BRITISH STANDARD

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14220:2006

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

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National foreword

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

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

Holz und Holzwerkstoffe in Außenfenstern, Außentüren und Außentürzargen - Anforderungen und Spezifikationen

This European Standard was approved by CEN on 11 September 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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Foreword

This document (EN 14220:2006) has been prepared by Technical Committee CEN/TC 175 “Round and sawn timber”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2007, and conflicting national standards shall be withdrawn at the latest by October 2007.

This Standard is one of a package to be implemented by 2007.10.31. The Standards included in the Package are:

	Standard Number	Title
1	prEN 942 Revised	Timber in joinery - General requirements
2	EN 13307-1	Timber blanks and semi-finished profiles for non-structural uses – Part 1: Requirements
3	EN 14220	Timber and wood-based materials in external windows, external door leaves and external doorframes – Requirements and specifications
4	EN 14221	Timber and wood-based materials in internal windows, internal door leaves and internal doorframes – Requirements and specifications

Explanation

Standards 3 and 4 rely on both Standards 1 and 2, and Standard 2 relies on 1.

The revised prEN 942 contains changes which directly affect Standards 2, 3 and 4 and therefore shall be available before they can be used effectively.

NOTE Following the completion of the Technical Enquiry for prEN 13307-2 Timber blanks and semi-finished profiles for non-structural uses – Part 2: Production control, it has been agreed to remove this Standard form the package. As a result of the necessary changes it has been agreed to offer prEN 13307-2 as a CEN/TS.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

The classification method given in this standard is applicable to timber and wood-based products after they have been incorporated into complete windows, external door leaves and external doorframes. This standard contains the principle material requirements of timber in wood-based products, the processing of this timber and the components in the final products. Requirements for mechanical aspects are indirectly considered by appearance and density selection.

Characteristics and principles are listed in Table 1 and clauses 5, 6, 7, 8 and 9. Specific national requirements are given in Annex A.

This standard contains two annexes, Annex A "National requirements" and Annex B "Weather exposed faces".

Tables A.1 and A.2 of Annex A provide default tables 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 specifies principle material requirements for timber and wood-based products in external windows, external door leaves and external doorframes (with or without fixed parts), including those relating to appearance, biological durability and other physical characteristics.

This European Standard applies to assembled windows, external door leaves and external doorframes uncoated or intended to be coated.

If windows or doors are covered by other decorative veneers or films their respective veneer of film Product Standard shall apply.

NOTE For example: Timber veneers may be graded to EN 635: Parts 1, 2, 3 and 5, and ENV 635-4.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 204, *Classification of thermoplastic wood adhesives for non-structural applications*

EN 335-1, *Durability of wood and wood-based products - Definition of use classes - Part 1: General*

EN 350-2, *Durability of wood and wood-based products – Natural durability of solid wood- Part 2: Guide to natural durability and treatability of selected wood species of importance in Europe*

EN 351-1, *Durability of wood and wood-based products – Preservative treated solid wood – Part 1: Classification of preservative penetration and retention*

EN 460, *Durability of wood and wood-based products – Natural durability of solid wood – Guide to the durability requirements for wood to be used in hazard classes*

EN 599-1, *Durability of wood and wood-based products - Performance of preventive wood preservatives as determined by biological tests - Part 1: Specification according to hazard class*

EN 844-3:1995, *Round and sawn timber - Terminology - Part 3: General terms relating to sawn timber*

prEN 942:2006, *Timber in joinery – General requirements*

EN 12765, *Classification of thermosetting wood adhesives for non-structural applications*

EN 13307-1, *Timber blanks and semi-finished profiles for non-structural uses - Part 1: Requirements*

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

EN 13183-2, *Moisture content of a piece of sawn timber – Part 2: Estimation by electrical resistance method*

EN 13183-3, *Moisture content of a piece of sawn timber – Part 3: Estimation by capacitance method*

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

EN 14298, *Sawn timber – Assessment of drying quality*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 844-3:1995 and prEN 942:2006 and the following apply.

These definitions shall take into consideration the situation after installation of the product.

