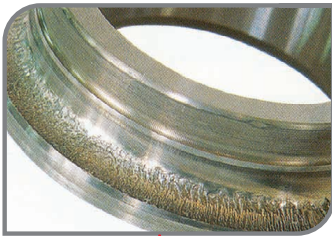


## Bearing Damage and Countermeasures

### FLAKING

Damage condition	Possible causes	Countermeasures
<p>Flaking occurs when fragments of bearing material chip off from the smooth surface of the raceway or rolling elements due to rolling fatigue, thereby creating regions having rough and coarse texture.</p>	<ul style="list-style-type: none"> <li>• Excessive load</li> <li>• Incorrect mounting (misalignment)</li> <li>• Moment load</li> <li>• Entry of foreign matter, water penetration</li> <li>• Poor lubrication, improper lubricant</li> <li>• Unsuitable bearing clearance</li> <li>• Improper precision for shaft or housing, unevenness in housing rigidity, large shaft bending</li> <li>• Progression from rust, corrosion pits, smearing, dens (brinelling)</li> </ul>	<ul style="list-style-type: none"> <li>• Reconfirm the bearing application and check the load conditions</li> <li>• Improve the mounting method</li> <li>• Improve the sealing mechanism, prevent rust during non-running</li> <li>• Use a lubricant with a proper viscosity, improve the lubrication method</li> <li>• Check the precision of shaft and housing</li> <li>• Check the bearing internal clearance</li> </ul>



**FLAKING**

**Part:** Inner ring of an angular contact ball bearing

**Symptom:** Flaking occurs around half of the circumference of the raceway surface

**Cause:** Incorrect lubrication due to entry of cutting coolant into bearing

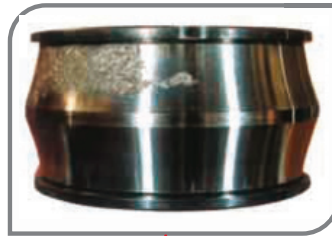


**FLAKING**

**Part:** Inner ring of a spherical roller bearing

**Symptom:** Flaking of only one raceway over its entire circumference

**Cause:** Excessive axial load



**FLAKING**

**Part:** Inner ring of a spherical roller bearing

**Symptom:** Flaking of only one row of raceway

**Cause:** incorrect lubrication



**FLAKING**

**Part:** Inner ring of angular contact ball bearing

**Symptom:** Flaking occurs diagonally along raceway

**Cause:** Improper alignment between shaft and housing during mounting