

# NTN Ceramic Ball Bearings for Electric Motor Applications



In the electric motor industry, if an electrical current passes through a standard steel bearing, it will cause an arc between the rolling element and the raceway surface. Exposing a bearing to an electric current can cause electrical bearing damage. The damage manifests as pits and grooves on the bearings' inner and outer ring raceways which create an uneven surface texture causing noise, vibration, and (eventually) complete failure.

NTN's new series of ceramic ball bearings has been specifically designed to prevent electrical arcing in a variety of applications. Robustly designed with steel rings and cages but featuring ceramic balls instead of standard steel balls, these bearings are useful in many different applications. Due to ceramic being non-conductive, the material is ideal for applications where stray currents are present.

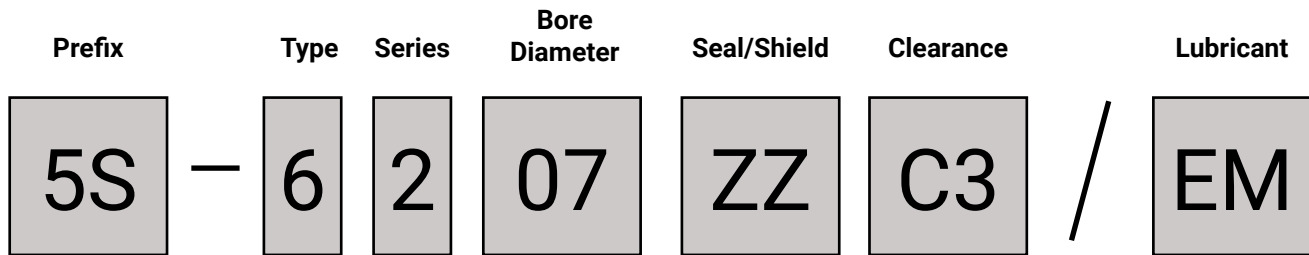
NTN's ceramic bearing offering comes with two shields, electric motor grease, and C3 clearance as standard. We stock some of the most common bearing sizes while offering bearings with bore diameters up to 180mm, and our entire offering has ISO standard dimensions for easy interchangeability. Additionally, the ceramic material of these bearings generate less heat allowing longer service intervals than the steel ball equivalents. NTN's hybrid ball bearings offer a cost-effective solution to combat stray electric currents and other harsh operating conditions.

## Hybrid Bearing Features & Benefits

- Ceramic rolling elements provide protection from electric current damage by preventing electric currents from passing through the bearing
- Drop in replacement for standard bearings for easy interchangeability
- Generate less friction than steel rolling elements leading to longer bearing and grease life

## Premier quality trusted by OEMs.

NTN's commitment to quality bearing products represents the gold standard in the industry. As the first of only two bearing manufacturers to ever win the prestigious Deming Prize for global quality management, it's no surprise NTN has been the OEM choice for nearly 75 years in the electric motor field. From smaller, low horsepower applications to giant wind turbines to gearboxes, NTN offers the world-class technical support and vast product range needed to satisfy the requirements of any design.



**1. Prefix**

5S: Ceramic rolling elements

**2. Type**

6: Single row deep groove ball bearing

**3. Series**

- 2: ISO 02 Series
- 3: ISO 03 Series

**4. Bore Diameter**

- 00: 10mm
- 01: 12mm
- 02: 15mm
- 03: 17mm
- 04+: # \* 5 = bore diameter in mm (ex. 07=35 mm)

**5. Seal/Shield**

ZZ: Two steel shields

**6. Clearance**

C3: Clearance greater than normal

**7. Lubricant**

EM: Electric motor grease

Ceramic Bearing Offering
5S-6207ZZC3/EM
5S-6208ZZC3/EM
5S-6209ZZC3/EM
5S-6210ZZC3/EM
5S-6211ZZC3/EM
5S-6212ZZC3/EM
5S-6213ZZC3/EM
5S-6307ZZC3/EM
5S-6308ZZC3/EM
5S-6309ZZC3/EM

Additional sizes and configurations can be investigated upon request



# Beyond Bearings

Training. Installation Support. Trouble-shooting. And more.

When you choose NTN, your team is equipped with all the necessary tools and resources to get the job done right. From installation to problem-solving, we'll be there with the hands-on support you need to take on your toughest challenges. This includes extra services such as:



**Technical Training Unit**

On-site, mobile training unit offering specialized, hands-on instruction from NTN engineers



**Product Training School**

Three days of in-depth instruction from our engineers at NTN headquarters ([go.ntnamericas.com/trainingschool](http://go.ntnamericas.com/trainingschool))



**eKnowledge**

WEB-BASED TRAINING PROGRAM

Six online product training modules covering different bearing types and nomenclature ([www.ntnamericas.com/eknowledge](http://www.ntnamericas.com/eknowledge))



**NTN Bearing Finder**

Customizable search tool featuring exhaustive data sets, comprehensive part interchanges and interactive CAD drawings ([bearingfinder.ntnamericas.com](http://bearingfinder.ntnamericas.com))