

**MAKE YOUR  
PLANT OPERATIONS  
SMOOTHER!**



**Bearing solutions for the Ceramic Industry**

WHO IS  
NBC



Founded in 1946, NBC is India's first bearings manufacturer and the last word in quality and durability. In 2020, the company acquired leading European manufacturer, Kinex Bearings to further boost its expertise.

75 years since its beginning, NBC remains India's leading bearings manufacturer and exporter. NBC is also the world's only bearings manufacturer to receive the prestigious Deming Grand Prize for Total Quality Management.



1946 India's  
first bearing  
manufacturer



200+ million  
bearings  
manufactured/  
annum



2300+ variants  
of bearings  
offered



5 manufacturing  
locations



Leading  
exporter



Happy customers  
in 30+ countries



R&D and  
Innovation  
Centre



2800+People



Automotive



Industrial



Railway



Aerospace

# COMPREHENSIVE SOLUTIONS FOR THE CERAMIC TILE INDUSTRY



Deep Groove Ball Bearing



Spherical Roller Bearing



Angular Contact Ball Bearing



Tapered Roller Bearing



Cylindrical Roller Bearing



Needle Roller Bearing



Sealed Bearings  
(DGBB and SRB)



Sleeves



Pillow Blocks (UCP)

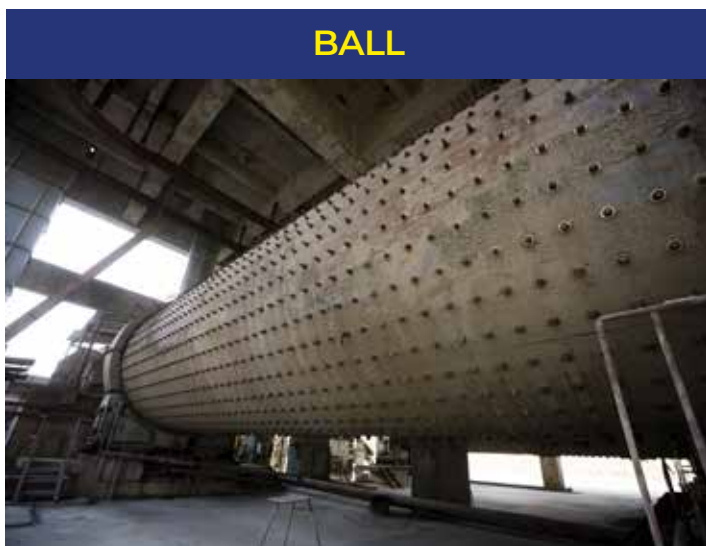
# NBC SOLUTIONS FOR THE CERAMIC TILE INDUSTRY

The machinery and equipment used in the ceramic tile industry have evolved with time, requiring high-performance bearings that can cope with the challenges present inside the plant. Therefore, NBC Bearings offers sustainable and comprehensive bearing solutions that can sustain harsh operating conditions.



## Why NBC Bearings for the Ceramic Tile Industry:

- Extensive range of products suitable for demanding environments (humidity, dust and high-speed application)
- Special products are made of advanced materials, special seals, and lubricants.
- Condition monitoring service to prevent any unplanned stoppage, thereby reducing maintenance and maximizing uptime.



## Operating Challenges

- Low Speed
- Contamination
- Heavy loads

For smooth functioning of bearings, the bearings should fulfill the following requirements:

- Optimized internal geometry
- Seal design
- Special heat treatment
- High-load carrying capacity
- High-operational reliability



Bearings  
used

**Trunnion Bearings:** Spherical Roller Bearing

**Motor:** Cylindrical Roller Bearing, Deep Groove Ball Bearing

**Gearbox:** Taper Roller Bearing, Spherical Roller Bearing

# NBC SOLUTIONS FOR THE CERAMIC TILE INDUSTRY

## NANO COATING & SIZING MACHINE



### Operating Challenges

- High Speed
- Contamination
- Humidity
- Vibration

For smooth functioning of bearings, the bearings should fulfill the following requirements:

