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Timber and wood-based materials in internal windows, door leaves and internal doorframes - Requirements and specifications

Bois et matériaux à base de bois dans les fenêtres intérieures, les vantaux et dormants de portes intérieures - Exigences et spécifications

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document prEN 14221:2004 has been prepared by Technical Committee CEN/TC 175 "Round and sawn timber", the secretariat of which is held by AFNOR.

This document is currently submitted to the second CEN Enquiry.

Introduction

The classification method given in this standard is applicable to timber and wood based products after it has been incorporated into internal doors. This standard contains the basic requirements of timber in internal door leaves and doorframes. This standard applies to the timber and wood based products, the processing and the components in the finished doors.

Basic requirements are given in Table 1 and clauses 6, 7 and 8. Specific national requirements are given in Annex A.

This standard includes an Informative Annex A providing guidance on National grading requirements. When submitting comments Member Bodies are requested to provide their National grading requirements for inclusion in the final document. These requirements should be set out in the format provided in Table 1.

Table A.1 of Annex A provides a default table for circumstances where a National Annex is not available.

This standard is part of a series of standards on timber in windows, doors and stairs.

1 Scope

This European Standard gives basic requirements for timber and wood-based products in internal windows, doors and doorframes (with or without fixed parts), including those relating to appearance, mechanical and biological durability characteristics.

This standard applies to factory assembled internal door leaves and doorframes uncoated or intended to be coated. It does not apply to decorative veneers or films applied to the face of timber doors.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 204, *Classification of non-structural adhesives for joining of wood and derived timber products.*

EN 335-1 *Durability of wood and wood-based products – Definition of hazard classes of biological attack – Part 1 : General*

EN 335-2, *Durability of wood and wood-based products - – Definition of hazard classes of biological attack – Part 2 : Application to solid wood*

EN 622-1, *Fibreboards – Specifications – Part 1 : General requirements*

EN 622-5, *Fibreboards – Specifications – Part 5 : Requirements for dry process boards*

EN 942, *Timber in joinery – General classification of timber quality*

PrEN 12765, *Classification of thermo setting wood adhesies for non-structural applications*

PrEN 13307-1, *Timber blanks and raw profiles for joinery*

EN 13183-1, *Moisture content of a piece of sawn timber – Part 1 : Determination by oven dry method*

EN 13986, *Wood-based panels for use in construction – Characteristics, evaluation of conformity and marking.*

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply :

3.1
profile
planed piece of solid or glued laminated wood, finger jointed or not, with a cross-section complying with the window, door leaf or door frame requirements.

3.2
visible face
face of a joinery part which, after installation of the joinery is completed, is not permanently concealed or semi-concealed.

NOTE 1 Decoration, even with an opaque coating system, does not constitute concealment.

NOTE 2 Faces which are visible when moving parts (e.g. window casements or door leaves) are open are classified as visible faces.

3.3
concealed face
face of a joinery part which, after installation of the joinery is completed, is permanently concealed by other parts or other elements of construction, including materials such as veneer, plastic or metal.

3.4
semi-concealed face
visible face of a joinery part, which cannot be viewed when the window or door is in the closed position.

3.5
hidden feature
face of a joinery part which after incorporation into a joinery product is permanently concealed by other parts of the joinery product.

3.6
coating system
The combination coating materials, which are to be applied or have been applied to the face of a joinery part.

3.7
appearance class
surfaces in joinery classified according to shakes, resin pockets, bark pockets, discoloured sapwood, exposed pith, ambrosia beetle damage and knots.

4 General requirements

All the requirements for the characteristics of the timber and wood based products used in internal windows, doors and doorframes shall apply at the time of handover to the first purchaser.

4.1 The requirements for appearance are given in Clause 5.

4.2 The requirements for biological durability are given in Clause 6.

4.3 The requirements for mechanical performance are given in Clauses 8 and 9.

NOTE For products where the ultimate location is not known at the time of manufacture information regarding any limitations shall be specified.

5 Appearance

5.1 Characteristics

The characteristics of the profiles which are applicable to the finished product are measured and classified in accordance with the requirements of EN 942 for solid timber and EN 13307-1 for blanks and laminated profiles.

5.2 Appearance classes

Table 1 identifies the elements for which characteristics should be assigned and is a template to indicate the form in which the requirements are to be presented. National requirements are presented in annex A. Where national requirements have not been indicated in Annex A then the values given in Table A1 are to be used.

