INTERNATIONAL STANDARD ISO 5327

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Solid wood paving blocks — General characteristics

Blocs de pavage en bois massif — Caractéristiques générales

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FOREWORD

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5327 was developed by Technical Committee ISO/TC 99, *Semi-manufactures of timber*, and was circulated to the member bodies in July 1976.

It has been approved by the member bodies of the following countries :

Brazil	India	Romania
Bulgaria	Italy	South Africa, Rep. of
Canada	Korea, Rep. of	Spain
Czechoslovakia	Mexico	Turkey
Germany	Norway	Yugoslavia
Hungary	Poland	

The member body of the following country expressed disapproval of the document on technical grounds :

Austria

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Solid wood paving blocks — General characteristics

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the manufacturing characteristics, the shapes and the dimensions, the tolerances, and the inspection and delivery conditions of solid wood paving blocks used for paving covered (indoor) and open (outdoor) spaces.

The classification of paving blocks according to specific characteristics and wood defects, as well as the possible exceptions, is established in separate International Standards referring to the classification of each wood species or of each group of species.

2 REFERENCES

ISO 2036, *Wood for manufacture of wood flooring — Symbols for marking according to species.*

ISO 2859, *Sampling procedures and tables for inspection by attributes.*

ISO 3130, *Wood — Determination of moisture content for physical and mechanical tests.*

ISO 5329, *Solid wood paving blocks — Vocabulary.*

3 MATERIALS, DESIGN AND MANUFACTURE

3.1 Solid wood paving blocks are made from any species of wood (hardwood, softwood) having the required characteristics after impregnation.

3.2 Paving blocks are made from barked timber. Cylindrical paving blocks are generally made from round timber or from middle round pieces produced by rotary cutting of timber.

3.3 Solid wood paving blocks may be used only when protected, by impregnation, against premature deterioration, or against damage caused by the attack of insects or xylophagous fungi.

3.4 Unless otherwise agreed upon between the interested parties, solid wood paving blocks shall have the shapes and the dimensions specified in clause 4.

3.5 The face of solid wood paving blocks shall be smooth, with sharp edges, without fibres or chips pulled out, with the exceptions provided for in the individual International Standards relevant to the grades of products.

3.6 The longitudinal axis of solid wood paving blocks shall be perpendicular to the face and back of the block.

3.7 The wear layer of the pavement is composed of the surfaces on which the cross-sections of paving block wood appear.

4 REQUIRED CHARACTERISTICS

4.1 Geometrical characteristics

With regard to the shape and the types, solid wood paving blocks are manufactured as indicated in table 1.

4.1.1 *Common shapes*

See figure 1.

4.1.2 *Special shapes*

See figure 2.

4.2 Dimensional characteristics

See tables 2 and 3.

NOTE — The dimensions in tables 2 and 3 are established for wood having the following moisture content :

— 15 % for hardwood;

— 20 % for softwood.

For higher moisture contents, these dimensions will be appropriately increased.

4.3 Moisture content

The maximum moisture content of paving blocks shall be 16 % for paving blocks used in covered (indoor) spaces and 20 % for paving blocks used in open (outdoor) spaces, before impregnation.

5 PROTECTION OF WOOD PAVING BLOCKS

5.1 Solid wood paving blocks shall be protected by impregnation with antiseptic fire-proof and/or water-proof substances that can improve the physical properties of the blocks. The types of substances shall be established by agreement between the interested parties.

5.2 The treatment is applied according to the use of paving blocks (for pavements to be laid in covered or open spaces) by one of the following treatment processes : by vacuum-pressure, by (hot or cold) steeping or in hot-and-cold open tanks or by other similar and efficient methods.

5.3 The impregnation with appropriate antiseptic substances prescribed by the producing plant shall be carried out by specialized concerns which will guarantee the quality of impregnation by providing a certificate of quality.

6 SAMPLING

6.1 The inspection of the characteristics of solid wood paving blocks shall be carried out, in compliance with the requirements set down below, on paving blocks comprising a representative sample which has been taken from the batch.

6.2 Unless otherwise agreed upon between the interested parties, a batch consists of a number of paving blocks of the same wood species, type or variant and dimensions (length or diameter, height), presented in a single delivery for inspection.

A sample shall be taken from each batch.

