



**BLUE DIAMOND**  
CALCINE AND REFRACTORIES



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REFRACTORIES

# WELCOME INTRODUCTION

## OVERVIEW

**BLUE DIAMOND** is one of the largest business setup in Saurashtra focusing on extraction of bauxite from natural mines in the region. The company also recently initiated a sophisticated process of manufacturing of Calcined bauxite catering to the emerging needs of the Indian mineral market. **BLUE DIAMOND** derives its name from bauxite itself a gesture to acknowledge one of the most resourceful minerals of the country.

**BLUE DIAMOND** has been excelling in its core expertise of mining bauxite for over four decades now. As we grow, we are proud to present to our esteemed clientele Calcined Bauxite. We are committed to consistently progress towards optimal utilisation of bauxite and contributing to the production of its allied products.

“*Unity in Action,  
Strength in Teamwork*”



# ABOUT WHO WE ARE

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We are a business house engaged in Mining, Calcining and Exporting of Raw Bauxite and Calcined Bauxite. We have our own Mines having healthy reserves of superior quality Bauxite available in India and have two calcination plants using two technologies namely Rotary Kiln and Shaft Kiln. Our Registered office is located in the Birth Place of our Father of Nation Mahatma Gandhi at **Porbandar, Gujarat, India.**

The foundation of this Organization was laid in **1953** by starting mining of bauxite, which was a family owned business. In **1974** it was turned to a partnership firm and the present pattern of the company is formed in 1997, when the firm incorporated as a Public Limited Company.

**Since 1953**, it was not doing just a business but working towards company social responsibilities painted with charity and future view to the society belongs to **BLUE DIAMOND.**



Our leading occupations are exporting, mining, and calcining. Mining is a two-step procedure that is finished. Removal of overburden and evaluation of the pre-mining grade in the area. The two methods are applied for calcining. Screening and crushing plants. Three stages are required to accomplish exporting. Cargo preparation, cargo movement, and ship loading



### MINING

- Mine development-Overburden Removal
- Pre-mining grade assessment of the area



### CALCINING

Crushing and Screening plants which are installed and working at Davari Ran & Mewasa.



### EXPORTING

- Cargo Preparation
- Cargo Movement
- Ship Loading





# OUR HISTORY TIMELINE



## **1953 - Inception**

The founding entity for the present company was a family owned outfit, which started bauxite mining in 1953-54 and continued thereafter.



## **1974 - Turned Into Partnership Firm**

In 1974, the outfit was reconstituted into a partnership firm with the name M/s Saurashtra Calcine Bauxite & Allied Industries, whereby along with continuing to mine bauxite, the company also entered the production of calcined bauxite.



## **1979 - Export Products To The Worlds Top Most Company**

The company, as such, has been involved in the activity of mining bauxite, manufacturing calcined bauxite and marketing in India and outside. We were exporting metal grade bauxite, between 1965 and 1979, to Japan, UK and Canada. We also supplied cargos to other exporters, who exported the same on their own name.



## **1997 - Incorporated As Public Limited**

Our company was further incorporated as Public Limited, Joint Stock. Company, having the current name M/s Saurashtra Calcine Bauxite & Allied Industries Limited (Blue Diamond), on 27th March



## **Future Plans - Value Added Products**

Further Value Addition to Calcined Bauxite, we are planning to set up a project for manufacturing of High Alumina Cement, Refractories and other related products.

A black and white photograph of two men in business suits shaking hands. The man on the left is wearing a dark suit and a patterned tie. The man on the right is wearing a grey suit and a white shirt. They are shaking hands in the center of the frame. The background is dark and out of focus.

## OUR CUSTOMERS

The company adapted pro-active methods after sales to get the feedback from end user. We have a proven records of and operation satisfying buyers/users by attending to complaints, grievances and suggestions, with open mind, towards problem resolution and improving own systems and operations.

This has resulted in getting the repeat orders from the same buyers. Some of the examples of complaint resolutions and suggestion incorporations are as follows:

At the suggestion of Showa Denko K.K., our regular buyer, we have installed crushing & screening plant to remove segregation of mines and oversized material.

To improve quality at the behest of Showa Denko K.K. to reduce silica content, we have installed beneficiation plant by washing bauxite with water.

Introduced environmental pollution by controlling dust and noise pollution at various sites.

At the complaint as well as at the suggestion of a buyer from middle east the company has decided not to make any shipment during rainy season to avoid high moisture contents in the material.

