



BSI Standards Publication

Plywood — Classification by surface appearance

Part 1: General

INTERNATIONAL STANDARD

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Second edition
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Plywood — Classification by surface appearance —

Part 1: General

*Contreplaqué — Classification selon l'aspect des faces —
Partie 1: Généralités*



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Foreword

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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 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 89, *Wood-based panels*, Subcommittee SC 3, *Plywood*.

This second edition cancels and replaces the first edition (ISO 2426-1:2000), which has been technically revised.

The main changes compared to the previous edition are as follows:

- In the scope it is precised that, this document concerns plywood made of hardwood including tropical and temperate hardwood, softwood and plywood derived from other lignocellulosic materials.

A list of all parts in the ISO 2426 series can be found on the ISO website.

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.

Plywood — Classification by surface appearance —

Part 1: General

1 Scope

This document establishes general rules for the classification of plywood by its surface appearance. It concerns plywood made of hardwood including tropical and temperate hardwood, softwood and plywood derived from other lignocellulosic materials.

It does not apply to overlaid plywood.

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 2426-2, *Plywood — Classification by surface appearance — Part 2: Hardwood*

ISO 2426-3, *Plywood — Classification by surface appearance — Part 3: Softwood*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

4 Classification by surface appearance

4.1 Classes

Classification of plywood by surface appearance is made according to the number and the extent of certain natural characteristics of wood and the defects that come from the manufacturing process.

Five appearance classes are distinguished, identified with the following codes: E, I, II, III, IV.

4.2 Characteristics and defects taken into consideration

4.2.1 Determination of appearance class

Determination of the appearance class, based on the appearance of the panel surfaces, shall take into account the categories of characteristics given in [Table 1](#) and defects given in [Table 2](#).

4.2.2 Characteristics inherent in wood

Categories of characteristics inherent in wood are listed in [Table 1](#).

Table 1 — Surface appearance classification of veneer

Category	Type
Pin knots	
Sound intergrown knots	
a) Unsound knots b) Non-adhering and partially adhering c) Holes, except those due to insects, marine borers and parasitic plants	1) Dog holes 2) Knot holes
a) Splits b) Checks	1) Open 2) Closed
Abnormalities due to insects, marine borers and parasitic plants	1) Small worm holes 2) Large worm holes 3) Marine borer holes 4) Marks from parasitic plants
a) Resin pockets b) Resin streaks c) Inbark	
Irregularities in the structure of the wood ^a	1) Angle grain 2) Curly grain 3) Interlocked grain 4) Spiral grain
Discoloration which is not wood-destroying	1) Blue stain, mould and fungal discoloration 2) Coloured sapstain 3) False heartwood 4) Other discoloration such as chemical stain and colour streaks
Fungal decay which is wood-destroying	Rot
Other characteristics	To be considered under the category which they most closely resemble
^a When irregularities of grain result in roughness, these shall be considered as one category of characteristics.	

4.2.3 Manufacturing defects

Categories of manufacturing defects are listed in [Table 2](#).

Table 2 — Surface appearance classification of plywood

Category	Type
Open joints	
Ovelaps	
Blisters	
a) Hollows b) Imprints c) Bumps	
Roughness, other than that due to irregularities in the structure of the wood	
Sanding through	
Glue penetration	
Foreign particles	Metal, mineral, etc.
Repairs	1) Patches 2) Shims 3) Synthetic fillers
Defects at the edges of the panel	1) Sanding defects 2) Sawing defects 3) Missing wood
Other defects	To be considered under the category which they most closely resemble

4.3 Classification by appearance of panels

The appearance class of plywood is determined by the classes of its surfaces.
The class of the plywood first describes the class of the face followed by the class of the back.

5 Rules for classification

5.1 Classification for hardwood and softwood

The permissible characteristics and defects for each of these appearance classes of this document are specified in ISO 2426-2 for hardwood and in ISO 2426-3 for softwood.

5.2 Conditions of admissibility for inherent characteristics of wood, and manufacturing defects

5.2.1 General

Characteristics and defects which are limited in number, size, or extent are either enumerated or evaluated over the total surface of the panel. This number or extent is expressed par square metre of panel, with the exception of checks, splits and open joints which are related to one metre of panel width.

The number and the extent of characteristics and defects shall be defined as follows and rounded off to the nearest unit.

a) For knots and holes:

- 1) individual diameter;
- 2) cumulative diameters, expressed per square metre of panel surface.

NOTE The diameter of a knot or hole is conventionally defined as the diameter across the general direction of the grain of the veneer.

b) For checks, splits and open joints:

- 1) individual length;
- 2) individual width;
- 3) number per metre of panel width.

5.2.2 Joints

In appearance classes I to IV, the number and the width of veneers which form the outer plies of a panel are not restricted, provided the joints are well made.

The veneers forming the outer plies of class I shall be well matched for colour and have similar grain.

The outer plies shall be laid with the joints approximately parallel to the edges of the panel.

In class E, the outer ply using rotary-cut veneer may be of one or two veneers provided that the joint is well made, approximately at the centre of the panel, approximately parallel to the edges of the panel and that the veneers are well matched for colour and of similar grain.

5.2.3 Inclusions

The inclusion of foreign particles likely to damage the machining equipment is not permitted.

5.2.4 Repairs

Patches and shims used for the repairs shall fit and be properly fixed. The matching for colour and grain shall be in accordance with the requirements for the appropriate appearance class.

Synthetic filling is permitted, subject to the appearance class requirement.

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