- Optimized internal geometry
- Seal designs
- Special heat treatment
- High-load carrying capacity
- High-operational reliability



Bearings  
used

- Deep Groove Ball Bearings
- Tapered Roller Bearings
- Needle Roller Bearings

- Angular Contact Ball Bearings
- Cylindrical Roller Bearings

## CONVEYOR & TABLE ROLLER



### Operating Challenges

- External Contamination
- Humidity
- High temperature

The bearings should have optimized performance capabilities, and for that, they should have the following:

- Optimized raceway geometry
- Low friction seal design
- Wide range of grease



Bearings  
used

- Spherical Roller Bearings
- Ball Bearings

- Pillow Block
- Adapter Sleeves

# NBC SOLUTIONS FOR THE CERAMIC TILE INDUSTRY

## GEARBOX



The gearbox is an essential piece of equipment, and any breakdown would lead to severe implications. Therefore, the main challenge for the bearing is to match the high-reliability demand of the equipment.

### NBC Bearings benefits:

- Reducing friction and heat generation
- Appropriate for small and compressed designs



Bearings used

- Tapered Roller Bearings
- Spherical Roller Bearings

- Cylindrical Roller Bearings
- Deep Groove Ball Bearings

## PUMP



As pumps are exposed to shocks and vibration, it becomes imperative that bearings used in pumps can accommodate radial and axial loads.

### NBC Bearings benefits:

- Enhanced lifetime
- Less heat generation



Bearings used

- Deep Groove Ball Bearings
- Angular Contact Ball Bearings

- Tapered Roller Bearings

# NBC SOLUTIONS FOR THE CERAMIC TILE INDUSTRY

## FANS/BLOW-



The presence of corrosive particles, gas, and dust coupled with the problem of high speed and light load makes reliability one of the necessary features of a bearing.

### **NBC Bearings benefits:**

- Feasible solutions
- Enhanced operating life and low maintenance



Bearings  
used

- Spherical Roller Bearings
- Self-aligning Ball Bearings

- Roller Housed Unit
- Deep Groove Ball Bearings

## MOTO



In the case of motors, the bearings must ensure reliable, continuous smooth, and quite rotation.

### **NBC Bearings benefits:**

- Low noise and vibration
- Longer operational life



Bearings  
used

- Deep Groove Ball Bearings

- Tapered Roller Bearings

# NBC SPHERICAL ROLLER BEARING WITH IMPROVED CAGE DESIGN AND FEATURES

## STEEL CAGE BEARINGS

- Surface hardened and lightweight cage design
- Suitable for high-speed applications
- Gives adequate performance for majority of applications

## BRASS CAGE BEARINGS

- Brass cage bearings can deliver extra durability in extreme operating conditions
- Better performance in shock load applications
- Suitable for high centrifugal loading
- Better performance in reversing applications



## Features and benefits

- **Two-piece cage design**  
This allows both rows to run independently, avoiding the risk of roller slippage, smearing and cage damage.
- **Enhanced roller finishing to reduce friction**  
Enhanced race/roller surface finish results in improved lubrication film, which avoids metal-to-metal contact and lowers bearing operating temperature.
- **Improved and robust cage design**  
Helps in better roller cage interaction and can accommodate more rollers and longer cage life by providing surface treatment.
- **Central Guide Ring/Flange**  
The central guide ring/flange provides optimal guidance to the rollers and limits rollers skew thus, avoids unnecessary force on the cage.
- **Maximum and Larger Rollers**  
This enhances load carrying capacity.