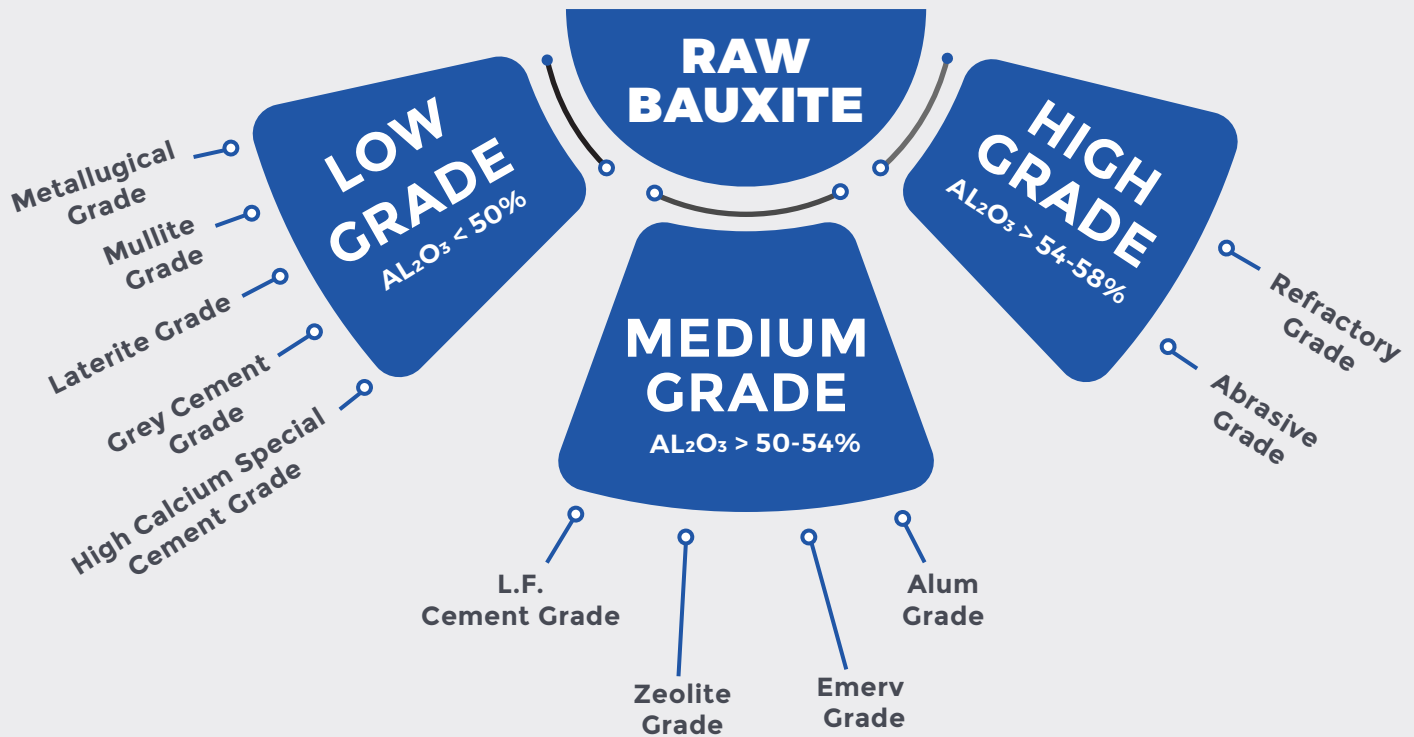


# OUR PRODUCTS

**THE COMPANY PRODUCES  
FOLLOWING PRODUCTS ON END  
USE BASE.**



# RAW BAUXITE



## 1) Low-Grade Bauxite

( $\text{Al}_2\text{O}_3 < 50\%$ )



Metallurgical grade  
Mullite grade  
Laterite grade  
Grey Cement grade  
High Calcium Special  
Cement grade

## 2) Medium Grade Bauxite

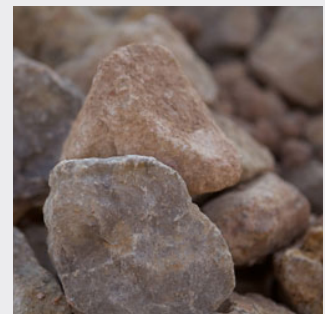
( $\text{Al}_2\text{O}_3 > 50-54\%$ )



- Alum grade
- Emerv grade
- Zeolite grade
- L.F. Cement Grade

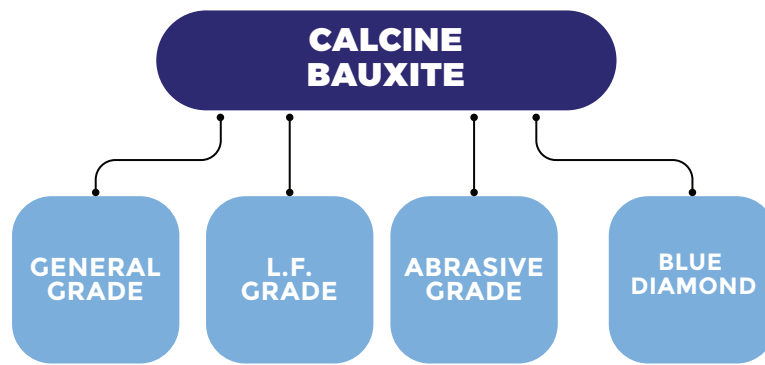
## 3) High Grade Bauxite

( $\text{Al}_2\text{O}_3 > 54-58\%$ )



