we are constantly engineering even better refractories that do more, do it better and do it at a lower cost.

Castable Product Selections at BIMAL -Chem-Bonded Castables

BIMAL’s Premium Castables

The castable which sets the the standards for performance, ease of application, and long life throughout its full range of applications is BIMAL’s premium, abrasion/erosion-resistant castable. Particularly effective in thin, metal-anchored and metal-reinforced linings, We offers all the benefits of air setting. Because it readily bonds to other refractory surfaces it is ideal as a quick and easy patch -- a permanent patch -- for worn linings.

BIMALbond Castables are easy-to-mix castables which adhere permanently to all refractory surfaces with heat curing. This line of specialty products offers exceptional physical properties for all applications and can be used for patching or for a full lining.
Low-Cement Castables

Our low-cement, ultra low-cement and no cement castables offer the widest range of applications and extended service life. These castables are grain-sized to give minimum porosity and linear change with maximum density and high fired strength. This gives improved physical properties compared to similar castables and to conventional castables. Our advanced technology products in this category include vibration-only mixes, self-flow castables, shotcrete products.

Extreme Service Castables

Extreme Service Castables, BIMAL’s BIMALcast, are a complete line of specialty castables blended for specific application and performance needs. Formulations are available for hydrogen and/or carbon monoxide-rich reducing atmospheres, for low thermal conductivity and high resistance to thermal shock spalling, for critical wear areas in high-erosion applications, for exceptional erosion resistance, and wherever higher strength and greater insulation properties are required.

Insulating Castables

Our extensive and on-going R&D efforts have resulted in an unparalleled selection of specialty insulating castables. These products range in density from 25 to 95 pounds per cubic foot, and are well suited for use in difficult application areas including reducing atmospheres. Most can be installed by gunning, casting, hand-packing, troweling or pump-casting without the need to order special formulations.
Refractory Plastic Product Offerings

Plastic refractories are delivered in the unfired and formable condition. They are installed by use of a pneumatic hammer to form the refractory mass. These products are used for original installations and for patching. Plastic refractories can be used in a variety of units and applications because they are essentially formed by the user to fit the specific use area. Plastic refractories are delivered in an unfired and formable condition. They are installed by use of a pneumatic hammer to form the refractory mass. These products are used both for original installations and for patching. Plastic refractories can be used in many varied applications and locations because they are essentially formed by the installer to fit the specific use area.

Important aspects for the successful installation and use of plastic refractories include ramming equipment, ramming technique, forming, trimming, venting and curing. While each situation may have some special considerations the fundamentals in brief are as follows:

1. Pneumatic ramming tool with 2.5 to 3 inch convex aluminum head. This allows optimum knitting of the plastic refractory slabs required to fill the required space. Care needs to be taken in the amount of ramming (the plastic refractory already has density, the installation process is to knit the individual pieces together) and direction of ramming (toward forms, ports and anchors is recommended).
2. Support forms may be required for roofs, arches and ports as the plastic could slump during installation. These forms need to be sturdy and well braced to prevent flexing while the full weight of the refractory plastic is supported.

3. Surface finishing is required after the ramming is completed. This includes trimming (use of a trowel or spade to remove excess and shape but not smooth the surface) and peening (ramming around roof anchors to attain a better seal).

4. Venting the plastic refractory to allow for escape of steam during the curing process. Generally, this entails driving a 1/8 inch rod through 2/3 of the rammed body thickness on 8 to 12 inch centers.

5. Curing or heat-up should begin immediately after installation. Check specific procedures for the installation location and specific material prior to beginning the job as proper curing is important to optimum service performance.

Refractory plastics can be used to patch or repair worn refractory areas whether they were originally brick castable or plastic. For the best results, the worn refractory should be removed back to a sound surface, removing loose material and preferably providing V-shape surfaces that will allow good bonding of the patch to the original refractory. A bonding mortar coating aids in achieving a lasting patch with good adherence.

BIMAL manufactures many types of plastic refractories designed for original installations and patches and for compatibility with the application conditions.


**Refractory Brick Product Offerings**

BIMAL manufactures four major types of refractory brick products: burned alumina brick refractories, resin bonded alumina magnesite graphite brick, burned basic brick refractories and resin bonded magnesite carbon brick refractories. These brick have many applications in steel ladles, basic oxygen steel furnaces, electric-arc steel furnaces, steel degasser, cement and lime kilns, primary and secondary aluminum furnaces, copper converters, etc. Refractory brick products are available in standard shapes and sizes. Special shapes may also be available or designed for these applications. BIMAL manufactures brick of several types and classes for a variety of applications.