TABLE 1 — **Shapes and types of paving blocks**

Shapes	Types
Common	P_{4r} — rectangular
	P_{4s} — square
	C — cylindrical
Special	P_3 — triangular
	P_5 — pentagonal
	P_6 — hexagonal

TABLE 2 — **Dimensional characteristics of solid wood paving blocks used in covered (indoor) spaces**

Values in millimetres

Dimension	Symbol	Nominal dimensions		Tolerances
		Types		
		P	C	
Height	*h*	60; 80; 100; 120		± 5
Width	*b*	50 to 100	—	± 5
Length	*l*	60 to 200	—	± 5
Diameter	*d*	—	60 to 150	± 5

TABLE 3 — **Dimensional characteristics of solid wood paving blocks used in open (outdoor) spaces**

Values in millimetres

Dimension	Symbol	Nominal dimensions		Tolerances
		Types		
		P	C	
Height	*h*	80; 100; 120		± 5
Width	*b*	60 to 120	—	± 5
Length	*l*	80 to 250	—	± 5
Diameter	*d*	—	80 to 160	± 5

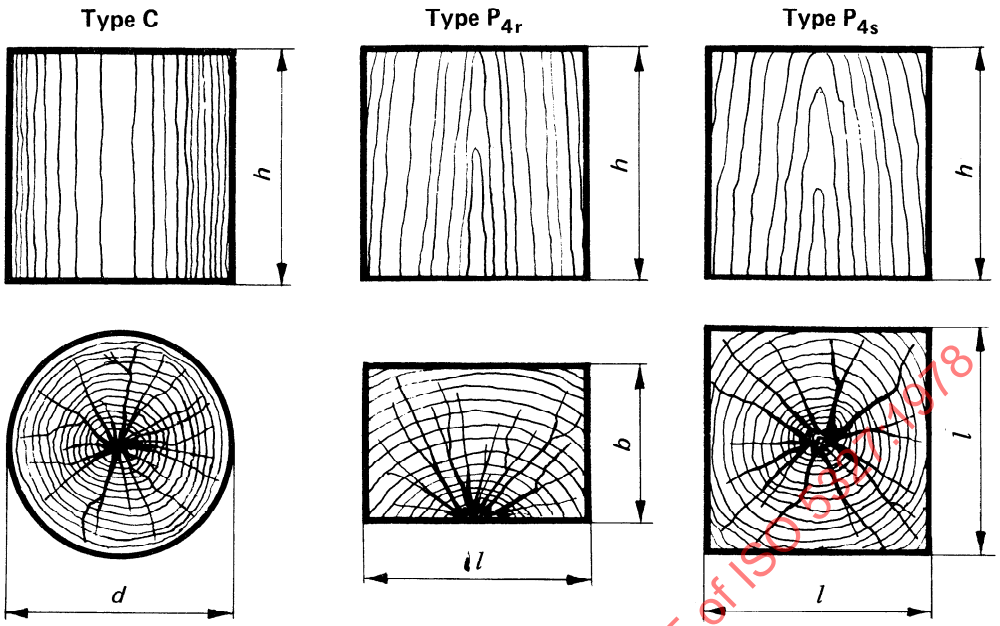

FIGURE 1

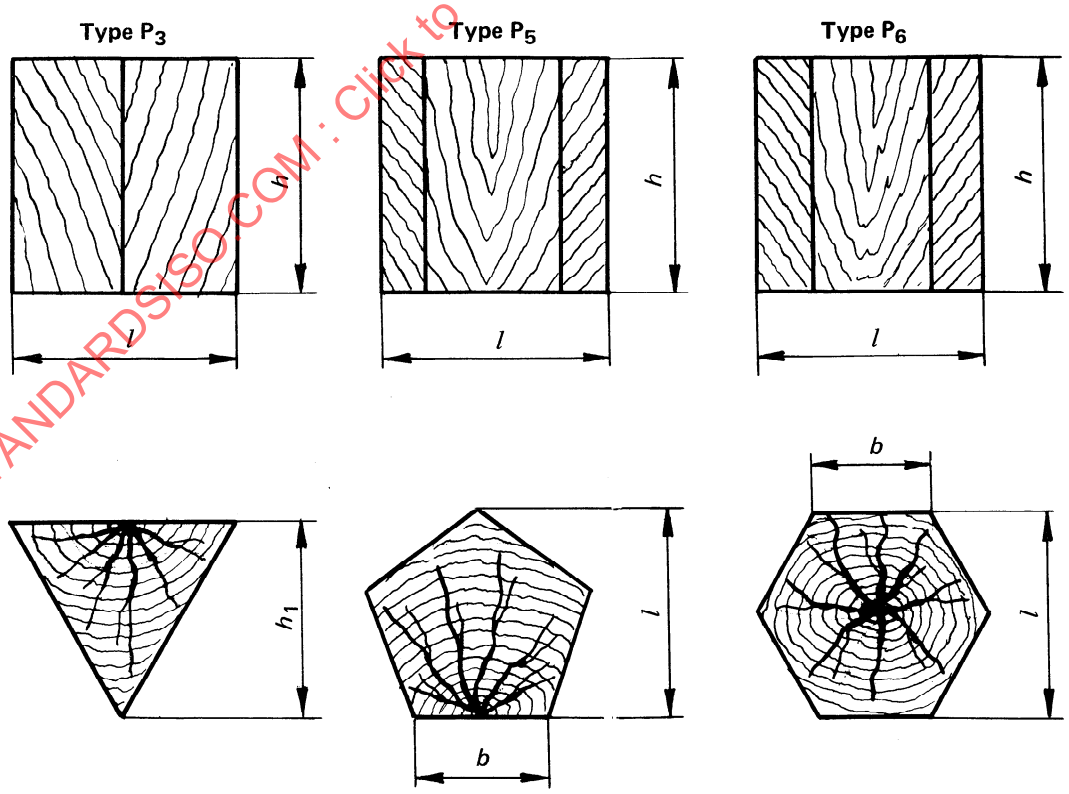

FIGURE 2

6.3 A sample is made up of paving blocks of dimensions representative of the average of the batch, taken at random from the batch. The size of sample depends on the size of batch, in accordance with table 4.

6.4 When the number of rejected paving blocks does not exceed the values specified in table 4, the batch is accepted. Otherwise, the said batch shall be regrouped and presented for a new inspection.

7 INSPECTION METHOD

7.1 Solid wood paving blocks making up a sample shall be inspected individually in respect of wood species, appearance, nominal dimensions and wood defects.

The moisture content shall be determined as specified in 7.1.4.

The permissible defects shall be inspected according to the International Standards referring to the classification of paving blocks made from different wood species.

7.1.1 The wood species and the appearance shall be visually examined.

7.1.2 The dimensions shall be measured with measuring instruments ensuring the specified degree of accuracy, as follows :

— the width, the diameter and the length of a paving block are checked at both ends and in the middle of the paving block;

— the height is checked parallel to the longitudinal axis of the paving block.

Each measurement shall be within the toleranced dimensions prescribed in 4.2.