- Refractory grade
- Abrasive grade





General Grade



Elements	Grade I	Grade II
AL <sub>2</sub> O <sub>3</sub>	80% MIN. - 81% MAX.	80% MIN. - 81% MAX.
FE <sub>2</sub> O <sub>3</sub>	3.40% MIN. - 3.90% MAX.	3.80% MIN. - 4.50% MAX.
SiO <sub>2</sub>	5.50% MIN. - 6.50% MAX.	5.50% MIN. - 6.50% MAX.
TiO <sub>2</sub>	3.50% MIN. - 4.50% MAX.	3.50% MIN. - 4.50% MAX.
CAO	1.80% MIN. - 2.80% MAX.	2.50% MIN. - 2.80% MAX.
LOI	0.40% MAX.	0.70% MAX.
BULK DENSITY	3.10 MIN. - 3.12 MAX GMCC	3.0 MIN. - 3.10 MAX GMCC
APPARENT POROSITY	8% MIN. - 10% MAX.	8% MIN. - 11% MAX.

Low Ferric Grade



Elements	Low Ferric Grade
AL <sub>2</sub> O <sub>3</sub>	80% MIN. - 81% MAX.
FE <sub>2</sub> O <sub>3</sub>	3.40% MIN. - 3.90% MAX.
SiO <sub>2</sub>	5.50% MIN. - 6.50% MAX.
TiO <sub>2</sub>	3.50% MIN. - 4.50% MAX.
CAO	1.80% MIN. - 2.80% MAX.
LOI	0.40% MAX.
BULK DENSITY	3.10 MIN. - 3.12 MAX GMCC
APPARENT POROSITY	8% MIN. - 10% MAX.

Abrasive Grade



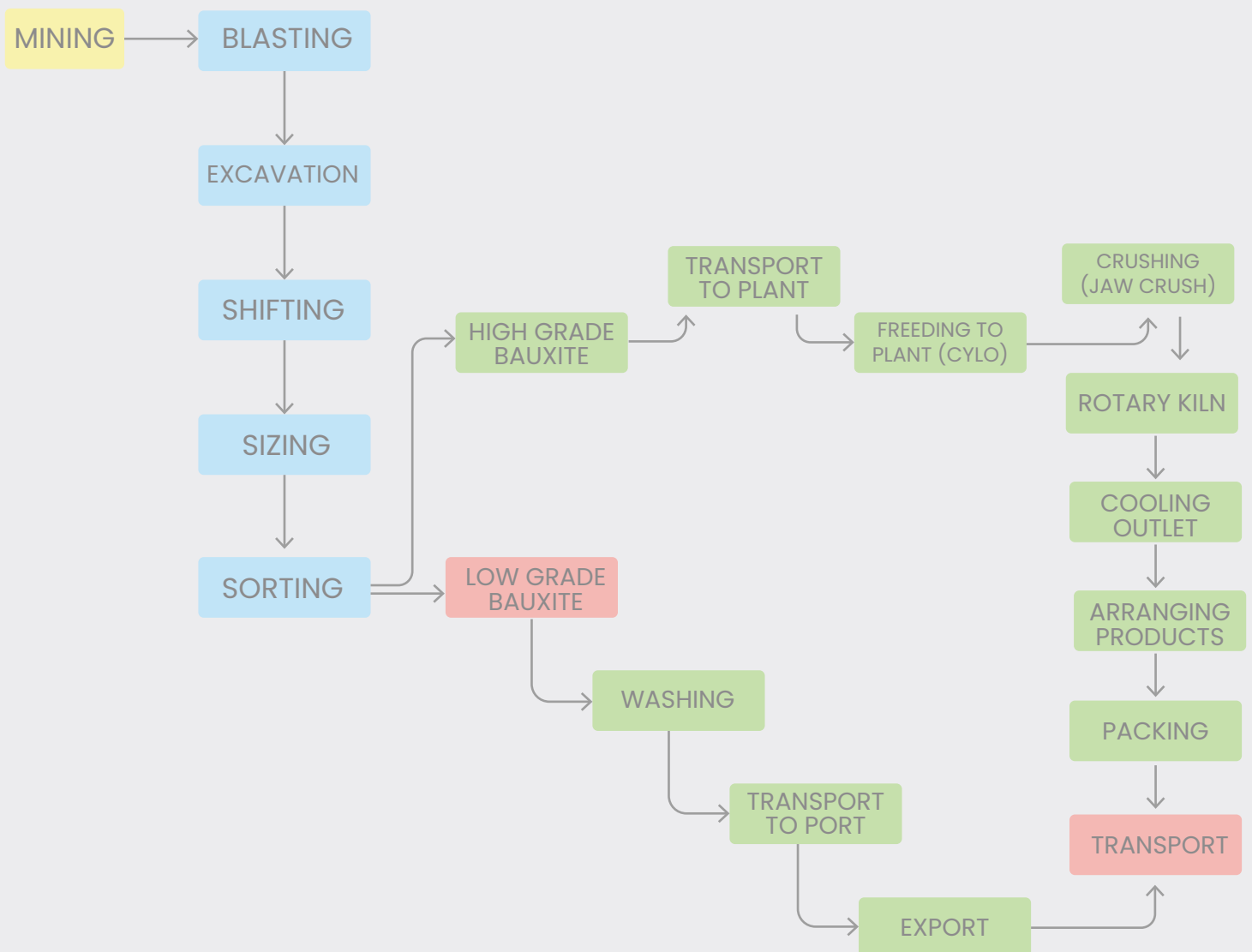
Elements	Grade I	Grade II
AL <sub>2</sub> O <sub>3</sub>	83% MIN. - 84% MAX.	80% MIN. - 81% MAX.
FE <sub>2</sub> O <sub>3</sub>	3.8% MIN. - 4.10% MAX.	4.0% MIN. - 4.65% MAX.
SiO <sub>2</sub>	5.50% MIN. - 6.50% MAX.	5.50% MIN. - 6.50% MAX.
TiO <sub>2</sub>	3.80% MIN. - 4.50% MAX.	3.80% MIN. - 4.50% MAX.
CAO	1.10% MIN. - 1.50% MAX.	1.20% MIN. - 1.70% MAX.
LOI	0.50% MAX.	0.50% MAX.

