

# Profile



**BMW**  
**Steels Ltd**

# The BMW Constellation



## Wear Resistance

Alumina Ceramic Division

BMW Steels Ltd (Unit-2) Khurja

Cast Basalt Division

BMW Steels Ltd Roorkee (U.K.)

Chemically Bonded Ceramic Division

BMW Steels Ltd Hathras (U.P.)

Fabrication & Equipment Manufacturing Division

BMW Steels Ltd Hathras (U.P.)

Sadabad Gate Hathras (U.P.)

Manhar Steels Roorkee (U.K.)

Casting Division

Roorkee (U.K.)

Research & Development

BMW Steels Ltd Khurja (U.P.)

## Agriculture

Organic Farms Roorkee (U.K.)

## Energy

Bharat Bio Urja Roorkee (U.K.)

UBDL Roorkee (U.K.)

# Chairman's Message



One of the key pillars of the Company's strategy is to continue to innovate new products and invest in R&D in India so that company is globally competitive and delivers world-class products to its customers.

The Financial Year 2012-13 & 13-14 saw slurry of stalled infrastructure projects, and billions of rupees of the project developers and the vendors to the project were stuck up leading to structural weakness across the segments. Private power developers and EPC companies' stalled projects hit our company also and our stride to incremental business was halted. With the new government in the center FY 2014-15 is indicating mild trends of macroeconomic recovery in several major economic indicators.

Companies export market US and Europe still reel under structural weaknesses continues to be a major threat to the export targets of the company in the medium term. The global wear resistance industry (Alumina Ceramic, Basalt and Cast able Ceramic) need to make the industry more competitive and sustainable in the long-term.

To sustain growth company has innovated new products like Variable Orifices, Coal Rope Breakers in Coal piping system, the largest user system of Alumina Liners globally.

R&D foray of the company has provided exiting growth trajectory of corrosion resistant products, this will impact the demand in chemical industry dynamics and provide value addition to the company.

**ATUL KUMAR LOHIA**

Chairman



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Friction, wear, and erosion are major issues, resulting in major costs to businesses operating in the Power Generation, Cement Plants, Mineral Processing and other engineering industries. BMW uses its core strengths of custom engineering, materials expertise, operational excellence, and rapid execution, to help customers develop amazing solutions to their toughest technical challenges.

With the support of excellent manufacturing infrastructure, experienced engineers, technicians and staff, BMW has to its credit developed many proprietary equipments like Variable Orifices, Coal Rope Breaker system for coal piping and many more.

Effectiveness of our material for wear resistance has been tested in actual use, at various power plants and other industries including NTPC, BHEL, Alstom, Doosan, Vedanta, Tata Power and many more. Our wear protection capabilities have been evaluated and successfully established for wear and erosion resistance in laboratories like CSIR, CPRI Labs too.

BMW products have been proved second to none in the industry.

## Wear Resistant Lining

- Alumina Ceramic Liner and Grinding Media (ALUMINA92™)
- Cast Basalt Cylinders and Tiles (BASALT450™)
- Chemically Bonded Lining (Wear Seal CBC™)
- Alumina Based Wear Seal™ Series of Mortar, Putty & Liners
  - Wear Seal™ Diamond
  - Wear Seal™ CBC
  - Wear Seal™ Mortar
- Fabrication for Lined Equipment