Where there is a conflict between the definitions in the Standards referenced and those given below, the definitions given below shall apply.

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

3.2
concealed face
face of a joinery part which, after installation of the joinery is completed, is permanently concealed by other parts of the joinery product, or by other parts or other elements, including materials such as veneer, plastic or metal

NOTE These faces may be visible before the product is installed.

3.3
semi-concealed face
visible face of a joinery part, which cannot be viewed when the window or door is in the closed position

3.4
visible face
face of a joinery part which, after installation of the joinery is completed, is not permanently concealed or semi-concealed

NOTE 1 An opaque coating system, does not constitute concealment.

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

3.5
weather exposed face
face of a joinery part, which is directly subjected to driving rain or running water or permanent or intermittent condensation

NOTE For examples see Annex B.

3.6
appearance class
any surface in joinery classified according to shakes, resin pockets, bark pockets, discoloration, sapwood, exposed pith, ambrosia beetle damage and knots

3.7
coating system
combination of coating materials, which are to be applied or have been applied to the face of a joinery part

4 General requirements

The following requirements for the characteristics of the timber and wood-based materials used in windows, external door leaves and external doorframes shall apply:

— requirements for appearance, which are given in Clause 5;

— requirements for biological durability, which are given in Clause 6;

— requirements for physical properties, which are given in Clauses 7, 8 and 9.

For products where the ultimate location is not known at the time of manufacture, sufficient information shall be provided to enable possible limitations for the product end use to be identified.

5 Appearance

5.1 Characteristics

The characteristics of the profiles that are applicable to the finished product are measured and classified in accordance with the requirements of prEN 942.

5.2 Appearance classes

5.2.1 General

Table 1 identifies the elements for which characteristics shall 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 Tables A.1 and A.2 are to be used.

The appropriate timber classes are as specified in prEN 942.

Table 1 — Principles appearance classes for elements in windows, doors and doorframes

Element	prEN 942 Class				
	Visible face (3.4)		Semi Concealed face (3.3)		Concealed face (3.2)
	Opaque coating system	Translucent Coating system	Opaque coating system	Translucent Coating system	
Frames to windows and doors	**	**	**	**	**
Casement and sashes	**	**	**	**	**
Stiles and rails to doors	**	**	**	**	**
Lipping	**	**	**	**	**
Beads and similar small sections	**	**	**	**	**
Thresholds, sills	**	**	**	**	**
Panelling and infills	**	**	**	**	**
** Information to be provided. See Table A.1 for default values.					

Where products are subject to wind load, consideration shall be given to the use of a higher grade.

When classifying a face as concealed, the grade selected shall not impair the serviceability of the product.

5.2.2 Finger jointing, end 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 :

Finger jointing, end jointing, edge jointing and laminating is permitted in all elements of Table 1 unless otherwise specified.

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.

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

5.3 Adhesives and repair compounds

Adhesives in timber joints, profiles or repairs which are in a weather exposed position shall be of a durability not inferior to D4 as specified in EN 204 or C4 as specified in EN 12765. Adhesives in any other joints, profiles or repairs shall be of a durability not inferior to D3 as specified in EN 204 or C3 as specified in EN 12765.

If a lower class of adhesive is used its use shall be declared and justified.

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

NOTE Adhesives used to connect timber with non-timber components may need special consideration.

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 or 20 % of the length of the piece, whichever is the shorter.

NOTE Slope of grain may also have an effect on the stability of the product.

5.5 Repair

5.5.1 Features

Where indicated in prEN 942 the following features shall be improved, using a 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 exudation;
- Bark pockets;
- Exposed pith;
- Ambrosia beetle attack.

5.5.2 Plugs

Any plug shall:

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

b) be secured with an appropriate adhesive (see Clause 5.3);

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

d) 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.);

NOTE It is possible that a plug may be produced from ‘branch material’ to create the appearance of a knot.

e) be within (+ 0, -2) percentage points of the moisture content of the timber;

f) be within the moisture content range recommended by the adhesive manufacturer;

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

Only one plug shall be used for a single repair below a translucent surface, elsewhere not more than two cylindrical plugs shall be used for a repair. Where two plugs are used for a single repair they shall not overlap. The repair of a knot is classified 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 end use of the timber. Fillers used in weather exposed faces shall be weather-resistant.

