

# JIS

**JAPANESE INDUSTRIAL STANDARD**

**General Tolerancing Rules  
for Plastics Dimensions**

**JIS K 7109**<sup>—1986</sup>

**Translated and Published**

**by**

**Japanese Standards Association**

**In the event of any doubt arising,  
the original Standard in Japanese is to be final authority.**

## JAPANESE INDUSTRIAL STANDARD

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General Tolerancing Rules for  
Plastics DimensionsK 7109-1986  
(Reaffirmed: 1992)1. Scope

This Japanese Industrial Standard specifies the general items concerning the economical determination of tolerances of plastics dimensions.

2. Definitions and Symbols of Terms

For the purpose of this standard, the following definitions and symbols of terms apply:

- (1) Plastic Solid formed artificially and usefully with using a high molecular compound as the main material. However, fibers, gum, paints, adhesives, etc. are excluded.
- (2) Nominal Value ( $m$ ) Dimension of reference of plastic shown in drawing by fabricator.
- (3) Tolerance ( $A$ ) Difference between the specified nominal value and specified limit value.
- (4) Producer Manufacturer of plastics.
- (5) Fabricator Manufacturer of products with using plastics.
- (6) User User of products of fabricator.
- (7) Customer's Tolerances ( $A_0$ ) Value of maximum deviation permissible for the dimension from the nominal value without causing complications at the stages of user or fabricator.
- (8) Average Loss ( $A_0$ ) Mean of losses generated by the dimensions exceeding the customer's tolerance.
- (9) Loss of Producer Side ( $A$ ) Price when the fabricator purchases from producer (estimated value of purchasing price).
- (10) Proportional Coefficient ( $k$ ) Constant representing financial loss. Value of average loss  $A_0$  divided by square of customer's tolerance  $A_0$ .
 
$$k = \frac{A_0}{A_0^2}$$
- (11) Critical Customer's Tolerance<sup>(1)</sup> ( $A_0$ ) The tolerance having the larger  $K$  of the proportional coefficients  $k$  of user and fabricator.
- (12) Critical Average Loss<sup>(2)</sup> ( $A_0$ ) The average loss having the larger  $K$  of the proportional coefficients  $k$  of user and fabricator.

Notes (1) The symbol is the same as that of customer's tolerances, but is distinguished by using method.

(2) The symbol is the same as that of average loss, but is distinguished by using method.