

ICS 83.100

QB

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

QB/T 2080-2018

**Flexible cellular polymeric materials - High-resilience
polyurethane foam
(English Translation)**

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1 Scope

This standard specifies the classification, requirements, test methods, inspection rules and markings, packaging, transportation, storage of flexible cellular polymeric materials - high-resilience polyurethane foam.

This standard applies to flexible cellular polymeric materials - high-resilience polyurethane foam produced with polyols and isocyanates as the main raw materials.

2 Normative references

The following documents are indispensable for the application of this document.

For dated reference documents, only the dated version applies to this document.

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

GB/T 2918-1998 Plastics - Standard atmospheres for conditioning and testing

GB/T 6342-1996 Cellular plastics and rubbers - Determination of linear dimensions

GB/T 6343-2009 Cellular plastics and rubbers - Determination of apparent density

GB/T 6344-2008 Flexible cellular polymeric materials - Determination of tensile strength and elongation at break

GB/T 6669-2008 Flexible cellular polymeric materials - Determination of compression set

GB/T 6670-2008 Flexible cellular polymeric materials - Determination of resilience by ball rebound

GB 8410 Flammability of automotive interior materials

GB/T 9640-2008 Flexible and rigid cellular polymeric materials - Accelerated ageing tests

5.1 Test conditions

5.1.1

Unless otherwise specified in the test procedure, the test shall be carried out under the 23/50 environmental standard specified in GB/T 2918-1998, that is, the temperature is $(23 \pm 2) ^\circ\text{C}$ and the relative humidity is $(50 \pm 10)\%$ in the air.

5.1.2

All test samples shall be placed in natural conditions for 72 hours from production. The samples shall be conditioned under standard test conditions for 16 hours before the test; the samples shall not be deformed or twisted.

5.1.3

All samples taken shall be cut from the middle of the product after the skin has been removed. If the product size is not enough, it can be stacked or bonded.

5.2 Mass (kg) and density of a single product

The density is measured according to GB/T 6343-2009; the mass (kg) of a single product is measured on an electronic scale which has an accuracy of 0.1 kg or more.

5.3 Indentation hardness (25%)

It is determined according to method B in 7.3 of GB 10807-2006; unless otherwise specified on the product, the indentation hardness shall be tested on the entire specimen.

5.4 Size

5.4.1

According to the provisions of GB/T 6342-1996, the length and width shall be measured by a tape measure which has a minimum division value of 1 mm.

Measure 3 points for each of length and width.

5.4.2

According to the provisions of GB/T 6342-1996, the thickness is measured by a caliper which has an accuracy of 0.1 mm; make the average measurement of 3 points.

5.5 Sensory requirements

5.5.1

Visual inspection of color and pollution under normal light.

5.5.2

The pores and the skin on both sides are measured by a caliper which has an accuracy of 0.05 mm; the crack is measured by a tape measure which has a minimum division of 1 mm.

Carry out damp heat aging test according to the provisions of 5.3 in GB/T 9640-

2008; test temperature 105 °C and 100% relative humidity or supersaturated steam conditions for 3 hours. Then perform tensile strength test according to the requirements of GB/T 6344-2008.

6.1.1 Exit-factory inspection

The exit-factory inspection items are dimensional deviation, sensory, indentation ratio.

6.1.2 Type inspection

Type inspection items are the entire contents of Chapter 5. Type inspection shall be carried out in one of the following situations:

- a) Finalize appraisal of new product's trial production;
- b) After formal production, if there are major changes in formula, raw materials, processes, which may affect product performance;
- c) During normal production, type inspection shall be carried out every six months;
- d) When production resumes after a long-term suspension of production for half a year;
- e) When there is a big difference between the exit-factory inspection result and the last type inspection result;
- f) When the national quality supervision agency requests for type inspection.

6.2.1 Group-batch

The products of same raw material, the same formula, the same process conditions, which has a quantity of not more than 50 t form a batch.

6.2.2 Sampling

For dimensional deviation and sensory requirements, randomly take three pieces from each batch for inspection; for physical and mechanical properties, randomly take specimens from the samples for inspection.

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