5.6 Wood-based products

Wood-based products, which are used as cores and faces in doors, shall meet the requirements for durability for wood-based panels for external use as non-structural components as specified in EN 13986.

6 Biological durability

Timber for use in windows, external door leaves and external doorframes shall be selected with regard to the service environment.

Timber elements with a weather exposed face (Annex B) are considered to be in use class 3. All other elements are considered to be in use class 2 (EN 335-1).

For timber elements with a weather exposed face, timber species of natural durability class 3 (EN 350-2) are normally sufficient (EN 460) and those of natural durability class 1 and 2 are sufficient.

Timber species of lesser natural durability or timber containing sapwood shall be given a preservative treatment, if required (see EN 460), suitable for use class 3. Any preservative treatment shall be specified using EN 599-1 and deliver appropriate treatment results defined in the terms in EN 351-1. All other timber elements shall at least meet the requirements for use class 2.

7 Moisture content

Moisture content is usually subject to national requirements and end use conditions. Where national requirements and end use are not available, the moisture content of the timber for external windows, external door leaves and external doorframes shall not exceed 16 %. Specific national requirements are given in Annex A. The method of measurement shall be EN 14298.

The moisture content shall be estimated using either the method described in EN 13183-2 or EN 13183-3. In the case of a dispute the method to be used shall be the method described in EN 13183-1 (Destructive method).

NOTE The more accurate method described in EN 13183-1 is a Destructive method and may not always be appropriate.

Moisture content measurements are applicable at the time of completion of product manufacture and prior to coating.

8 Surface finish

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

9 Density

Unless otherwise indicated in the specific national requirements (see Annex A), the following minimum density for timber (in 95 % of the tested products), measured at a 20 ºC and 65 % RH (usually a moisture content of 12 %), shall be used:

Softwood 350 kg/m^3 Hardwood 450 kg/m^3

NOTE 1 The density of the timber used in windows, external doors and external doorframes will have a significant effect on their physical properties.

NOTE 2 For special constructions a lower density timber can be used if it does not reduce the serviceability of the product.

Annex A
(informative)

Quality recommendations for elements in external windows, external door leaves and external doorframes

Table A.1 — Recommended minimum grading characteristics for elements in windows, doors and doorframes where national appearance classes are not available

Element	prEN 942 Class				
	Visible face		Semi Concealed face		Concealed face
	Opaque coating system	Translucent Coating system	Opaque coating system	Translucent Coating system	
Frames to windows and doors	J30	J10	J30	J30	J50
Casement and sashes	J10	J10	J10	J10	J40
Stiles and rails to doors	J30	J30	J30	J30	J40
Lipping	J2	J2	J2	J2	J2
Beads and similar small sections	J10	J10	J10	J10	J10
Thresholds, sills	J30	J10	J30	J10	J30
Panelling and infills	J30	J10	J40	J30	J50

Table A.2 — Supplementary recommendations

	Clause Number	Recommendation
Finger joints	Clause 5.2.2	
Maximum moisture content	Clause 7	Not greater than 16 % for all elements
Minimum density	Clause 9	Softwood - 350 kg/m^3 Hardwood - 450 kg/m^3

These classes are recommendations. If the manufacturer uses other classes these should be declared.