Size range	30-2000 mm OD
Variants	Straight bore, Tapered bore (1:12, 1:30)
Cage	Brass, Steel
Clearances	C2, CN, C3, C4, C5

# NBC ADVANCED SOLUTIONS FOR THE CERAMIC TILE INDUSTRY

## HCR WEAR RESISTANT BEARINGS

*Wear resistance coating on rolling elements helps avoid metal to metal contact in low film thickness and protects against adhesive and abrasive wear.*



### Features

- Optimized coating with metal-containing amorphous carbon with a multilamellar structure
- No columnar structure provides high adhesion strength
- High dimensional accuracies

### Benefits

- Low coefficient of friction even in dry condition:  
Resistant to adhesive wear and micro pitting
- Enhanced fatigue life in insufficient lubrication condition
- Debris tolerance: removes dents created in the contaminated application

## OIL IMPREGNATED BEARINGS

*Oil impregnated bearings composed of 70-80% of lubricating synthetic oil. Oil is moulded and solidified with polymer to form a casing which acts as a lubricant reservoir throughout bearing's life.*



### Features

- Improved lubrication with consistent lubricant supply
- Superior lubricant: Synthetic oil
- Excellent performance in water and dusty environment
- Environment-friendly molding process

### Benefits

- Long life and maintenance-free
- Higher operational reliability
- No re-lubrication needed
- No lubricant washout issue

# NBC ADVANCED SOLUTIONS FOR THE CERAMIC TILE INDUSTRY

## SEALED SPHERICAL ROLLER BEARINGS

*Sealed Spherical Roller bearings are like conventional spherical roller bearing in design and features, however for extra protection of bearing and lubricant from any external agents it has contact seals in the recesses of the outer ring.*



### Features

- Effective and high-performance contact seals
- Different seal materials to suit different operating temperatures

### Benefits

- Reduced lubricant consumption
- Lower operating and maintenance costs
- Excellent protection against water splashes and contamination

## INSULATED BALL BEARINGS

*Electrical insulation coating prevents electrical pitting in the bearings and improves bearing life in motor application.*



### Features

- Aluminium oxide coating using plasma spraying technology
- Current insulation
- High thermal stability

### Benefits

- Extending bearing service life by avoiding damage caused by electric current flow.
- Higher operational reliability of electrical machinery

# NBC ADVANCED SOLUTIONS FOR THE CERAMIC TILE INDUSTRY

## HIGH TEMPERATURE BEARINGS

*NBC has developed unique heat treatment solutions for high temperature applications to provide superior dimensional stability for operating temperatures as high as 250°C.*



### Features

- Special heat treatment
- Excellent performance under hot environments

### Benefits

- Dimensional stability at high temperatures.
- Enhanced bearing service life at elevated temperatures

## HYBRID BALL BEARINGS

*Hybrid bearing also known as anti-friction ball bearing consists of rolling element made of Silicon nitride in place of steel. Silicon nitride rolling elements perform exceptionally well in high-speed operating conditions.*



### Features

- Lower friction
- Reduced weight
- Current insulation
- Higher hardness

### Benefits

- High speed capability
- Less wear under slippage
- Extended bearing service life
- Higher operational reliability

# CONDITION MONITORING SERVICES FROM NBC



NBC provides intelligent solutions for Condition Monitoring in order to improve the reliability of your assets.

Our expertise in various streams of Condition Monitoring helps industries maintain their machinery failure-free.

With a result-oriented approach towards avoiding machinery failure, the scope of CMS largely consists of Vibration Analysis and Lube Oil Analysis.

## Our offerings

- **Vibration monitoring & analysis**
- **In-situ dynamic balancing**
- **Laser shaft alignment**
- **Thermography**
- **Annual maintenance contract / On-call service**