## Wear Resistant Iron Castings

- Ni-Hard
- Hi-Chrome
- Manganese Steel

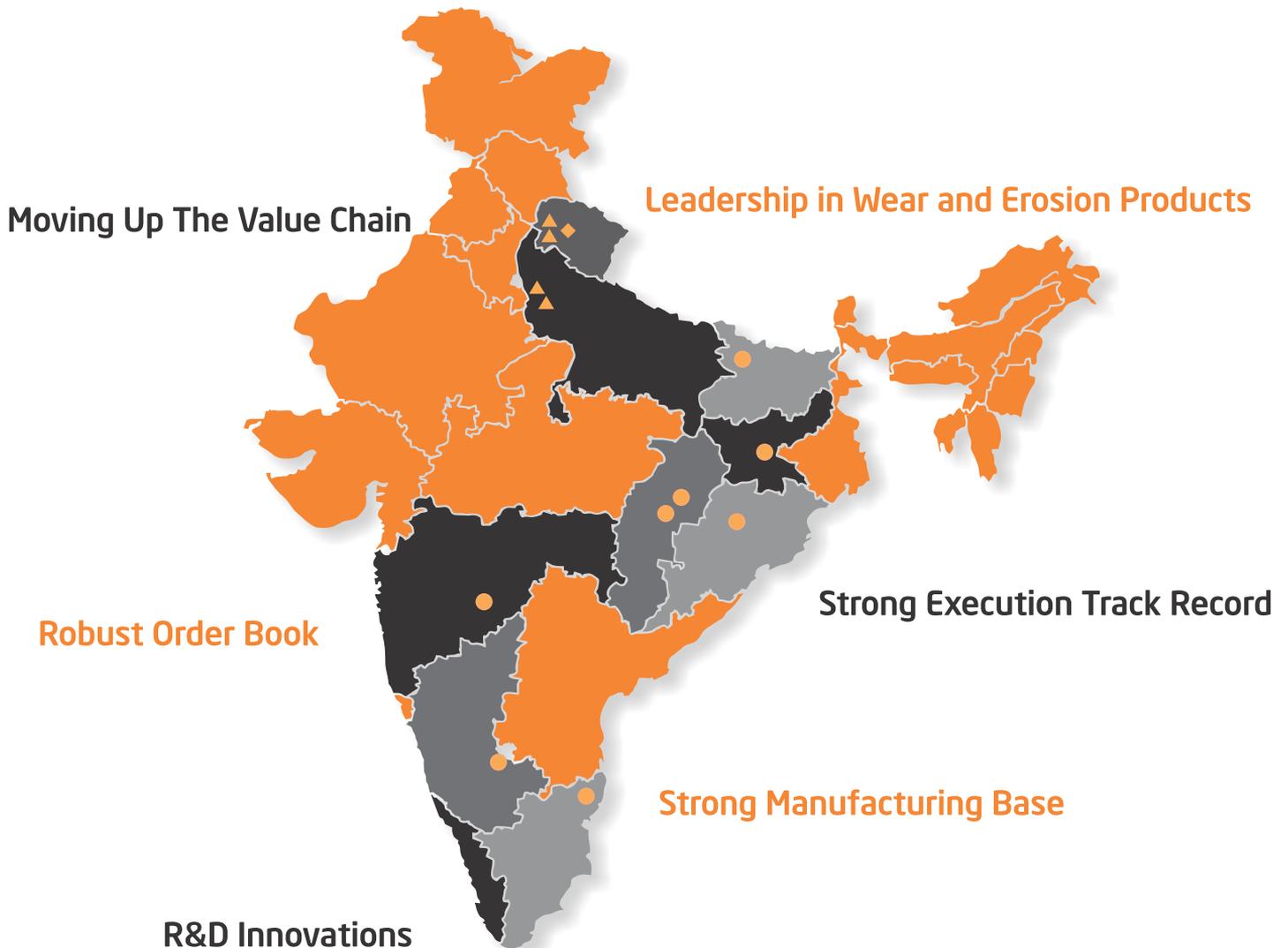
## Pipe Connection Coupling System

- Grooved Coupling
- Slip on Type Coupling
- Quick Release Coupling
- Flexible Coupling



# Business Overview

## Advanced Design & Engineering Capabilities



# Product Range

## Alumina Ceramic - Alumina92™ Coal Pipeline Products



Coal Pipe Bends and Straight Pipes



Coal Pipe Line Nozzle



Fixed Orifices

## Variable Orifice





# Alumina Ceramic - Alumina92™ Coal Mill Equipment

Classifier Inner Cone



Classifier Assembly



Mill Discharge Valve



Ventury Outlet



Multiple Port Outlet



Transition Piece



Multiple Port Outlet Assembly



# Alumina Ceramic- Alumina92™ Liners and Grinding Media

Wedge Shaped and Pastable Liners



Pastable Liner (Hexagonal Liner)