Table A.3 — National minimum grading characteristics for elements in windows, doors and doorframes for Austria

Element	prEN 942 Class				
	Visible face		Semi Concealed face		Concealed face
	Opaque coating system	Translucent Coating system	Opaque coating system	Translucent Coating system	
Frames to windows and doors					
Casement and sashes					
Stiles and rails to doors					
Lipping					
Beads and similar small sections					
Thresholds, sills					
Panelling and infills					

Table A.4 — Supplementary recommendations

	Clause Number	Recommendation
Finger joints	Clause 5.2.2	
Maximum moisture content	Clause 7	
Minimum density	Clause 9	Softwood - XXX kg/m^3 Hardwood - YYY kg/m^3

Table A.5 — National minimum grading characteristics for elements in windows, doors and doorframes for Finland

Element	prEN 942 Class				
	Visible face		Semi Concealed face		Concealed face
	Opaque coating system	Translucent Coating system	Opaque coating system	Translucent Coating system	
Frames to windows and doors					
Casement and sashes					
Stiles and rails to doors					
Lipping					
Beads and similar small sections					
Thresholds, sills					
Panelling and infills					

Table A.6 — Supplementary recommendations

	Clause Number	Recommendation
Finger joints	Clause 5.2.2	
Maximum moisture content	Clause 7	
Minimum density	Clause 9	Softwood - XXX kg/m^3 Hardwood - YYY kg/m^3

Table A.7 — National minimum grading characteristics for elements in windows, doors and doorframes for France

Element	prEN 942 Class				
	Visible face		Semi Concealed face		Concealed face
	Opaque coating system	Translucent Coating system	Opaque coating system	Translucent Coating system	
Non loading frames to windows and doors	J 30	J 20	J 30	J 20	J 50
Casement and sashes and frames load-bearing members	J 20	J 10	J 20	J 20	J 20
Stiles and rails to doors	J 30	J 20	J 30	J 20	J 20
Lipping	J 2	J 2	J 2	J 2	J 2
Beads and similar small sections	J 2	J 2	J 2	J 2	J 2
Thresholds, sills	J 10	J 10	J 10	J 10	J 30
Panelling and infills	J 20	J 10	J 30	J 20	J 50

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 On visible faces, knots or knots clusters larger than 10 mm shall be distributed at centers no closer than 150 mm on average, measured over the length of the piece. For all classes, when considering distribution, knots of 10 mm or less shall be disregarded.

NOTE 5 Other grades may be specified by manufacturer provided that serviceability is not impaired.

Table A.8 — Supplementary recommendations

	Clause Number	Recommendation
Finger joints	Clause 5.2.2	See Clause 5.2.2
Maximum moisture content	Clause 7	See Clause 7
Minimum density	Clause 9	Softwood – 350 kg/m^3 Hardwood – 350 kg/m^3

Table A.9 — National minimum grading characteristics for elements in windows, doors and doorframes for Germany

Element	prEN 942 Class				
	Visible face		Semi-concealed face		Concealed face
	Opaque coating system	Translucent Coating system	Opaque coating system	Translucent Coating system	
Frames to windows and doors	J10 (J30)	J10	J30	J10 (J30)	J30
Casements and Sashes	J10 (J30)	J10	J30	J10 (J30)	J30
Stiles and Rails to doors	J10 (J30)	J10	J30	J10 (J30)	J30
Lipping	J10 (J30)	J10	J10	J10 (J30)	J10
Beads and similar small sections	J2	J2	J2	J2	J2
Thresholds, sills	J10 (J30)	J10	J30	J10 (J30)	J30
Panelling and infills	J10 (J30)	J10	J30	J10 (J30)	J30

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

NOTE 2 Grades selected for concealed faces must not impair the serviceability of the product.

NOTE 3 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.

NOTE 4 Class J30 is allowed at the time of timber purchase only under the following restrictions:

- applies only to softwoods;
- for visible faces, J30 may only be used in combination with an opaque coating and if the following conditions are fulfilled;
- for semi-concealed faces, J30 may be used in combination with translucent coatings only if the following conditions are fulfilled;
- longitudinal shakes according to class J30 are not permitted;
- during the production process, measures have to be taken in order to ensure that the wood quality of the finished component (window or door) corresponds to Class J10 in the visible areas. Such measures may include appropriate grading, so that undesirable features are cut off, made good or are located in the concealed parts of the finished components.

NOTE 5 In the case of Red Meranti (Shorea spp.), minimum density is 400 kg/m³, however, wood with a density of less than 500 kg/m³ shall be given a suitable preservative treatment before coating.

