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

**GB 13735-2017**

Replacing GB 13735-1992

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**Polyethylene blown mulch film for agricultural uses**

聚乙烯吹塑农用地面覆盖薄膜

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### Foreword

5.5 of Chapter 5 of this standard are mandatory, others are recommended. This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB 13735-1992 "polyethylene blow agricultural land cover film", compared with GB 13735-1992, in addition to editorial The main changes are as follows:

- Modify the scope of application (see Chapter 1);
- Modify the classification (see Chapter 3,.1992 edition Chapter 3);
- Increased thickness and cover the use of time (see Chapter 4);
- Deleted the rankings (see.1992 edition of Table 2, Table 3, Table 5, Table 6, Table 7);
- Increased nominal thickness requirements (see 5.1.1);
- Modify the thickness deviation (see 5.1,.1992 version 4.2.1);
- Modify the width deviation (see 5.2,.1992 version 4.2.2);
- Modify the net mass deviation per volume (see 5.3,.1992 version 4.2.3);
- Modify the appearance (see 5.4,.1992 version 4.3);
- Modify the mechanical properties (see 5.5,.1992 version 4.4);
- Modified weathering performance (see 5.6,.1992 version 4.4);
- Modify the tensile load and fracture test method of nominal strain (see 6.7,.1992 version 5.6);
- Modified weathering test methods (see 6.9,.1992 version 5.8);

### 1 Scope

GB 13735 is the product standard for the polyethylene mulch film laid over farmland to warm the soil and hold moisture. It sets the classification, the dimensions and tolerances, the mechanical and optical requirements, the test methods and the rules for inspection, marking and packaging. The 2017 edition matters commercially beyond the laboratory: by fixing the minimum thickness and the tensile and elongation properties it targets the ultra-thin film that tears on removal and stays in the soil, which is the source of China's agricultural plastic residue problem. Issued on 14 October 2017, in force since 1 May 2018, replacing GB 13735-1992. 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 edition it replaces are taken from there. The clause text, the tables and the numeric limits are not reproduced on this page - they are in the document itself, which is delivered in full in English translation.

This standard specifies the classification of polyethylene blow agricultural ground cover film (hereinafter referred to as the film), the nominal thickness and cover the use of time, to Requirements, test methods, inspection rules, marking, packaging, transportation and storage. This standard applies to polyethylene as the main raw material, you can add the necessary additives used in blow molding production for the film covering the ground. This standard does not apply to the biodegradable film.

## 2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document. Plastics - Determination of tensile properties - Part 1. General principles

GB/T 1040.3-2006 Plastics - Determination of tensile properties - Part 3. Test conditions for films and sheets

GB/T 2828.1-2012 Sampling procedures for inspection - Part 1 - Batch-by-lot inspection by acceptance quality limit (AQL) plan

GB/T 2918-1998 plastic sample conditioning and testing of the standard environment  
Plastics - Determination of thickness of films and sheets - Mechanical measurement

GB/T 6672-2001 Plastics films and sheets - Determination of length and width

GB/T 6673-2001 Plastics laboratory exposure test methods - Part 1. General

GB/T 16422.2-2014 Plastics - Laboratory exposure test methods - Part 2. Xenon arc lamps  
Test method for right angle tearing property of plastic

## 3 Categories

Membrane cover the use of time divided into two categories. I type of anti-aging film; II

class for the ordinary film.

## 4 Nominal thickness and coverage of the use of time

The nominal film thickness and cover the use of time in Table 1. Table 1 nominal thickness and cover the use of time Category Nominal thickness/mm Coverage time/d 0.010, 0.012, 0.014, 0.015, 0.016, 0.018, 0.020, 0.025 180 0.010, 0.012, 0.014, 0.015, 0.016, 0.018, 0.020, 0.025, 0.030 60

### 5.1 Thickness and thickness deviation

5.1.1 Thickness The minimum nominal film thickness shall not be less than 0.010mm.

5.1.2 thickness deviation Thickness limit deviation and average thickness deviation should meet the requirements of Table 2. Table 2 thickness limit deviation and average thickness deviation Nominal thickness d0/mm Limit deviation/mm Average thickness deviation /% 0.010 d0 < 0.015 0.003-0.002 0.015 d0 < 0.020 0.004-0.003 0.020 d0 < 0.025 0.005-0.004 0.025 d0 0.030 0.006-0.005 -12

5.2 width limit deviation Width limit deviation should meet the requirements of Table 3. Table 3 width limit deviation in millimeters Nominal width w limit deviation w≤800 30-10 800 100-20 1500 100-20 3000 100-20 w > 5000 100-20

5.3 net mass limit deviation Each volume of net mass limit deviation should meet the requirements of Table 4. Table 4 net mass limit deviation in kilograms Nominal net mass of each volume m0 limit deviation m0 10 0.25-0.10 10 0.30-0.10 m0 > 15 0.30-0.15

0.10 m0 > 15 0.30-0.15

5.4 Appearance Film should not affect the use of bubbles, impurities, stripes, punctures, folds and other defects. Film roll should be tidy, there should be no obvious riot. Misalignment width, number of sections per roll, and length of each section shall meet the requirements of Table 5. Table 5 film requirements Project requirements Dislocation width a/mm ≤ 30 Number of segments per roll/section ≤ 2

30 Number of segments per roll/section ≤ 2

2 Each length/m ≥ 100 a Dislocation width Single-layer winding is the difference between the width of the film roll and the nominal width of the film, and the double-layer winding is the difference between the width of the film roll and the bifurcation width of the film.

Mechanical properties Mechanical properties should meet the requirements of Table 6. Table

6 Mechanical properties index project Claim 0.010mm ≤ d0 < 0.015mm 0.015mm ≤ d0 < 0.020mm 0.020mm ≤ d0 < 0.030mm Tensile load (vertical and horizontal)/N ≥ 1.6 ≥ 2.2

>=

3.0 Fracture nominal strain (vertical and horizontal) /% >= 260 >= 300 >= 320 Right angle  
tear load (vertical and horizontal)/N >= 0.8 >= 1.2 >= 1.5

5.6 weathering performance I type of vertical aging after plastic film nominal strain retention  
should not be less than 50%.

6.1 Sample From the intact film roll outside the first cut not less than 2m, and then cut the  
length of not less than 1m film samples were tested.

6.2 Test condition adjustment and testing of the standard environment The condition of the  
sample should be adjusted according to the provisions of GB/T 2918-1998, the temperature  
is  $(23 \pm 2)$  °C, the adjustment time is not less than 4h, 6.3, 6.4, 6.7, 6.8,

6.9 tests should be carried out under these conditions.