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JIS Z 1702 : 1994

Polyethylene films for packaging

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ICS 55.040

**Descriptors** : packaging materials, polyethylene, films (states of matter)

**Reference number** : JIS Z 1702 : 1994 (E)

Z 1702 : 1994

## Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law:

Date of Establishment: 1957-05-27

Date of Revision: 1994-07-01

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## Polyethylene films for packaging

**1 Scope** This Japanese Industrial Standard specifies the polyethylene films, (hereinafter referred to as "films"), for packaging.

Remarks 1 Normative references to this Standard are as follows.

JIS B 7503 *Dial gauges*

JIS B 7512 *Steel tape measures*

JIS B 7516 *Metal rules*

JIS K 6731 *Ethylene/vinyl acetate copolymer materials*

JIS K 6748 *Polyethylene molding materials*

JIS K 7100 *Standard atmospheres for conditioning and testing of plastics*

2 The units and numerical values in { } in this Standard are based on the traditional units and are appended for informative reference.

**2 Classes** The films shall be classified into 4 classes as shown in Table 1 according to the properties and quality.

Table 1

| Class    | Characteristics                                                       |
|----------|-----------------------------------------------------------------------|
| Class 1A | Comparatively flexible                                                |
| Class 1B | Comparatively flexible, especially resistant                          |
| Class 2A | Comparatively rigid                                                   |
| Class 2B | Comparatively rigid, for ultra-thin film or for reinforcement purpose |

**3 Quality** The films shall be homogeneous and free from harmful defects in use such as bubbles, unevenness, wrinkle, fish eye, mixture of foreign substances, pin holes and the like, and meet the specifications as shown in Table 2, when tested in accordance with 7.

Table 2

| Test item                                      | Quality               |                       |                       |                       | Applicable item |
|------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
|                                                | Class 1A              | Class 1B              | Class 2A              | Class 2B              |                 |
| Tensile strength<br>MPa {kgf/cm <sup>2</sup> } | 11.8 {120}<br>or over | 16.7 {170}<br>or over | 19.6 {200}<br>or over | 29.4 {300}<br>or over | 7.5             |
| Elongation %                                   | 150 or over           | 250 or over           | 150 or over           | 150 (1) or over       | 7.5             |
| Impact test                                    | —                     | To comply with        | —                     | To comply with        | 7.6             |

Note <sup>(1)</sup> Elongation shall be not less than 50 % for nominal thickness of 0.010 mm and not less than 100 % for nominal thickness of 0.015 mm.

**4 Shape** The section of films perpendicular to the direction of forming work shall be tubular or filmy shape.

## 5 Dimensions

**5.1 Thickness** The nominal thickness of films shall be as specified in Table 3, and the ratio of the difference of the average thickness from the film thickness and the nominal thickness, and the difference of the thickness from the nominal thickness shall conform to the requirements of Table 3, when tested in accordance with 7.3.

**Table 3**

Unit : mm

| Nominal thickness<br>$t_0$ | Tolerance of the ratio of difference of<br>average thickness $\Delta \bar{t}$ (%) | Permissible range of the difference of<br>thickness $\Delta t$ |
|----------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------|
| 0.010                      | +15<br>-10                                                                        | +0.004<br>-0.003                                               |
| 0.015                      |                                                                                   | +0.005<br>-0.004                                               |
| 0.020                      | $\pm 9$                                                                           | $\pm 0.006$                                                    |
| 0.025                      |                                                                                   | $\pm 0.006$                                                    |
| 0.030                      |                                                                                   | $\pm 0.007$                                                    |
| 0.035                      |                                                                                   | $\pm 0.007$                                                    |
| 0.040                      |                                                                                   | $\pm 0.008$                                                    |
| 0.045                      |                                                                                   | $\pm 0.008$                                                    |
| 0.050                      | $\pm 7$                                                                           | $\pm 0.009$                                                    |
| 0.060                      |                                                                                   | $\pm 0.010$                                                    |
| 0.070                      |                                                                                   | $\pm 0.011$                                                    |
| 0.080                      |                                                                                   | $\pm 0.012$                                                    |
| 0.090                      |                                                                                   | $\pm 0.013$                                                    |
| 0.100                      |                                                                                   | $\pm 0.013$                                                    |

Remarks : For the films of nominal thickness of 0.010 mm and 0.015 mm, this table shall be applied only to class 2B.

**5.2 Lay-flat width or width and length** The lay-flat width <sup>(2)</sup> or width and length shall be as specified in Table 4 and their tolerances shall conform to the requirements of Table 5 when tested in accordance with 7.4.

Note <sup>(2)</sup> The lay-flat width is the tube width which is wound, laid flat in the inflation method.