

JIS

JAPANESE INDUSTRIAL STANDARD

**Paper cutting machine —
Paper cutting knives**

Ⓔ **JIS B 4707**—1992

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Paper cutting machine – Paper cutting knives

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1. Scope

This Japanese Industrial Standard specifies the paper cutting knives (hereafter referred to as the "knives"), to be used for paper cutting machines.

Remarks 1. The knives consist of those which are made of high speed tool steels and of hard tool materials.

2. The standards cited in this Standard are as follows.

JIS B 0601-Definitions and Designation of Surface Roughness

JIS B 4053-Hard Tool Materials and Classification of Applicability

JIS B 7502-Micrometer Callipers for External Measurement

JIS B 7507-Vernier Callipers

JIS B 7512-Steel Tape Measures

JIS B 7514-Steel Straightedges

JIS B 7524-Feeler Gauges

JIS B 7727-Shore Hardness Testing Machines

JIS G 3101-Rolled Steel for General Structure

JIS G 4051-Carbon Steels for Machine Structural Use

JIS G 4403-High Speed Tool Steels

JIS Z 2246-Method of Shore Hardness Test

2. Quality

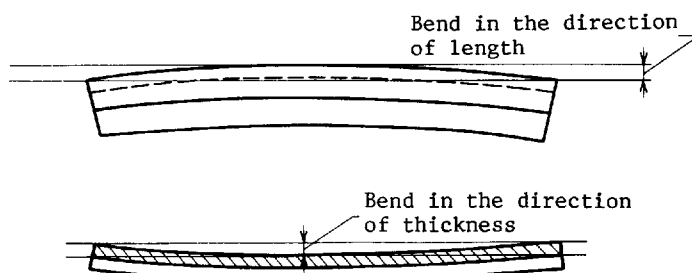
2.1 Appearance The surfaces shall be flat and smooth and be free from such defects as macrostreak flaws and cracks, harmful burrs, rust, and incomplete adhesion, and shall be excellent in finish.

2.2 Surface roughness The roughness of the back surface of cutting edge shall be 3.2 S specified in JIS B 0601.

2.3 Hardness The hardness of the cutting metal part of high speed tool steel knife shall be HS 85 or harder, and the deviation of hardness shall be HS 4 or under. For the hard tool material knife, the hardness of cutting metal part shall not be specified. The hardness of base metal part shall be HS 35 or under.

2.4 Bend The bend shall be in accordance with the following (See Fig. 1).

Fig. 1. Bend of knife



- (1) Bend in the direction of length The permissible value of the bend in the direction of length shall be 0.3 mm.

Furthermore, the back part of knife shall not be convex.

- (2) Bend in the direction of thickness The permissible value of the bend in the direction of thickness shall be in accordance with Table 1.

Furthermore, there shall be no distinct S-letter shaped bend.

Table 1. Permissible values for bend in the direction of thickness

Unit: mm

Length (L)	Permissible value
750 to 1095	0.3
1100 to 1350	0.6
1380 to 1850	0.8

- (3) Bend in the direction of width The bend in the direction of width shall be in accordance with the following:

- The bend of back surface of cutting edge shall be 0.03 mm minimum to 0.07 mm maximum in concavity.
- The surface of cutting edge shall be flat, and shall be neither concave nor convex.

3. Shape and dimensions

The shape and dimensions for knives shall be in accordance with Table 2 or Table 3 according to materials of cutting metal part.