
**Wood raw parquets elements —
Classification**

Éléments de parquet bruts en bois — Classement

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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

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received. www.iso.org/patents

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 4561 replaces ISO 5333:1978, ISO 3398:1977 and ISO 3399:1976 as being the merging of these three standards.

The main changes are as follows:

- updating of the vocabulary according to ISO 5323:2019
- 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 raw parquet elements intended for the manufacture of strips for different types of parquet floorings.

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Wood raw parquets elements — Classification

1 Scope

This document establishes the classification, by quality, of raw parquet elements intended for the manufacture of strips for different types of parquet floorings of the following wood species:

- oak (*Quercus* sp.),
- beech (*Fagus sylvatica* sp.),
- birch (*Betula* sp.),
- maple (*Acer* sp.),
- fir (*Abies* sp.), and
- spruce (*Picea* 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 4556, *Wood raw parquet elements – general characteristics*

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.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Manufacture, characteristics, delivery conditions

The manufacture, the characteristics and the delivery conditions shall be in accordance with ISO 4556.

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

5 Classification

Raw parquet elements shall not contain more defects than those allowed in the following [Tables 1](#) to [7](#).

Raw parquet elements are divided into grades:

I

II

M (only for oak raw parquet elements)

Oak raw parquet elements containing more defects than those allowed for the last grade (M) shall not be delivered under the designations "ISO oak raw parquet elements", nor under any other designation which may lead to confusion with one of the grades given.

Beech raw parquet elements, Birch raw parquet elements, Maple raw parquet elements, Fir raw parquet elements and Spruce raw parquet elements containing more defects than those allowed for the second grade (II) shall not be delivered under the designations "ISO beech raw parquet elements", "ISO birch raw parquet elements", "ISO maple raw parquet elements", "ISO fir raw parquet elements", "ISO spruce raw parquet elements" nor "ISO coniferous wood (fir, spruce) raw parquet elements", nor under any other designation which may lead to confusion with one of the grades given.

The grades shall correspond to the conditions stated in the following [Tables 1](#) to [7](#).

Table 1 — General characteristics

Wood or sawing defect	Grade		
	I	II	M (only for oak)
Incipient rot and decay	none		
Slope of grain	appreciably straight grain and parallel to the axis of the piece	slope of grain not exceeding 10 %	
Texture	regular	all textures permitted	
Bow	permitted only on one plane, if the deflection does not exceed 1 % of the length of the piece		
Spring	permitted if the deflection does not exceed 0,5 % of the length of the piece		
Cup (only for Fir and Spruce)	permitted if the deflection does not exceed 2 mm of the width of the piece		not applicable
Twist	none		
Saw marks	permitted provided that they do not exceed 0,5 mm in depth		

Table 2 — Face with oak

Wood defect		Grade		
		I	II	M
Medullary sheath (sound heart)		none	permitted, in the form of discontinuous rays, if they are not cleft	
Sound sapwood and false sapwood		none	permitted only on one arris, if it does not exceed 5 mm of the width of the piece	permitted unlimited
Colouring		very slight permitted, stains are excluded	permitted, if they do not result from adulterations due to biological agents	
Shakes	Shallow and checks	permitted, not exceeding 1 mm in depth		
	through	permitted on ends, not exceeding in length the increments given for the length of the piece		
Inbark and frost cracks		none		
Knots	very small	permitted in unlimited number provided that their diameter does not exceed: 2 mm for sound knots 1 mm for black knots		
		none	permitted on the piece, spaced at 30 mm and more, not exceeding in diameter	
	intergrown or partially intergrown		10 mm	15 mm
	black, dead or burst	none	permitted on the piece, not exceeding 10 mm in diameter	
Knot cluster		none	permitted: 1	
Bore holes		none		permitted
Wane (dull edges)		none		
Curl		none	Slight permitted	permitted

Table 3 — Face with beech, birch or maple

Wood defect		Grade	
		I	II
Medullary sheath (sound heart)		none	
Redheart wood		none	sound permitted
Colouring		Very slight differences of colouring permitted, veins of deep colour excluded	Slight differences of colouring permitted in the form of veins and stacking spots if the wood is sound
Shakes	Shallow and checks	permitted, not exceeding in depth	
		1 mm	2 mm
	through	permitted on ends, not exceeding in length the increments given for the length of the piece	
In bark and frost cracks		none	

Table 3 (continued)

Knots	very small	permitted in unlimited number provided that their diameter does not exceed: 2 mm for sound knots 1 mm for black knots	
	intergrown or partially intergrown	none	permitted, not exceeding 15 mm in diameter
	Black, dead or burst	none	permitted, if not in clusters, not exceeding 7 mm in diameter
Bore holes		none	
Wane (dull edges)		none	
Curl		none	

Table 4 — Face with fir or spruce

Wood defect		Grade	
		I	II
Medullary sheath (sound heart)		none	permitted, not exceeding 30 mm in length
Curly grain		none	slight, permitted
Colouring	pinkish	none	none
	bluish	none	light, permitted
	brown	none	
Shakes	checks	permitted	
	shallow	permitted, not exceeding in depth	
		1 mm	2 mm
	through	permitted on ends, not exceeding in length the increments given for the length of the piece	
Inbark and frost cracks		none	
Round and oval knots	very small	permitted in unlimited number provided that their diameter does not exceed: 2 mm for sound knots 1 mm for black knots	
	intergrown or partially intergrown	none	permitted, not exceeding 15 mm in diameter
	dead or burst	none	
	Traversing and branched knots	none	
Bore holes		none	
Pitch-pockets		none	permitted, not exceeding 30 mm in length
Wet areas		permitted	
Wane (dull edge)		none	

The number of defects permitted on the face side of the piece, specified in [Tables 1](#) and [4](#), shall not exceed

- 3 defects for grade I, or
- 4 defects for grade II.

Table 5 — Back, ends and edges with oak

Wood defect		Grade		
		I	II	M
Medullary sheath (sound heart)		none	permitted, in the form of discontinuous rays, if they are not cleft	permitted
Sound sapwood and false sapwood		permitted on the whole width of the piece, not exceeding		permitted unlimited
		5 mm	10 mm	
		of the thickness		
Shakes	Shallow and checks	permitted, not exceeding in depth		
		1 mm	4 mm	1 mm
	through	permitted on ends, not exceeding in length the increments given for the length of the piece		
Knots	intergrown or partially intergrown	permitted, not exceeding the diameter of		
		10 mm	20 mm	15 mm
	black, dead or burst	none	permitted on the piece, not exceeding the diameter of	
			15 mm	10 mm On edges excluded
Knot cluster		permitted		permitted: 1
Bore holes		none		permitted
Wane (dull edges)		none	permitted on a width smaller than 10 mm, or not more than 10 % of the width of the piece	none
Curl		none	permitted	
Defects not mentioned		none	permitted provided that they do not impair the strength and the durability of the pieces	none

Table 6 — Back, ends and edges with beech, birch or maple

Wood defect		Grade	
		I	II
Medullary sheath (sound heart)		none	permitted in the form of discontinuous rays, if they are not cleft
Redheart wood		permitted if sound	
Shakes	Shallow and checks	permitted, not exceeding 4 mm in depth	
	through	permitted on ends, not exceeding in length the increment given for the length of the piece	
Knots	sound, of normal colour, even darker	permitted, not exceeding 20 mm in diameter	permitted provided that the diameter does not exceed 50 % of the width of the piece
	black, intergrown, dead or burst	permitted provided that the diameter does not exceed	
		15 mm	25 mm
		and the depth 50 % of the thickness of the piece	