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ISO 7960:1995

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national Standards bodies (ISO member bodies). The work of preparing International Standards is normally

a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters

International Standard requires approval, casting a vote.

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% of the member bodies
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International Standard ISO 7960 was prepared by Technical Committee ISO/TC 39, *Machine tools*, Subcommittee SC 6, *Noise of machine tools* and ISO/TC 13, *Acoustics*.

Annexes A to H, J to N and P to U form an integral part of this International Standard. Annex V is for information only.

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Airborne noise emitted by conditions of

Operating

This International Standard, together with basic noise emission International Standards, describes the mechanical and acoustical specifications necessary for a reproducible test method for the determination of airborne noise emitted by woodworking machines.

NOTE 1 Acoustic measurement procedures and noise data reporting are given in the basic acoustic Standards selected from the ISO 3740 series, ISO 4871 and the ISO 11200 series (see annex V).

This International Standard specifies operating conditions and microphone positions for the measurement of noise emitted by woodworking machines.

It applies to:

- (annex A);
- planing machines (annex B);
- thickness planing machines (annex C);
- single-spindle moulding machines (annex D);
- double-end profiling machines (annex E);
- edge banding machines (annex F);
- double-end sizing and edge banding machines (annex G);
- two-side and multi-side planing machines and moulding machines (annex H);
- bandsawing machines (annex J);
- Single-end tenoning machines (annex K);
- routing machines (annex L);
- double-end trim circular machines (nonstroke) (annex M);

Single-blade stroke circular sawing machines for cross cutting (annex N);

vertical and horizontal panel sizing sawing machines

— sanding machines (annex R);

double-edging circular sawing machines (for rough cutting) (annex S);

— double-blade stroke circular sawing machines for cross cutting (annex T);

— double-end tenoning machines (for tenoning only) (annex U).

The existence of special-purpose machines, for which

of woodworking machines listed above. Additional types will be covered in future editions of this International Standard (ISO 7960).

2 Normative reference

The following Standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publica-

to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the Standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 7984:1988. — *Technical classification of woodworking machines: auxiliary machines for woodworking.*

Installation and Operation

Specified operating conditions for particular types of machines are given in the annexes.

The machine shall be mounted separately according to the requirements specified in the annexes.

4.1 Machine installation

The machine shall be installed according to the manufacturer's instructions. If the manufacturer does not provide such instructions, this shall be stated in the test report, together with the installation method used.

The machine shall be installed in such a way that access to all sides is possible.

4.2 Machine Operation

The Operation during measurement shall be reproducible.

Standard operating conditions shall be those specified in the relevant annex. Where conditions are not specified in annexes, manufacturers instructions shall be followed. Where neither specifications nor instructions exist, the machine shall be set up to give maximum noise emission.

The machine shall be tested when carrying out a sequence of operations deemed to be representative of the use of the machine, using test materials and operating conditions specified in the relevant annex. In addition, a test shall be performed no load. The level of the no-load noise is that produced when the machine is running, ready for load test, unless otherwise specified in the annex.

NOTE 2 Distinctive features of noise within the machine-cycle may have to be measured separately or may be measured

pressure level sampled over the whole operating cycle.

Machines with Provision for dust extraction shall be tested with the extraction working, under both idling and operating conditions.

In order to determine the influence of the dust extraction system on the total noise, an additional measurement shall be carried out at a point at the Operator position (see suggested figures in the annexes), with the dust extraction

operated and reported.

New or re-sharpened tools shall be used for all tests under load and the machine shall be running at normal operating temperature.

General safety requirements shall take over conditions specified in the

The test material shall be one of the materials specified

and/or organic density 500 kg/m³ to 750 kg/m³, three-layer construction and moisture content 6 % to 10 %.

4.3.2 Coated particle board, of the type specified in 4.3.1, coated on both sides with a rigid plastic of the melamine type, of maximum 0,2 mm thickness, moisture content 6 % to 10 %.

4.3.3 Softwood, pre-planed resinous (similar to spruce).

Microphone positions

Microphone positions for measurement of the noise at the Operator's position are given in the annexes. Some forms of acoustical enclosure or hood may require redefinition of the Operator microphone position. In such case the microphone shall be positioned to be representative of the noise at the Operator's head.

Provision of data for the noisiest position

of sound power level

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manufacture: Serial No.:

Overall dimensions of machine?

length mm width mm height mm

Maximum blade diameter mm

Nominal rotational speed:

motor r/min blade r/min

Machine installation

Remarks/description:

Machine stalled in
tations

yes

manufacturer's specifications

according to

yes

no

CI no

.....
.....

which protrude from the machine and which are not likely to

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(concluded)

Testing material

Material: particle board, three-layer construction (see 4.3)

Moisture content: 5 % \pm

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out:

place:

date:

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Annex B (normative)

Woodworking machines —

1 General

This annex contains a series of Standard operating conditions to be applied in connection with measurement of noise from planing machines. Microphone positions are specified to allow a pressure level at the operator's position and for determining the sound

with as closely as possible. If, in a specific Situation, it is necessary to deviate from Standard conditions, the actual conditions

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machines.

	Machine classification number (see ISO 7984)
Planing machine	12.211.1
Combined planing and thickness planing machine used as a planing machine (separate testing shall also be performed in accordance with annex C)	12.81 (used as planing machine) 12.82 12.83 (used as planing machine)

This annex may also be applied for measurement of noise from special-purpose machines having a similar construction and function.

Noise measurements

The machine shall be tested under conditions.

- a) Testing under no load with operating arrangement and tool and cutting data as specified in this annex.
- b) Testing under load as specified in this annex. The measurement result is the average the first part of the work cycle, when the test material is fed into the tool, a higher level of noise may be emitted which depends on the infeed rate. On manually fed machines the infeed rate is difficult to control and therefore this part of the operating cycle shall not be included in the measurement.
- c) Operator microphone position:
 - 1,5 m above floor level;
 - 0,2 m forward of the cutter centreline;
 - 0,05 m to the right of forward left edge of the table.

NOTE 5 The use of integrating sound level meters is recommended but is not mandatory.

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B.3 Data sheet for planing machines

Make: Model*: Year of manufacturer length mm width mm height mm Cutter length mm Cutting diameter <div style="text-align: right;">cutter r/min</div>	
<p>Machine installation</p> <p>Machine installed according to manufacturer's structure</p> <p style="text-align: center;">iTeh STANDARD PREVIEW (standards.iteh.ai)</p> <p>Machine installed with dust extraction according to manufacturers specifications ISO 7960:1995</p> <p>yes <input type="checkbox"/> no <input type="checkbox"/></p> <p>yes <input type="checkbox"/> <input type="checkbox"/></p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p style="text-align: center;"><input type="checkbox"/></p>	<p>Remarks/description:</p>
<p>wheels, levers) may be disregarded. and which are not likely to contribute the noise (for example</p>	