Table A.10 — Supplementary recommendations

	Clause Number	Recommendation
Finger joints	Clause 5.2.2	See Clause 5.2.2
Maximum moisture content	Clause 7	Average (13 ± 2) %
Minimum density	Clause 9	Softwood - 350 kg/m^3 Hardwood - 450 kg/m^3

Table A.11 — National minimum grading characteristics for elements in windows, doors and doorframes for Italy

Element	prEN 942 Class				
	Visible face		Semi Concealed face		Concealed face
	Opaque coating system	Translucent Coating system	Opaque coating system	Translucent Coating system	
Frames to windows and doors					
Casement and sashes					
Stiles and rails to doors					
Lipping					
Beads and similar small sections					
Thresholds, sills					
Panelling and infills					

Table A.12 — Supplementary recommendations

	Clause Number	Recommendation
Finger joints	Clause 5.2.2	
Maximum moisture content	Clause 7	
Minimum density	Clause 9	Softwood - XXX kg/m^3 Hardwood - YYY kg/m^3

Table A.13 — National minimum grading characteristics for elements in windows, doors and doorframes for Norway

Element	prEN 942 Class				
	Visible face		Semi Concealed face		Concealed face
	Opaque coating system	Translucent Coating system	Opaque coating system	Translucent Coating system	
Frames to windows and doors	J30	J30	J30	J30	J40
Casement and sashes	J30	J30	J30	J20	J40
Stiles and rails to doors	J30	J30	J30	J30	J40
Lipping	J2	J2	J2	J2	J2
Beads and similar small sections	J10	J10	J10	J10	J10
Thresholds, sills	J30	J30	J30	J30	J30
Panelling and infills	J30	J10	J30	J30	J50

Table A.14 — Supplementary recommendations

	Clause Number	Recommendation
Finger joints	Clause 5.2.2	
Maximum moisture content	Clause 7	Not greater than 16 % or less than 9 % for all elements
Minimum density	Clause 9	Softwood - 350 kg/m^3 Hardwood - 450 kg/m^3

Table A.15 — National minimum grading characteristics for elements in windows, doors and doorframes for Sweden

Element [1]	EN 942 Class[a]				
	Visible face		Semi Concealed face		Concealed face [2-3]
	Opaque coating system	Translucent Coating system	Opaque Coating system	Translucent Coating system	
Frames to windows and doors	J20	J20	J30	J30	J40
Casement and sashes	J20	J20	J30	J30	J40
Stiles and rails to doors	J20	J20	J30	J30	J40
Lipping	J10	J10	J10	J10	J40
Beads and similar small sections	J5	J5	J10	J10	J40
Thresholds, sills	J20	J20	J30	J30	J40
Panelling[4] and infills	J5	J5	J30	J30	J40

[1] Regarding the weather exposed parts of the window profiles, the Use class 3 is only required for the horizontal parts as follows.

- window frame

- casements and sashes

- sill and transom; see Annex B

- bottom rail and glazing bed; see Annex B.

NOTE: The minimum density of the wood, 450 kg/m^3 see table A.16, and with a well performed frame jointing in the bottom parts of the window frame – with end grain protection at the bottom end of the jamb and the sill in the "corner jointing" – will assure a reasonable durability of the wood elements of the window.

[2] Hidden features may be classed as concealed face if the serviceability of the product is not impaired.

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

[4] Requirement on panels of Softwood, see EN 14519, and on panels of Hardwood, see EN 14951.

[a] (According to prEN 942:2006).

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

NOTE 2: 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 or less shall be disregarded.