The appropriate timber classes are as specified in EN 942 with classes for blanks and laminated profiles, as specified in prEN 13307-1, given in parentheses

Table 1 — Appearance classes for elements in window, doors and doorframes

Element	EN 942 Class (and prEN13307-1 Class)				
	Visible face		Semi Concealed face		Concealed face
	Opaque coating system	Translucent Coating system	Opaque coating system	Translucent Coating system	
Frames to windows & doors					
Casement & Sashes					
Stiles & Rails to doors					
Lipping					
Beads & similar small sections					
Thresholds, sills					
Panelling & infills					
Maximum moisture content					
Minimum density in kg/m^3	Softwood			Hardwood	
Finger joints					

NOTE 1 A higher grade may be required for elements that are subject to wind load.

NOTE 2 Hidden features may be classed as concealed faces if the serviceability of the product is not impaired.

NOTE 3 Grades selected for concealed face must not impair the serviceability of the product.

NOTE 4 Knots and knot clusters shall be distributed at centres no closer than 150 mm on average, measured over the length of the piece. Knots of 10 mm or less shall be disregarded.

5.2.1 Finger jointing, edge jointing and laminating

Specific national requirements are given in Annex A. Where specific national requirements are not available the following restrictions shall apply:-

Laminated timber shall comply with the requirements of prEN 13307-1.

Finger jointing, edge jointing and laminating is permitted in all elements of Table 1.

Infill panels produced from finger jointed pieces shall be manufactured so that when assembled only the fingers of the finger joint are visible.

Finger jointing is not permitted where a translucent coating system is applied except where agreed.

5.3 Adhesives and repair compounds

Glued timber joints, or repairs shall be of durability class D2 as specified in EN 204 or C2 as specified in prEN 12765.

Any glued timber joints or elements which are in a special condition of high humidity shall be of durability class D 4 as specified in EN 204 or C2 as specified in prEN 12765. All other glued joints or elements environment shall be of durability class D 3 as specified in EN 204 or C3 as specified in prEN 12765.

Note At the time of publication no tests or classifications are available for repair compounds. Repair compounds should therefore have a similar durability class as the appropriate adhesive.

5.4 Slope of Grain

The slope of grain of timber used shall not exceed 1:10 (10%), except in knot areas. In addition the cumulative length of areas with sloped grain, evaluated along the axis of the timber member, shall not exceed 0.5m.

5.5 Repair

5.5.1 Features

Where indicated in EN 942 the following features shall be made good, using repair compound or wooden plugs secured with adhesive, unless specifically excluded by the specification:

- Loose or unsound knots
- Shakes
- Resin pockets and other areas of resin exudination
- Bark pockets
- Exposed pith
- Ambrosia beetle attack

1.1.2 Plugs

Any plug shall:

a) not necessarily be cylindrical;

b) be of the same species or species with similar characteristics as the surrounding timber;

c) be secured with an appropriate adhesive;

d) whenever possible lie with its grain direction in the same general direction as the grain of the piece in which it is inserted;

e)

f) be of a width (i.e. the lesser dimension) not greater than 6 mm above the maximum limit of knot size for the specified class; (The width of a non-cylindrical plug shall be not more than 30 mm.)

g) be within 0 percentage points of the moisture content of the timber.

h) have at least 2/3 of its diameter within the face when occurring at an arris

Not more than two cylindrical plugs shall be used for a repair. The repair of a knot should still be counted as a sound intergrown knot.

5.5.3 Filler

Where surfaces or defects are required to be filled the filler shall be compatible with the intended end use of the timber.

5.6 Wood based products

Wood-based products, which are used as cores and faces in doors, shall meet the appropriate durability requirements as specified in EN 13986 for wood-based panels used as non-structural components internally in dry or humid conditions.

Moulded skin door facings produced either by post forming MDF or by pressing directly from cellulosic fibres shall also conform to the specific requirements of:-

EN 622–1 Fibreboards (dry process boards) Class A

EN 622–5 Requirements for dry process boards – Table 2

6 Biological durability

Timber shall as a minimum meet the requirements of Class 1 as defined in EN 335-2.

NOTE For special conditions of high humidity a higher class may be required.

7 Moisture content

The moisture content of the timber shall not exceed 13% for heated buildings or 16% for use in unheated buildings, at the time of leaving the factory. Specific national requirements are given in Annex A. The method of measurement shall be in accordance with EN 13183-1.

NOTE For special conditions the contract may specify alternative moisture contents.

8 Surface quality

The surface of timber in visible faces shall be able to accept a coating system without any further operation other than light sanding.