

ICS 83.140.10



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

GB/T 6187.2-2016

**Prevailing torque type all-metal hexagon nuts with flange, style
2 -- Fine pitch thread
(English Translation)**

Issued on: January 9, 2017

Implemented on: July 1, 2017

Issued by: Ministry of Industry and Information Technology of PRC

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1 Scope

This standard specifies the requirements, test methods, inspection rules, marking, packaging, transportation, storage of thermal transfer for color belt with biaxially oriented polyethylene terephthalate film.

This standard is applicable to thermal transfer for color belt with biaxially oriented polyethylene terephthalate film (hereinafter referred to as film), which has a thickness of 4 μm ~12 μm , as made of polyethylene terephthalate as the main raw material and using a biaxial stretching process.

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) is applicable to this standard.

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 by attributes - Part 1:

Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

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

GB/T 6672-2001 Plastics film and sheeting - Determination of thickness by mechanical scanning

GB/T 6673-2001 Determination of length and width of plastics film and sheeting

GB/T 10006-1988 Plastics - Film and sheeting - Determination of the coefficients of friction

GB/T 13542.2-2009 Film for electrical insulation - Part 2: Methods of test

Where:

Wa - Average thickness deviation, %;

delta1 - Average thickness, in micrometers (μm);

delta0 - Nominal thickness, in micrometers (μm).

The thickness limit deviation shall be calculated according to formula (2):

Wu - Thickness limit deviation, %;

delta2 - Maximum (minimum) thickness, in micrometers (μm);

delta0 - Nominal thickness, in micrometers (μm).

4.6 Tensile strength, nominal strain at break, tensile strength at 5% nominal strain

The test shall be carried out in accordance with the provisions of GB/T 1040.1-2006 and GB/T 1040.3-2006, using type 2 specimens which have a specimen width of 15 mm; the initial fixture spacing is 100 mm; the test speed is (100 ± 10) mm/min; the longitudinal and transverse directions are tested, respectively. The number of specimens is 5 each. The results are taken as the arithmetic average.

4.7.1 Test instruments

The test instruments are as follows:

- a) Oven, temperature accuracy ± 1 °C;
- b) Vernier caliper, accuracy 0.02 mm.

4.7.2 Specimens

The specimen size is 100 mm x 100 mm; the number of specimens is 5. Mark a line each in the longitudinal and transverse directions, indicating the longitudinal and transverse directions. Use a steel ruler, which has a graduation value of 0.5 mm, to measure the length of the two lines.

4.7.3 Test steps

Adjust the oven temperature to (150 ± 3) °C. Quickly put the specimen in and start timing. The specimen is placed flat, kept for 30 minutes. Take it out. After cooling to the test environment temperature, measure the longitudinal and transverse lengths of the specimen. Calculate the thermal shrinkage of the specimen. Take the arithmetic mean as

the measurement result, accurate to 1 decimal place.

4.7.4 Calculation

See formula (3)

Where:

S - Heat shrinkage, %;

L₀ - Length before heating, in millimeters (mm);

L₁ - Length after heating, in millimeters (mm).

4.8 Surface roughness

Test according to Chapter 8 of GB/T 13542.2-2009.

4.9 Friction coefficient

Test according to GB/T 10006-1988.

5.1 Group-batching

Acceptance is carried out in batches. Films of the same specification produced under the same formula and process conditions are considered as a batch. Each batch shall not exceed 50 t. If the output is less than 50 t for one week of continuous production, the output of one week shall be considered as a batch.

5.2 Sampling

Appearance and specifications shall be in accordance with the normal inspection sampling plan specified in GB/T 2828.1-2012, using the general inspection level I and the acceptance quality limit (AQL) of 6.5, see Table 5. Each roll of film is a sample unit.

For physical and mechanical properties, it shall randomly select from the qualified appearance samples and inspect it according to the provisions of 3.4.

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