
Wood parquet strips — Classification

Lames de parquet en bois — Classement

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

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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 carried out through ISO technical committees. Each member body interested in a subject for which 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 of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

This document was prepared by Technical Committee ISO/TC 218, *Timber*.

This first edition of ISO 4556 cancels and replaces ISO 1324:1985, ISO 2457:1976, ISO 5320:1980 and ISO 5334:1978 as being the merging of these four standards

The main changes are as follows:

- updating of the vocabulary according to ISO 5323:2019 and ISO 24294:2021
- clarifying on an editorial point of view some requirements
- introducing new species

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The main purpose of this document is to establish the common international point of member countries of the International Organization for Standardization (ISO), concerning the classification, by quality, of broadleaved and coniferous non-assembled solid parquet strips.

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Wood parquet strips — Classification

1 Scope

This document establishes the classification, by quality, of non-assembled solid parquet strips of the following wood species:

- oak (*Quercus* sp.),
- hickory (*Carya* sp.),
- beech (*Fagus sylvatica* sp.),
- birch (*Betula* sp.),
- maple (*Acer* sp.),
- fir (*Abies* sp.),
- spruce (*Picea* sp.), and
- maritime pine (*Pinus pinaster* sp.).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5323, *Wood flooring and parquet — Vocabulary*

ISO 24294, *Timber — Round and sawn timber — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5323 and ISO 24294 apply.

4 Manufacture, characteristics, delivery conditions

The manufacture, the characteristics and the delivery conditions are given in ISO 1072.

The minimum dimensions and the mean lengths for deliveries in non-specified lengths shall be the subject of agreement between the interested parties.

Solid parquet strips shall have a moisture content at delivery between 6 % and 13 % unless the buyer and seller agreement or local requirements are more restrictive. The protection or lack of protection of the sapwood against insect damage shall be specially detailed in the purchase order.

NOTE The requirement for moisture content depends on geographic equilibrium moisture conditions.

Unless otherwise requested, the wood of solid beech parquet strips shall be steamed before delivery.

Solid fir, spruce and maritime pine parquet strips may be treated to give effective protection to all parts of the strip liable to be attacked by insects, without impairing subsequent use of the strips, the parquet appearance or its maintenance.

5 Classification

Solid parquet strips shall not contain more defects than those allowed in the following [Tables 1](#) to [9](#).

Solid parquet strips are divided into grades:

**

*

The grade * does not apply for beech parquet strips

NOTE It is emphasized that, because the appearance of the strips is essentially a subjective judgement, a gradation between the grades has not been established.

Strips containing more defects than those allowed for the last grade shall not be delivered under the designations “ISO oak (or hickory, or beech, or birch, or maple, or fir, or spruce or maritime pine) parquet strips”, nor under any other designation which may lead to confusion with one of the grades given.

Strips entirely free of defects are not covered by this classification.

Beech parquet strips cut solely into quarters or solely into half-quarters are not covered by this classification.

The grades shall correspond to the conditions stated in the following [Tables 1](#) to [9](#).

Table 1 — General characteristics for oak and hickory strips

Wood or sawing defect		Grade		
		***	**	*
Incipient rot and decay		none		
Texture		regular	all textures permitted	
Straightness of grain		no limitation (depending on buyer and seller agreement)		
Planing im- perfections (areas not planed and traces of planing ma- chine)	on face and edges	none (on examination with the naked eye)		permitted, if localized, not exceeding 0,2 mm in depth
	on back	permitted up to a maximum depth of		
		0,3 mm	0,4 mm	0,5 mm
Planing waves	on face	none (on examination with the naked eye)		permitted up to a maxi- mum of 0,2 mm
	on back	permitted		
Incomplete tongue		permitted on ¼ of the length	permitted on of the length	permitted on ½ of the length
		provided that the width of the tongue is not reduced to less than 3 mm		

Table 2 — General characteristics for beech, birch and maple strips

Wood or sawing defect		Grade	
		***	**
Incipient rot and decay		none	
Straightness of grain		appreciably straight grain and parallel to the axis of the strip	slope of grain not exceeding 10 %
Texture		regular	all textures permitted
Planing imperfections (areas not planed and traces of planing machine) Planing waves	on face and edges	none (on examination with the naked eye) in depth	permitted, if localized, not exceeding 0,2 mm in depth
	on tongue	maximum permitted on 20 % of the length on 30 % of the length and the width on 25 % of the width not exceeding 0,2 mm in depth	
	on back	permitted	
	on face	permitted up to a depth of 0,2 mm max.	
	on back	permitted	
	Incomplete tongue	permitted on 1/3 of the length	permitted on 1/2 of the length
		provided that the width of the tongue is not reduced to less than 3 mm	

Table 3 — General characteristics for fir, spruce and maritime pine strips

Wood or sawing defect		Grade		
		***	**	*
Decay and suffocated wood		none		
Texture		regular		all textures permitted
Straightness of grain		no limitation (depending on buyer and seller agreement)		
Planing imperfections (areas not planed and traces of planing machine)	on face and edges	none (on examination with the naked eye)	permitted, if localized, not exceeding 0,2 mm in depth	
	on tongue	on 20 %	on 30 %	on 40 %
		maximum permitted of the length and of the width not exceeding 0,2 mm in depth		
	on back	permitted up to a maximum depth of 0,3 mm	0,5 mm	1,0 mm
Planing waves	on face	permitted up to a maximum of 0,2 mm		
	on back	permitted		
Incomplete tongue		maximum permitted on 1/3 of the length on 1/2 of the length provided that the width of the tongue is not reduced to less than 3 mm		

