



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 32321-2015

**Rolling bearings - Sealed deep groove ball bearings -
Performance test rule of dustproofing, grease leakage and
temperature rise**

滚动轴承 密封深沟球轴承 防尘、漏脂及温升性能试验规程

Issued on: December 31, 2015

Implemented on: April 1, 2016

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the People's Republic of China..**

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Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard was proposed by China Machinery Industry Federation.

This Standard shall be under the jurisdiction of National Technical Committee on Rolling Bearings of Standardization Administration of China (SAC/TC 98).

The drafting organizations of this Standard: Luoyang Bearing Research Institute Co., Ltd.

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1 Scope

This Standard specifies performance test rule of dustproofing, grease leakage and temperature rise for general-purpose sealed deep groove ball bearings (both sides are with sealing rings or both sides are with dust covers), of which the dimensions meet the diameter series 0, 2, 3 in GB/T 276, nominal inner diameter $d \leq 60$ mm (hereinafter referred to as sealed ball bearings). The bearings of other types, sizes and size ranges shall refer to this Standard to use.

This Standard is applicable to dustproofing, grease leakage and temperature rise tests for sealed ball bearings on test devices.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

3 Terms and definitions

3.1 dustproofing performance of sealed ball bearings

3.2 dustproofing performance test

the test that when the sealed ball bearing is placed in a specific dust environment, when it is running under the specified test conditions, determine its dustproofing performance according to the invasion of external dust into the interior of bearing chamber

3.3 grease leakage performance of sealed ball bearings

3.4 grease leakage performance test

the test that when sealed ball bearing is running under the specified test conditions,

determine its grease leakage resistance performance according to the grease leakage in the bearing chamber

3.5 temperature rise performance of sealed ball bearings

3.6 temperature rise performance test

the test that when sealed ball bearing is running under the specified test conditions, determine its temperature rise performance according to the difference BETWEEN the actual measured temperature of outer surface of outer ring AND ambient temperature

4 Symbols

The symbols given in GB/T 2828.1 as well as the followings apply to this document.

5 Test preparations

5.1 Bearing sample

5.1.1 Randomly extract sample from the finished sealed ball bearings of same model, same batch that are inspected as accepted. 5.1.2 Extract 12 sets of samples for each test. The test sample size $N=8$.

5.2 Dust medium

5.2.2 Bake the dust medium in a drying oven at $110^{\circ}\text{C} \pm 10^{\circ}\text{C}$ for 1 h. Place in a dryer to cool.

5.2.3 Use a clean measuring cup to measure the cooled dust medium.

5.3 Mass weighing

5.3.2 Weigh the pre-test bearing sample mass before test for grease leakage performance.

5.4 Temperature measuring apparatus

The temperature measuring apparatus for temperature rise performance test shall be regularly verified as qualified. Its temperature measuring range and accuracy shall meet the test requirements.

5.5 Test body assembly

6 Test conditions

6.1 Test device is the sealed bearing testing machine that passes regular verification and is verified as qualified.