Table A.16 – Supplementary recommendations

	Clause Number	**Recommendations**
Finger joints	Clause 5.2.2	See Clause 5.2.2.
Moisture content		(12 ± 3) %
Minimum density	Clause 9	Softwood – 450 kg/m^3 Hardwood – 600 kg/m^3

Table A.17 — National minimum grading characteristics for elements in windows, doors and doorframes for United Kingdom

Element	prEN 942 Class				
	Visible face		Semi Concealed face		Concealed face
	Opaque coating system	Translucent Coating system	Opaque coating system	Translucent Coating system	
Frames to windows and doors	J30	J30	J50	J50	J50
Casement and Sashes	J30	J30	J50	J50	J50
Stiles and Rails to doors	J30	J30	J50	J50	J50
Lipping	J2	J2	J2	J2	J2
Beads and similar small sections	J10	J10	J10	J10	J10
Thresholds, sills	J30	J10	J50	J50	J50
Panelling and infills	J30	J10	J50	J50	J50

Table A.18 — Supplementary recommendations

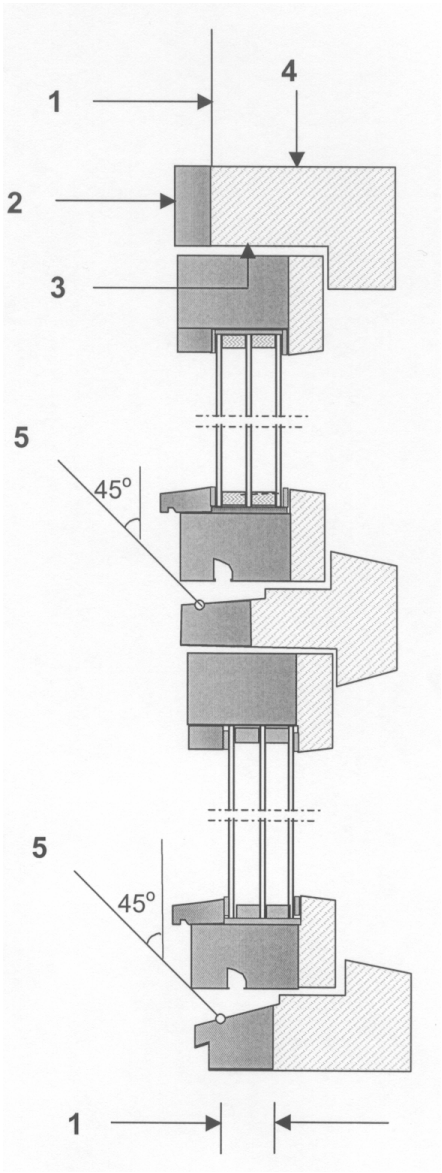
	Clause Number	Recommendations
Finger joints	Clause 5.2.2	Permitted below translucent finishes
Maximum moisture content	Clause 7	Not greater than 19 % for all elements
Minimum density	Clause 9	Softwood - 400 kg/m^3 Hardwood - 500 kg/m^3

Annex B
(informative)

Classification of the face of a window/door

Figures B.1, B.2 and B.3 are also to indicate the principles of determining the depth of weather exposed faces and are not recommendations for a specific window or door.

These principles also apply to doors.



Key

1 Weather exposed face of the window (See Clause 6), minimum 15 mm from the outside and from the point of 45° from the vertical face.

