

# INTERNATIONAL STANDARD

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## 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](http://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](http://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](http://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 3 (continued)**

|                   |                                    |   |   |
|-------------------|------------------------------------|---|---|
| Knots             | very small                         | permitted in unlimited number provided that their diameter does not exceed:<br>2 mm for sound knots<br>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:<br>2 mm for sound knots<br>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   |  |                            |
|                                 | through                            | 1 mm  | 4 mm   | 1 mm                       |
|                                 |                                    | 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<br>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   |   |