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

JY/T 0435-2011

**Nitrogen dioxide ball
(English Translation)**

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Foreword

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

Please note that some elements of this standard may involve patents. The issuer of this standard should not be held responsible for identifying these patents.

This standard was proposed by the National Technical Committee for Standardization of Teaching Instruments (SAC/TC125).

This standard is under the jurisdiction of the National Technical Committee for Standardization of Teaching Instruments (SAC/TC125).

This standard was drafted. Sichuan Longchang Glass Instrument Factory, Zhejiang Educational Technology Center, Sichuan Ziyang Glass Instrument Factory, Sichuan Scientific industry teaching equipment limited liability company.

1 Scope

This standard specifies the classification and nomenclature of nitrogen dioxide balls, technical requirements, test methods, inspection rules, packaging, transportation, storage, etc.

Content.

This standard applies to nitrogen dioxide balls.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this document.

For undated references, the latest version (including all amendments) applies to this document.

GB 191-2008 packaging storage and transportation pictogram GB/T 2828.1-2003 Counting sampling acceptance procedure Part 1. Sampling plan for batch inspection for retrieval by acceptance quality limit (AQL) JY 0001-2003 General quality requirements for teaching instruments and equipment products JY 0002 Inspection rules for teaching instruments and equipment products JY 0026-1991 teaching instrument and teaching equipment product model naming method JY/T 0423-2011 General quality requirements and test methods of teaching glass instruments

3.1 Product Classification

Divided into single ball and double ball according to structure.

3.2 Model designation

The model name of the product is in accordance with the provisions of JY 0026-1991.

The model of nitrogen dioxide ball is named.

L - NO₂Q - D/S - 48 x 90 Product specifications (dimensions), unit. mm Product feature code, single ball, double ball Product name Pinyin prefix, nitrogen dioxide ball Product model classification code, glass instrument Model example.

L-NO₂Q-S-50 x 180. Double-sphere nitrogen dioxide ball with dimensions of 50mm x 180mm.

4.1 Materials

It should be made of borosilicate glass. The average linear thermal expansion coefficient is not more than $4.0 \times 10^{-6} \text{K}^{-1}$.

4.2 Dimensions

The shape of the nitrogen dioxide ball should conform to Figures 1 and 2, and the dimensions should not be smaller than those shown in Figures 1 and 2.

Note: The dimensions in the figure are for reference only.

Figure 1 Single-sphere nitrogen dioxide ball

Note: The dimensions in the figure are for reference only.

Figure 2 Double-ball type nitrogen dioxide ball

4.3 Appearance

4.3.1

Appearance defects allowed. gas line width is not greater than 0.5mm, 2 are not concentrated; single stripe is not concentrated 2; the largest diameter of nodules 1mm, no more than 3; the maximum diameter of stones is not more than 1mm, no more than 3; the total number of appearance defects allowed. gas lines, 3 single stripes 4 nodules and stones.

4.3.2

The appearance defects that should not exist shall be in accordance with JY/T 0423-2011 Section 5.1.1.

4.3.3

The ball wall shall be uniform in thickness and the thickness ratio shall not be greater than 3. 2.

4.3.4

The double spheres shall be parallel. The parallelism error should not be greater than 5mm.

4.3.5

The connection between the ball and the branch pipe and the sealing shall be smooth and firm, and shall not be skewed or have sharp corners to fasten.

4.4 Inflating the ball

The ball should be sealed with NO₂ gas, which is yellow-brown at room temperature, and the experimental effect should meet 5.7.

4.5 Chemical stability

It should meet the water resistance HGB level 1, acid resistance H1 level, and alkali resistance A2 level.

4.6 Internal stress

The internal stress should not be less than 180nm/cm.

4.7 Environmental test

The environmental test shall be in accordance with Chapter 8 of JY/T 0423-2011.

5 Test method

5.1

The average linear thermal expansion coefficient shall be in accordance with JY/T 0423-2011 Section 6.4.2. The test shall meet the requirements of 4.1 of this standard.

5.2

Dimensions are measured with a vernier caliper with a division value of 0.02 mm and a steel ruler with a division value of 0.5 mm.

The digital microscope test shall meet the corresponding requirements of this standard.

5.3

The wall thickness and uniformity shall be tested in accordance with JY/T 0423-2011, Section 4.1.2, and shall comply with 4.2 and 4.3.3.