= Use Class 3

2 Visible face

3 Semi-concealed face

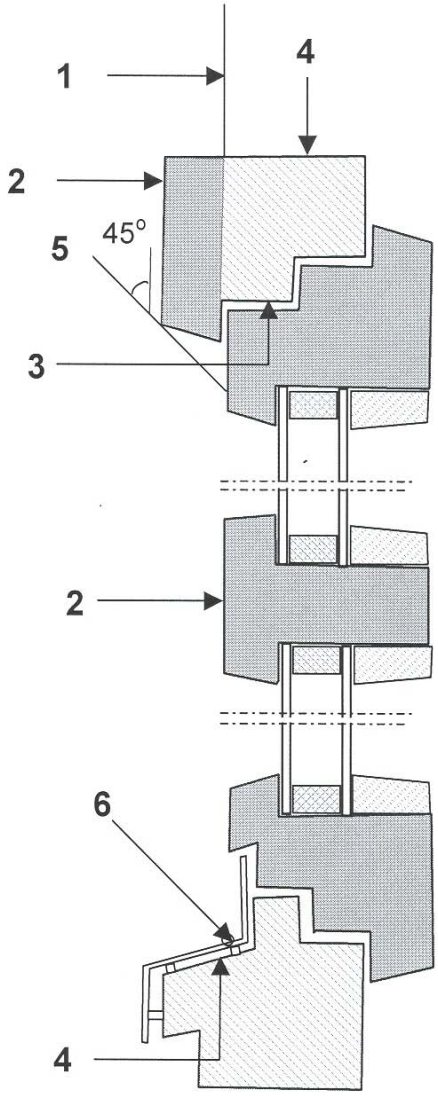
4 Concealed face

5 The "point of 45 ° taken from the vertical face of the horizontal members"

NOTE 1 45 ° is the angle used to determine the point from where the depth of a weather exposed face is measured and is based on the usual slope of rain.

NOTE 2 Where vertical members intersect horizontal members the maximum weather exposed face dimension should apply.

Figure B.1 — Example of vertical section - Outward opening window *(The glazing beads on the outside)*



Key

1 Weather exposed face of the window (See Clause 6), minimum 15 mm from the outside and from the point of 45 ° from the vertical face.

= Use Class 3

2 Visible face

3 Semi-concealed face

4 Concealed face

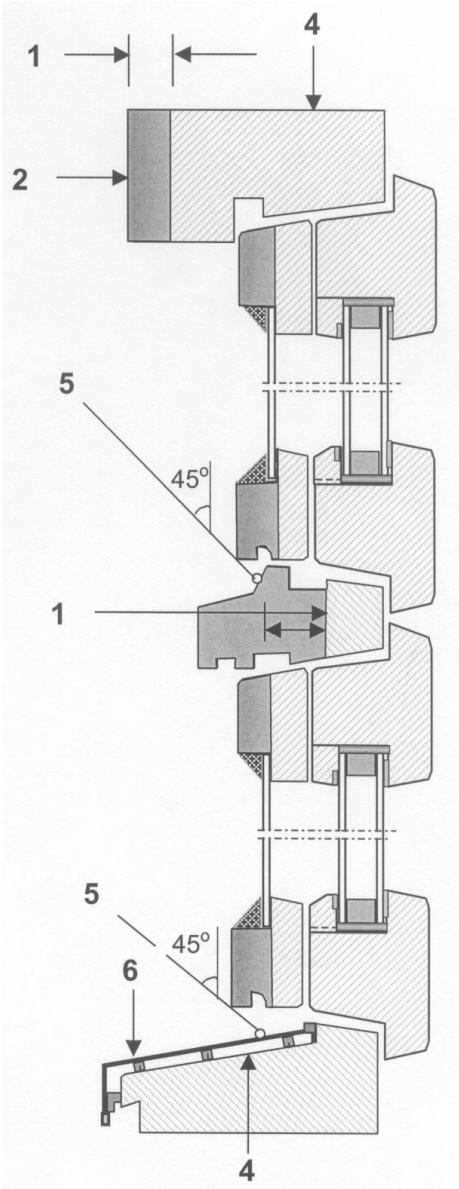
5 The “point of 45 ° taken from the vertical face of the horizontal members”

NOTE 1 45 ° is the angle used to determine the point from where the depth of a weather exposed face is measured and is based on the usual slope of rain.

NOTE 2Where vertical members intersect horizontal members the maximum weather exposed face dimension should apply.

6 Cladding profile

Figure B.2 — Example of vertical section - Inward opening window *(The glazing beads on the inside)*



Key

1 Weather exposed face of the window (See Clause 6), minimum 15 mm from the outside and from the point of 45 ° from the vertical face.

= Use Class 3

2 Visible face

3 Semi-concealed face

4 Concealed face

5 The “point of 45 ° taken from the vertical face of the horizontal members”

NOTE 1 45 ° is the angle used to determine the point from where the depth of a weather exposed face is measured and is based on the usual slope of rain.

NOTE 2 Where vertical members intersect horizontal members the maximum weather exposed face dimension should apply.

6 Cladding profile

Figure B.3 — Example of vertical section - Inward opening coupled window

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