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CCS C73

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 2626-2019

Replacing GB 2626-2006

Respiratory protection - Non-powered air-purifying particle respirator

呼吸防护 自吸过滤式防颗粒物呼吸器

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1 Scope

GB 2626-2019 is the Chinese national standard on respiratory protection - non-powered air-purifying particle respirator, in the field of environment and health protection, safety. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 31 December 2019 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 July 2020. Classification: ICS 13.340.30, CCS C73. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the classification and marking, technical requirements, testing methods, identification of non-powered air-purifying particle respirator. This standard applies to non-powered air-purifying respirator that protects against particle. This standard does not apply to respirators that protect against harmful gases and vapors. It does not apply to the respirators for hypoxic environments, underwater operations, escape, fire-fighting.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this standard.

GB 2890-2009 Respiratory protection - Non-powered air-purifying respirators

GB/T 5703 Basic human body measurements for technological design

GB/T 10586 Specifications for damp heat chambers

GB/T 10589 Specifications for low temperature test chambers

GB/T 11158 Specifications for high temperature test chambers

GB/T 18664-2002 Selection, use and maintenance of respiratory protective equipment

GB/T 23465-2009 Respiratory protective equipment - Practical performance evaluation methods

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Particle Solid, liquid or particle mixed with solid and liquid suspended in air, such as dust, smoke, mist and microorganisms. [GB/T 18664-2002, definition 3.1.15]

3.2 Dust The tiny solid particles suspended in the air, which are generally produced by the solid materials being broken by mechanical forces. [GB/T 18664-2002, definition 3.1.16]

3.3 Non-powered air-purifying respirator Filtered respirator that relies on the wearer's breathing to overcome the airflow resistance of the component. [GB/T 18664-2002, definition 3.1.3]

4 Classification and marking

4.1 Classification of facepiece According to the structure, the facepiece is divided into three types. disposable facepiece, replaceable half facepiece, full facepiece.

4.2 Classification of filter element Filter elements are divided into two categories. KN and KP. Category KN is only suitable for filtering non-oily particles; category KP is suitable for filtering oily and non-oily particles.

4.3 Grades of filter element According to the level of filter efficiency, the grades of filter elements is classified according to Table 1.

4.4 Marking The filter elements of disposable facepieces and replaceable facepieces shall be marked with grades; the grades shall be marked with a combination of the number of this standard and the type and grade of filter elements. Example

1.The KN90 filter element is marked as GB 2626-2019 KN90. Example

2.The KP100 filter element is marked as GB 2626-2019 KP100.

5.1 Basic requirements Check in accordance with

6.1 and evaluate in 6.16.The material and structural design of the respirator shall meet the following requirements.

a) The material shall meet the following requirements. 1) Materials that are in direct contact with the face shall be harmless to the skin; 2) The filter material shall be harmless to the human body; 3) The material used shall have sufficient strength; in normal use, it shall not be damaged and deformed that affects the use effect; 4) No obvious tenderness or tingling sensation when wearing it.

b) The structural design shall meet the following requirements. 1) It shall not be easy to cause structural damage; the design, composition, installation of components shall not pose any danger to the user; 2) The design of the head harness shall be elastic material or adjustable, for easy wearing and removal. It shall be able to firmly fit the facepiece on the face; there shall be no obvious compression or tenderness when wearing. The head harness of replaceable half facepiece and full facepiece shall be designed to be

replaceable; 3) If the facepieces of the same size and the same style have different wearing methods, they shall be tested as different products; Note

1.Different wearing methods of the same style facepiece will affect the tightness of the facepiece.

5.2 Visual inspection Check it in accordance with 6.1. The surface of the sample shall neither be damaged, deformed, nor have other obvious defects. The material and structure of the component shall be able to withstand normal use conditions and the temperature, humidity and mechanical shock that may be encountered. After the temperature and humidity pretreatment and mechanical strength pretreatment according to the method of 6.2, the components shall not fall off, be damaged or deformed. The inspection shall also include markings and various information as provided by the manufacturer.

5.3 Filter efficiency Use sodium chloride (NaCl) particles to test the KN filter elements. Use dioctyl phthalate (DOP) or oil particles (such as paraffin oil) of equivalent nature to test the KP filter elements. Perform testing in accordance with the method of 6.3. In the testing process, the filter efficiency of each sample shall always meet the requirements of Table 2.

5.4 Leakage

5.4.1 TIL for disposable facepieces Perform test in accordance with the method of 6.4.The TIL of disposable facepieces shall meet the requirements of Table 3.

5.4.2 IL of replaceable half facepiece Perform test in accordance with the method of 6.4.When using the IL of each action (i.e. 10 people x 5 actions) as the basis for evaluation, the IL of at least 46 of the 50 shall be less than 5%. When using the overall IL of person as the basis for evaluation, the overall IL of at least 8 persons of the 10 persons under test shall be less than 2%.

5.5 Breathing resistance Perform test in accordance with the method of

6.5 and 6.6. The inhalation resistance and exhalation resistance of all types of respirators shall meet the requirements of Table 4.

5.6 Exhalation valve

5.6.1 Air tightness of exhalation valve Detects only half facepieces. The exhalation valve shall meet the following requirements. When tested according to the method of 6.7, the leakage flow rate of the exhalation valve of each respirator shall not be greater than 30 mL/min; if the facepiece is provided with multiple exhalation valves, the leakage airflow that each exhalation valve shall meet shall be shared equally, for example, if the respirator facepiece is provided with 2 exhalation valves, the leakage air flow of each exhalation valve shall not be greater than 15 mL/min.

5.6.2 Protection device of exhalation valve Perform test in accordance with the method of