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

**GB/T 10808-2006**

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**Flexible cellular polymeric materials -- Determination of tear  
strength**

高聚物多孔弹性材料 撕裂强度的测定

**(English Translation)**

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### 1 Scope

This Standard specifies the method for determining the tear strength of flexible cellular polymeric materials with a thickness of not less than 24 mm. The values determined in this Standard represent the tear resistance of the material under the conditions of this test method.

### 2 Normative references

The terms in the following documents become the terms of this Standard by reference to this Standard. For dated references, all subsequent amendments (not including errata content) or revisions do not apply to this standard. However, parties to agreements that are based on this Standard are encouraged to study whether the latest versions of these documents can be used. For undated references, the latest edition applies to this

Standard.

GB/T 6342-1996, Cellular plastics and rubbers - Determination of linear dimensions (idt ISO 1923:1981)

GB/T 17200-1997, Requirements for tensile, flexural and compression testing machines for rubbers and plastics (idt ISO 5893:1993)

### 3 Apparatus

The apparatus used shall meet the following requirements: The tensile testing machine shall be able to display the maximum force value after the test piece is torn through the dial

pointer, the curve drawn by the recording pen or the display screen. The tensile testing machine shall preferably have a small inertia force measurement system and shall meet the Level 2 requirements in GB/T 17200-1997.

## 4 Test pieces

The test piece shall be a rectangular parallelepiped without skin, holes and mold lines.

It can be cut from the sheet using a knife or a mold knife. As shown in Figure 1, each test piece shall have a 45 mm ~ 55 mm long cut on one side. If the main direction of the material's pore structure (the orientation of the pores) is obvious, the cut surface of the torn test piece shall be consistent with this direction, that is, the length direction of

This period can form the latter part of the period following manufacture.

**Note:** It is recommended that arbitration inspection shall be carried out 7 days after material manufacture.

## 7 Procedure

### 7.1

Measure the thickness of the test piece in the position and direction shown in Figure

1.

### 7.2

Carefully unfold the test piece; place it on the fixture of the testing machine; adjust it to the appropriate position; apply force to the test piece in the direction shown in

Figure 2.

Figure 2 - Schematic diagram of test piece clamping

### 7.3

The fixture moving speed is 50 mm/min ~ 500 mm/min.

**Note:** During arbitration, the fixture moving speed shall be 50 mm/min  $\pm$  5 mm/min.

### 7.4

During the tearing process, if it is necessary to keep the cut of the test piece in the center, a sharp knife, such as a single-edged razor, may be used to assist in cutting.

Be careful when using a razor.

### 7.5

When the test piece is torn to 25 mm  $\pm$  5 mm, record the maximum force value on the display screen or dial. If the test piece is damaged before being torn 30 mm, re- sample it

for testing.

## 8 Expression of results

### 8.1

Calculate the tear strength R using Formula (1) and express it in N/m.

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