Basic brick are composed of basic oxides and are resistant to basic slags, oxides, dusts and fumes at high operating temperatures in a variety of steel and general industrial applications. BIMAL classifies high alumina brick as those containing more than 45% alumina. They are resistant to spalling, impact, abrasion and load.

**Classes of brick produced include:**

- Fire Clay Bricks
- High-alumina 50%
- High-alumina 60%
- High-alumina 70%
- High-alumina 80%
- Insulating Bricks
- Acid & Alkali Proof Bricks
- Bottom Pouring Refractories.
Fireclay

Insulating

Pyrophyllite

These products are produced at BIMAL’s plants in Raigarh (C.G.), from raw materials selected for their contribution to the consistent quality, properties and sizing of the end products coming off the presses and through the kilns.

These brick are manufactured in a wide range of standard and special shapes and sizes for particular applications. Because of the unique operating conditions and diverse wear mechanisms, selection of specific products is critical to achieving cost-effective performance. BIMAL’s technical specialists normally handle specific application areas and are very familiar with customer conditions and requirements.

The pursuit of ever-increasing performance and cost improvement is ongoing at BIMAL. We will continue to focus attention on details required for successful product selection, installation and evaluation.
R&D Section
BIMAL have the full fledged Laboratory for Continuous surveillance of Raw Materials, Intermediate products and finished products of every product produced.

The testing facility includes the following:-

(1) **Physical Tests:**

- i) P.C.E. Testing Furnace,
- ii) R.U.L. Testing Furnace,
- iii) Thermal Conductivity Testing apparatus.
- iv) P.L.C. testing high temperature furnace.
(2) **Chemical Tests:**

Chemical Laboratory equipped with all essentials for complete chemical analysis of Raw Materials as well as finished goods
Certificate of Registration

This is to certify that
The Quality Management Systems

Of

BIMAL REFRACTORIES PVT. LTD.

at

VILLAGE - SARAIPALI, NEAR GERWANI,
DISTT. RAIGARH (C.G.)
(INDIA)

Has been found to conform to the Quality Management System Standard:

ISO 9001:2000

This certificate is valid for the following Product or Service ranges:

MANUFACTURING & SUPPLY OF FIRE BRICKS, CASTABLES
& REFRACTORY AGGREGATES

Place and Date: NEW DELHI: 12/09/2008

Accredited Unit: P.C. Management System Pvt. Ltd.

Certificate no.
PCMS/QMS/2009-2008

JAS-ANZ

This is a single-site Certification

Acc. Nos: 53111294IN

Issue: 2009/09/12


Expire: 2011/09/11

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CHAIRMAN / DIRECTOR
PHOTO GALLERY
APPLICATION SERVICES

ACID PROOF BRICK & TILE WITH MASTIC LINING WORK AT 135X4 DCPP
RAIGARH AT DM PLANT & CHEMICAL HOUSE
TUNNEL KILN - 2 UNITS
FOR BACKING OF GREEN MATERIAL

PRESS MACHINES - 12 NOS

GRINDING SETUP - 1

GRINDING SETUP - 2
SHUTTLE KILN - 1 UNITS

FOR BACKING OF GREEN MATERIAL

PRODUCER GAS UNIT - 2 NOS

FINISHED GOODS YARD 24000 SQ. FEET

MAIN ENTRANCE

SCREENING & MIXING

LABOUR COLONEY
PRODUCTION SHED

FOR PRODUCTION OF GREEN MATERIAL

WORKSHOP

PULVERIZOR UNIT

MATERIAL UNLOADING POINT

RAW MATERIAL SHED 60000 SQ FEET
For Chemical Testing of

(a) Al₂O₃, Fe₂O₃, SiO₂ etc.

(b) Water Absorption, Porosity, LOI, Moisture & Other Tests.

All tests related to Finish Products & Raw Material. Can be done as & when required.
For Physical Tests
(a) PYROMATIC CONE EQUIVALENT TEST,
(b) REFRACTORINESS UNDER LOAD TEST
(c) THERMAL CONDUCTIVITY TEST
(d) PERMANENT LINEAR CHANGES TEST
(e) MODULAS OF RAPTURE TEST
(f) COLD CRUSHING STRENGTH TEST
(g) FLEXURAL STRENGTH TEST
(h) DENSITY TEST

OTHER TESTS AS PER THE PRODUCT & REQUIREMENT CAN BE DONE
THERMAL CONDUCTIVITY TESTING MACHINE

CCS TESTING MACHINE

OVEN