Table 4 — Face for oak and hickory strips

Wood or sawing defect		Grade		
		***	**	*
Medullary sheath (sound heart)		none		permitted (with cracks)
Sound sapwood and false sapwood		none	permitted	traces permitted
Colouring		very slight permitted, stains are excluded	permitted if they do not result from adulterations due to biological agents	
Shakes	checks	none	permitted	
	superficial	none	permitted to a maximum depth of 1 mm and a maximum width of 0,5 mm	
	other, non-through	none	not exceeding in depth	
			1 mm	2 mm
Bark-pocket and frost cracks		none		
Knots	not exceeding 8 mm in diameter	2	permitted if diameter ≤ 10 mm	permitted
	black, not exceeding 1 mm in diameter	1	permitted if diameter ≤ 5 mm	permitted
Knot clusters		none	permitted	
Worm holes		none		
Wane (dull edges)		none		
Curl		none	slight permitted	permitted

Table 5 — Face for beech, birch and maple strips

Wood defect		Grade	
		***	**
Medullary sheath (sound heart)		none	
Redheartwood		none	sound permitted
Colouring		very slight permitted, stains excluded	permitted if they do not result from adulterations due to biological agents
Shakes	shallow shakes and checks	none	
	through		
Inbark and frost cracks		none	
Knots	very small	permitted in unlimited number provided that their diameter does not exceed	
		1 mm	2 mm
	intergrown or partially intergrown	none	permitted, not exceeding 10 mm in diameter
	black, dead or burst	none	permitted, not exceeding 5 mm in diameter
Wormholes		none	
Wane (dull edges)		none	
Curl		none	

Table 6 — Face for fir, spruce and maritime pine strips

Wood defect		Grade		
		***	**	*
Pith traces		permitted, not exceeding in length 10 mm	permitted in the form of discontinuous rays, not exceeding in length	
			20 mm	30 mm
			if they are not cleft	
Curls		none	permitted, slight	
Colouring	pinkish	none		
	bluish	none		permitted if it does not result from adulterations due to biological agents
	brown	none		
Shakes	checks	none	permitted	
	shallow	none	permitted closed shakes not exceeding 20 mm in length and not exceeding in depth 1 mm	permitted closed shakes not exceeding in length the width of the piece and not exceeding in depth 2 mm
	through	none		
	ring	none		
Bark-pocket and frost cracks		none		
Round and oval knots	very small	none	permitted in unlimited number provided that their diameter does not exceed	
			2 mm	1 mm
	intergrown or partially intergrown	permitted, not exceeding 10 mm in diameter	three sound knots, each not exceeding 15 mm in diameter	not exceeding 20 mm in diameter
	black, not intergrown or burst	permitted, not exceeding 3 mm in diameter	permitted, not exceeding 10 mm in diameter	permitted, not exceeding 20 mm in diameter for fir and spruce permitted, not exceeding 20 mm in diameter, if they are in clusters for maritime pine
Traversing and branched knots		none		
Worm holes		none		
Pitch-pockets		none	permitted, not exceeding in length	
			20 mm	30 mm
Wet areas		none		
Wane (dull edge)		none		
Defects not mentioned		none		
NOTE The number of defects indicated in Table 6, permitted on the face of the piece, shall not exceed: — 2 defects for grade *** — 3 defects for grade ** — 4 defects for grade *				

Table 7 — Back, ends and edges for oak and hickory strips

Wood defect		Grade		
		***	**	*
Medullary sheath (sound heart)		none	permitted, in the form of discontinuous rays, if they are not cleft	
Sound sapwood and false sapwood		permitted on the whole width of the piece, if not exceeding 10 mm of the thickness		permitted unlimited
Shakes	seasoning shakes and shallow shakes	permitted, if not exceeding in depth		
	through shakes	1 mm	4 mm	6 mm
Wane (dull edges)		Maximum permitted only the median part, of length		
		20 % in width	30 % in width	40 % in width
		10 % in thickness	20 % in thickness	30 % in thickness
		25 % of the floor layer	50 % of the floor layer	that of the floor layer
Frost cracks and inbark		permitted		
Defects not mentioned		permitted provided that they do not impair the strength and the durability of the pieces		

Table 8 — Back, ends and edges for beech, birch and maple strips

Wood defect		Grade	
		***	**
Medullary sheath (sound heart)		none	permitted in the form of discontinuous rays, if they are not cleft
Red heartwood		permitted	
Shakes Knots	shallow shakes and checks	permitted, not exceeding 4 mm in depth	
	through	none	
	sound, of normal colour even darker	permitted, not exceeding 20 mm in diameter	permitted, provided that the diameter does not exceed 1/2 of the width of the strip
	intergrown, dead or burst	permitted, provided that the diameter does not exceed	
		15 mm	25 mm
		and the depth 1/2 of the thickness of strip	
Wormholes		none	
Wane (dull edges)		maximum permitted in length and in width 20 % in length: 30 % in width: 20 % in depth 10 % of the thickness of strip	
Curl		permitted	
Defects not mentioned		permitted, provided that they do not impair the strength and the durability of the parquet	