Blue Diamond



Elements	Low Ferric Grade
AL <sub>2</sub> O <sub>3</sub>	88% MIN. - 90% MAX.
FE <sub>2</sub> O <sub>3</sub>	1.60% MIN. - 2.0% MAX.
SiO <sub>2</sub>	3.0% MIN. - 4.0% MAX.
TiO <sub>2</sub>	3.70% MAX.
CAO	0.50% MIN. - 0.90% MAX.
LOI	0.20% MAX.
BULK DENSITY	3.12 MIN. - 3.16 MAX GMCC
APPARENT POROSITY	7.50% MIN. - 9.50% MAX.

# PRODUCTION PROCESS





# MINING



Basic mining process is systematic open cast - semi-mechanized as per the following stages:

**a) Mine development - overburden removal.**

Since the bauxite occurs close to the surface, with a shallow overburden (at places it is exposed at the surface itself). Mine development is carried out by direct removal of overburden using excavators. Drilling / blasting also done wherever required. Open cast mine benches are developed to facilitate proper bauxite excavation.

**b) Pre-Mining grade assessment of the area to be mined by trenching / pitting and drilling bore holes at the exposed surface.**

Systematic sampling / analysis is done to ascertain grade at various point. Grade wise volumes available are recorded in the plan. Exploitation phase is planned based on the above inputs.



# EXCAVATION



This operation is carried out systematically through drilling, blasting and mucking, under the guidance and supervision of qualified and govt. approved blaster, geologist and mining engineer.

Excavator and dumpers remove the blasted and loosened material. The company has its own set of mining machinery (details given later) and also hires respective items whenever required additionally.

## SIZING & SORTING



This operation is carried out for sorting materials according to their size.

## GRADING



Quality wise sorted materials are graded in different categories like High Grade , Medium Grade & Low Grade.



# CALCINATION



The two technologies are used for Calcination of bauxite namely Rotary Kiln & Shaft Kiln.

## **Crushing and screening plant:**

The company owns three crushing and screening plants which are installed and working at two locations. They are used to prepare cargo of size ranging from 0 to 75 mm. each of these has capacity to process 1.25 MT/ hr or on average around 2000 MT(9 2 shifts) of bauxite per day.

## OUR LABORATORIES



This is the only mining company in the area which has got an operating and active chemical testing laboratory, located near calcination plant at Bhatia. The laboratory is well equipped and staffed to undertake conventional wet chemical analysis as well as for rapid instrumental determinations of various elements in raw bauxite and calcination bauxite.

# EXPORTING







**BLUE DIAMOND**  
CALCINE AND REFRACTORIES

## CONTACT US



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