Weldable Liners



Ball Mill Liners





# Alumina Ceramic- Alumina92™ Liners and Grinding Media (...continued)

Orifice Liners



Grinding Media Balls and Cylpebs

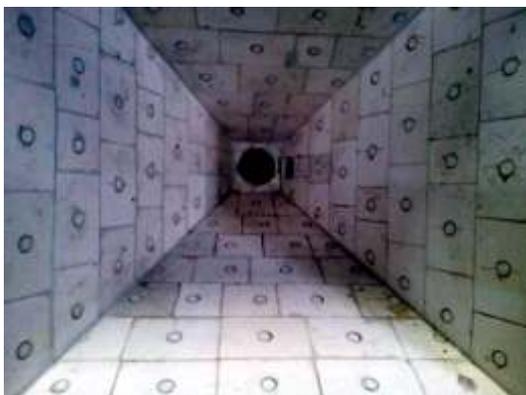


Cylinder Liners



## Coal & Ash Handling Equipment

Coal Bunkers and Chutes



Bends and Y-Piece



Ash Pump Volute Casings



Dense medium Cyclones

Rubber Backed Impact Pads





# Cast Basalt Liners

## Pipes



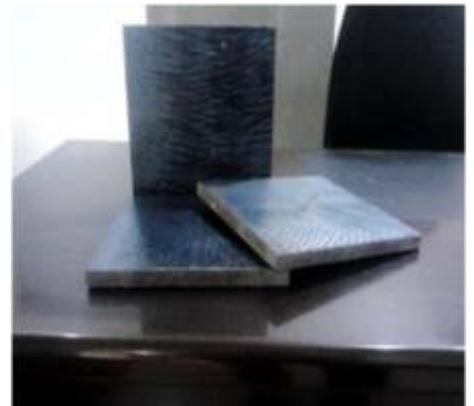
## Trench Liners



## Skid Pan Tiles



## Rectangular Plates/Tiles



### Cast Basalt Lined Equipment

Cast Basalt in Ash Pipeline & Bends



### End Connection Systems

Victaulic Type Coupling and Shoulders





### Brushable & Ganitable / Trowable Ceramics - CBC

CBC in Ash Pipeline and Bends  
Ash Pipelines Bends and Pipes



### CBC in Ash Sump Lining Slurry Disposal System

Y-Pieces



Laterals

Deflectors



Reducer



In situ Sump Lining





# Technical Specifications

## Alumina 92™

1. Alumina Content
2. Bulk Density
3. Hardness
4. Water Absorption (Porosity)
5. Cold Crushing Strength (CCS)
6. Flexural Strength
7. Temperature Resistance
8. Abrasion By Rubbing
9. Jet Erosion (Impingement)
10. Colour
11. Operating Temperature

90 - 92 %  
3.6 gm / cc min  
9 on Moh's Scale  
Less than 0.01% (Nil)  
> 6,000 kg / sq cm  
> 2,000 kg / sq cm  
1,200 Degree Celsius  
0.01 gm (max)  
0.05 gm / 30 sec  
White  
1,200 degree celsius

## Basalt 450™

1. Bulk Density
2. Hardness
3. Water Absorption (Porosity)
4. Cold Crushing Strength (CCS)
5. Colour
6. Thickness of Liner

2.8 - 3.0 gm / cc  
8 on Moh's Scale  
0.5% (max)  
2,500 kg / sq cm (min)  
Black  
Min 20 mm

## Wear Seal CBC™

1. Hardness
2. Compressive Strength
3. Max Operating Temp
4. Working Time
5. Functional Time
6. Color

8 on Moh's Scale  
2,000 kg / cm<sup>2</sup>  
250 deg F  
1 - 2 hours  
48 - 72 hours  
Grey