7.1.3 The dimensions of measurable defects shall be measured with measuring instruments ensuring the specified degree of accuracy.

Non-measurable defects shall be visually examined.

7.1.4 The moisture content shall be determined on a test specimen cut from the middle of a paving block taken at random from each sample. Unless otherwise agreed upon by the interested parties, the moisture content shall be determined by an electrometric method. The moisture content of paving blocks shall be determined before impregnation.

NOTE — In the case of disagreement, the moisture content shall be determined by the gravimetric method specified in ISO 3130.

8 DESIGNATION

Paving blocks shall be designated by stating successively :

— the name of the product;

— the symbol of the wood species according to ISO 2036;

— the type or the variant;

— the nominal dimensions (width — diameter — length — height), expressed in millimetres;

— the number of the International Standard referring to the respective wood species.

Example of designation of oak prismatic paving blocks with square face having a side of 50 mm and a height of 80 mm :

QUEX Paving block P_{4s}

50 × 50 × 80

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9 DELIVERY AND MARKING

9.1 Solid wood paving blocks shall be delivered in bulk.

9.2 A delivery note containing, as a minimum, the indications given in clause 8 shall be issued for each delivered batch. The methods of treatment as well as the substances used for protection of the paving blocks shall also be mentioned.

TABLE 4 — **Size of batch and of sample and number of rejected paving blocks**

Size of batch (number of paving blocks)	**Number of paving blocks initially subjected to inspection** (first sample)	**Number of rejected paving blocks in the first sample** that decides			**Size of additional batch**	**Number of rejected paving blocks in two samples considered together** that decides	
		acceptance of batch maximum	rejection of batch minimum	additional sampling		acceptance of batch	rejection of batch
151 to 280	20	3	7	4 to 6	20	8	9
281 to 500	32	5	9	6 to 8	32	12	13
501 to 1 200	50	11	11	8 to 10	50	18	19
1 201 to 3 200	80	11	16	12 to 15	80	26	27
3 201 to 10 000	125	11	16	12 to 15	125	26	27
10 001 to 35 000	200	11	16	12 to 15	200	26	27