

JIS

JAPANESE INDUSTRIAL STANDARD

**Test methods for
performance and accuracy
of moulding machine**

JIS B 6518—1990

Translated and Published

by

Japanese Standards Association

Printed in Japan

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

JAPANESE INDUSTRIAL STANDARD

J I S

Test methods for performance and
accuracy of moulding machine

B 6518-1990

1. Scope

This Japanese Industrial Standard specifies test methods for performance and rigidity, and inspection method for static accuracy and working accuracy of moulding machine.

- Remarks 1. The moulding machine consists of rotating plural lateral plane shell, vertical plane shell (inclined plane shell) and automatic feed apparatus and means the planing and moulding machine which cuts an optional section shape by fixing the main table (¹), capable of travelling in right and left, up and down or inclining the shell of plane and by feeding linearly the work pieces.
2. The applicable Standards to this Standard are shown in the following:
- JIS B 6507-General Code of Safety for Woodworking Machinery
- JIS B 6521-Method of Measurement for Noise Emitted by Woodworking Machinery
3. The corresponding International Standard to this Standard is shown as follows.
- ISO 7947-Woodworking machines – Two-, three- and four-side moulding machines – Nomenclature and acceptance conditions
4. In this Standard the units and numerical values shown in { } are in accordance with traditional units and, appended for informative reference.

Note (¹) In case where the main table is not independent, it means the surface place total body.

2. Function Test Methods

The function tests of moulding machine shall be in accordance with Table 1.

Reference Standards:

JIS B 6501-Test Code for Performance and Accuracy of Wood Working Machinery

JIS Z 8203-SI Units and the Use of their Multiples and of Certain other Units

Table 1. Function Test

Num-ber	Test item	Measuring method
1	Electric apparatus	Before and after operating test, carry out the insulation condition test each once.
2	Starting, stopping and of main shaft and running operation	At a suitable rotary speed of main shaft, repeat the starting and stopping ten times and test the smoothness and security of actuation.
3	Converting operation of rotary speed of main shaft	Relating to all marked rotary speeds convert the main shaft rotary speed, and test the smoothness of actuation of operating apparatus and security of indication.
4	Starting, stopping and running operation of carriage	At a suitable feed speed, carry out the starting, stopping repeatedly ten times, and test smoothness and security of actuation.
5	Converting operation of feed speed	Convert the speeds relating to marked all feed speeds and three feed speeds of the lowest, medium and the highest, test the smoothness of actuation and security of indication of operation apparatus.
6	Operation of hand feed	Test the smoothness and uniformity of actuation over the whole length of motion according to hand feed handle, and rotate the micro-hand-feed handle several times and test the smoothness and uniformity.
7	Operations of right-and-left travelling, up-and-down travelling, and clamping as well as automatic stopping operation	Move the main shaft in right-and-left, up-and-down or incline, test the smoothness and uniformity of actuation over the whole length of moving, and at the middle and both ends of moving, test the security of clamping and smoothness of actuation of clamping apparatus. Further, at both ends of moving, test the smoothness and security of actuation of automatic stopping apparatus.
8	Actuating operation of movable part	Relative to the movable range of moving, test the security and smoothness of actuation.
9	Attaching and detaching of plane blade and cutter	Test the smoothness and security of attaching and detaching of plane blade and cutter as well as of fastening screws.
10	Pressurizing apparatus	Test the smoothness and security of function.
11	Safety device	Test the security of safety function and machine-protective function to the worker (Refer to JIS B 6507).
12	Lubricating apparatus	Test the security of function such as oil tightness, suitable distribution of oil quantity, etc.
13	Oil hydraulic apparatus	Test the security of function such as oil tightness, pressure regulation, etc.
14	Pneumatic apparatus	Test the security of function such as air tightness, pressure regulation, etc.
15	Accessories	Test the security of function.

Remark: In a moulding machine without the function, the test item corresponding thereto in Table 1 is omitted.

3. Running Test Method

3.1 No-load Running Test Rotate each main shaft, continue the running for 30 to 60 min, after the bearing temperature has been stabilized, measure the required electric power and noise, and record relating to each item specified in Record Format 1 of Table 2 as well as observe that there is no abnormal vibration by feeling.

Further, measure the noise according to JIS B 6521.

Table 2. Record Format 1

Num- ber	Meas- uring time h min	Name of plane shell	Rotary speed of main shaft		Temperature °C			Required elec- tric power			Noise dB (A)	Descrip- tion
			min ⁻¹ {rpm}		Main shaft bearing		Room temper- ature	Vol- tage V	Cur- rent A	In- put kW		
			Mark- ing	Actual mea- suring	Left (up)	Right (down)						
		Upper lateral plane shell										
		Lower lateral plane shell										
		Left vertical plane shell										
		Right vertical plane shell										

- Remarks 1. In the case where speed change gear of rotary speed of main shaft, record relating to rotary speed of at least two levels containing the maximum rotary speed.
2. Relating to the noise measuring conditions, record in the description column.
3. Measurement of other than noise shall be carried out relating to all plane shells individually.
4. Name of plane shall may be altered according to machine type.

3.2 Loading Running Test Carry out cutting of test member, measure the required electric power and noise, record relating to each item specified in Record Format 2 of Table 3 as well as observe that there is no abnormal vibration and the condition of cut surface by feeling.

For measuring of required electric power, make the feed speed constant, change the thickness of test member or cut depth, or make the thickness of test member or cut depth the definite value, and change the feed speed to carry out the test.