# Manufacturing Capabilities

## Unit-I: Fabrication and Assembly Unit - Hathras (U.P.)

Production Capacity 300 Tons/month



**CNC Miter Bend Welding Machine**



**CNC pipe profile cutting machine**



**Column & Boom Manipulator**



**NC Four Roll Pipe Bending machine**



**NC Vertical Rotary Table Welding**



**Paint Booth**



**14 Diamond Abrasive Cutter**



**Shot Blasting Chamber**

**Unit-II: Alumina Ceramic Division- Khurja (U.P.)**

Production Capacity 7 Tons/day



**Hydraulic Press - 1 (300MT)**



**CNC Hydraulic Press - 2 (500MT)**



**Spray Drier**



**Cylpebs Making Presses**



**Pot Mill**



**Ceramic Lined Ball Mill**



**Tunnel Furnace (1550°C)**

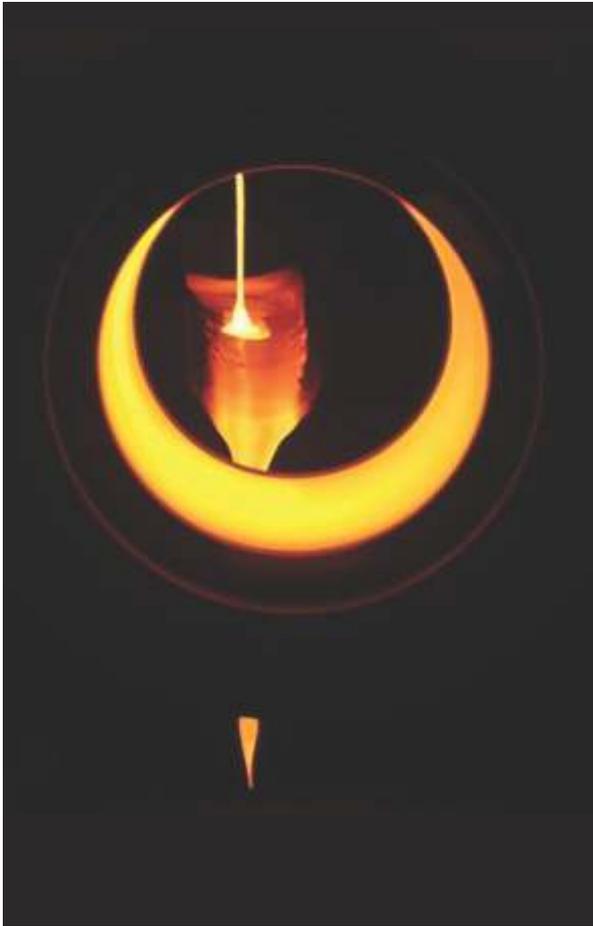


**Lab Muffle Furnace (1700Deg C)**



### Unit-III: Cast Basalt Division - Roorkee (U.K.)

Production Capacity 20 Tons/ day



**Melting Furnace**



**Spinning Machine**



**Tunnel Furnace**



**Pouring In Moulds**



Magnetic Particle Testing Machine



Ultrasonic Hardness Tester



Ultrasonic Thickness Gauge



Density Testing Apparatus



Hardness Testing Machine



Hydraulic Test Pump



**Water Absorption Test**



**Deep Abrasion Test**



**Compressive Strength Test**



**Flexural Strength Test**

# Registrations & Approvals

## Statutory Approvals

1. ISO 9001:2008 (UKAS)
2. BUREAU VERITAS
3. LLOYD'S REGISTER
4. INTERTEK
5. STEAG ENERGY



## Registrations & Approvals

### Consultants

1. Central Glass & Ceramic Research Institute
2. HOLTECH, Gurgaon

### Inspection Agencies working with us

1. Lloyds Register Asia
2. Bureau Veritas
3. TUV
4. Project Development India Limited
5. SGS India Private Limited
6. Regional Inspection Office, NTPC, Noida
7. Intertek

### EPC Contractors

1. Doosan Power Systems India Ltd.
2. Thyssen Krupp Industries India Ltd.
3. Lanco Infratech Ltd.
4. ALSTOM Power India Ltd.
5. CETHAR Ltd.
6. BGR Boilers Ltd.
7. Mitsubishi Heavy Industries Ltd., Bangalore
8. Ansaldo
9. Thermex Babcock
10. Mecawber Beekay Pvt. Ltd.
11. Bsbk Engineering Pvt. Ltd.
12. Osm Projects Pvt. Ltd.
13. Driplex Water Engineering Ltd.
14. Energo Engineers Pvt. Ltd.
15. China Western
16. Mecgale Pneumatics Pvt. Ltd.
17. Metso Minerals



# Prestigious Clients

## Power Plants



## Steel Plants



## EPC



## Cement Plants



## Mineral Processing Unit



## Fertilizer



## Aluminium Plants



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**BMW**  
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