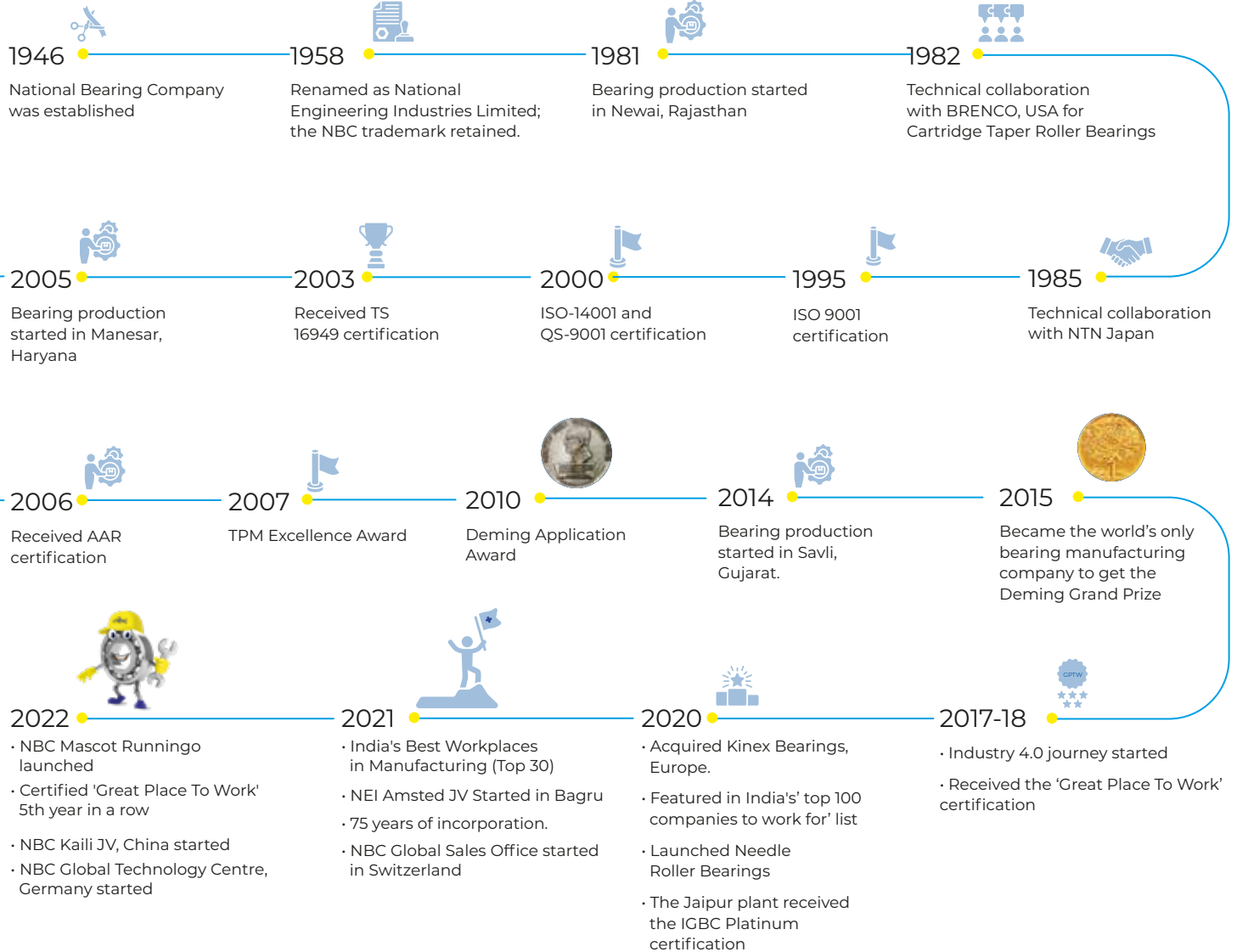
# OTHER PRODUCTS FROM NBC

Since the challenges faced by industry are many, NBC offers a diverse range of exceptional bearings. NBC bearings are available in sizes from 06 mm bore to 2000 mm outer diameter.



\* Products with special features like high temperature application, special heat treatment, coated roller/races and cage options are also available across product range.

