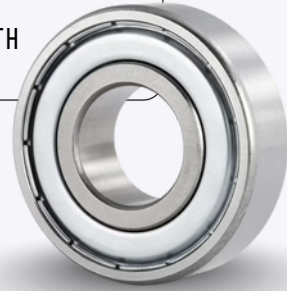


# CNZ CONNECT

WHERE PRECISION MEETS GROWTH

Edition 04 | December 2025



## Signs Your Bearings Need Replacement

**Your machines speak before they break – are you listening?**

Bearings rarely fail without warning. From subtle vibrations to obvious noise, early signs of trouble are easy to detect – if you know what to look for. Catching these symptoms early can help you avoid costly downtime and major equipment damage.



### Heat Tells a Story

Using thermal imaging, maintenance teams can spot hot spots where friction is building – often a sure sign of an under-lubricated or overloaded bearing. In one case, a textile mill in Coimbatore identified overheating in a spindle bearing and replaced it just before failure, avoiding a full production halt.

### Listen to Your Machine

A noisy or vibrating machine is often crying for help. Bearing failure can lead to misaligned shafts, seized motors, or catastrophic equipment damage.



## Top 5 Warning Signs

Symptom	What It Means !
Unusual noise	Grinding, screeching, or rumbling = worn races or balls
Excessive vibration	Imbalance or internal damage
Overheating	Poor lubrication or misalignment
Visible wear/damage	Cracks, rust, flaking, or deformation
Performance drop	Slower speeds, higher energy use, or more effort

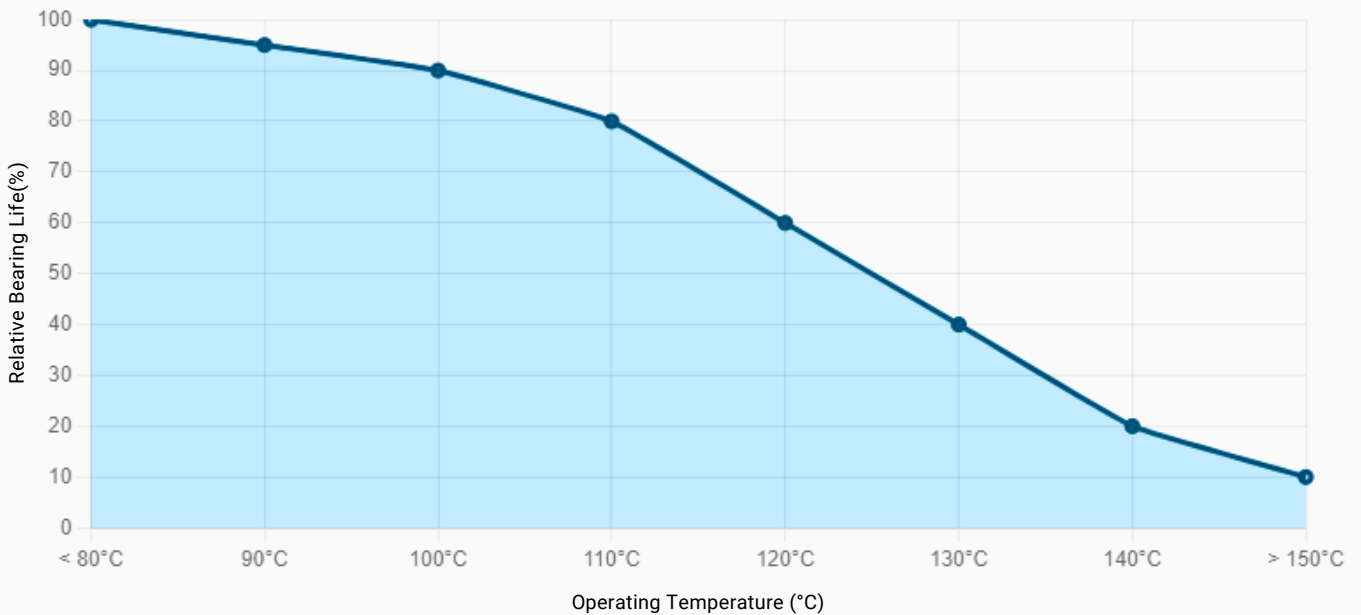
# 🔥 The Impact of Temperature on Bearing Life

Too hot to handle? Your bearings think so. Excess heat is one of the biggest enemies of bearing performance. Rising temperatures can degrade grease, deform metal, and cut bearing life – sometimes by half.



## How Heat Affects Bearing Life

This chart illustrates how relative bearing life (primarily determined by lubricant integrity) drops sharply as operating temperatures rise above the ideal range.



Data based on typical lubricant and material performance. > 80°C starts lubricant breakdown, > 120°C risks grease oxidation, and > 150°C can lead to raceway damage.

## 🌍 Real-World Insights

Monitoring and high-grade lubricants make a measurable difference. Proactive maintenance based on thermal data and correct lubrication choices can prevent catastrophic failures and dramatically improve uptime.

### 2x

#### Bearing Life Doubled

A Kerala rubber plant suffering failures from temps > 130°C doubled bearing life and improved uptime after switching to high-temperature synthetic lubricants.

### Production Halt Prevented

#### Textile Mill Case Study

A Coimbatore textile mill used thermal imaging to identify overheating in a spindle bearing, allowing replacement just before failure and preventing a full production halt.

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# Actionable Maintenance Strategy

A proactive approach costs far less than an emergency repair. Integrate these checks into your preventive maintenance routine to protect your assets.

## Bearing Health Checklist

- ✓ Listen for changes in sound (grinding, screeching).
- ✓ Use vibration meters or thermal scanners to detect anomalies.
- ✓ Inspect for surface damage, rust, or flaking regularly.

## How to Control Temperature

-  Use high-temp grease for hot environments.
-  Avoid overloading & misalignment.
-  Install temperature sensors for real-time monitoring.
-  Follow correct lubrication intervals.



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## Keep it Cool. Keep it Running.

Temperature isn't just a number — it's a warning. Spot the signs, act fast, and maintain your equipment before it's too late.