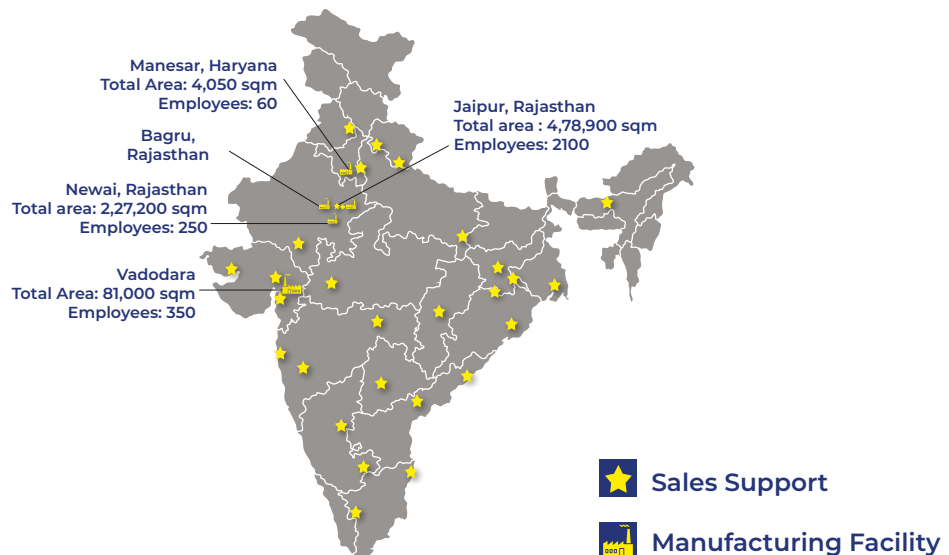
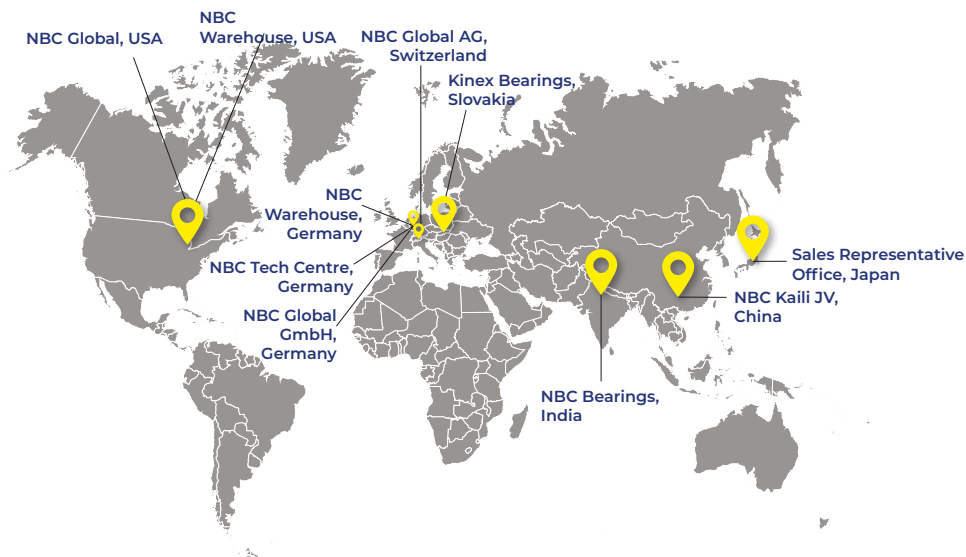
# NBC MILESTONES



# OUR GLOBAL REACH

## The NBC Bearings: Product, Technology & Services

NBC provides a wide range of bearings and associated service solutions to diverse industries such as Industrial, Automotive, Railways, and Aerospace. As a company that has been established for over 75 years, NBC Bearings has an international presence with offices and R&D centers across the globe. For us, engineering goes beyond manufacturing; it is the fusion of Product, Technology, and Services that make us different and the most preferred choice of our customers worldwide.



Over 550 stockists and thousand of retailers across India



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