SLOVENSKI PREDSTANDARD

OSIST prEN 13307-2:2004

oct 2004

Timber blanks and semi-finished profiles for non-structural uses - Part 2: Production control

ICS 79.080

Referenčna številka
OSIST prEN 13307-2:2004(en)

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 13307-2

August 2004

ICS

English version

Timber blanks and semi-finished profiles for non-structural uses - Part 2: Production control

Ebauches et profilés semi-finis en bois pour usages non structurels - Partie 2 : Contrôle de production

Holzkanteln und Halbfertigprofile für nichttragende Anwendungen - Teil 2: Produktionskontrolle

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 175.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. prEN 13307-2:2004: E

Contents

Page

Foreword

This document (prEN 13307-2:2004) 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 CEN Enquiry, it was initially submitted to a first enquiry under the reference prEN 13307.

This European Standard is one of a series of standards for timber in joinery.

Introduction

The production requirements and control described in this standard are designed so as to obtain a reliable and durable bonding between the lamellae, in order that the bonds in the glued laminated blanks will maintain their integrity throughout their intended service life. Such blanks are not intended to be used as load-bearing members.

1 Scope

This European Standard specifies the factory production control requirements of timber blanks and semi-finished profiles (products) for non-structural uses, including glueing operations during laminating and/or finger jointing.

Requirements are set for the raw materials, glueline integrity and the manufacturing process.

This specific requirements for dimensions, stability and moisture content are given in prEN 13307-1.

Requirements for mechanical strength of glued laminated timber are covered in EN 386.

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

prEN12765, *Classification of thermosetting wood adhesives for non-structural applications*[1)]

prEN 14257, *Adhesives - Wood adhesives - Determination of tensile shear strength of lap joints at elevated temperatures (WATT '91)*

EN 301, *Adhesives, phenolic and aminoplastic, for load-bearing structures - Classification and performance requirements*

EN 386, *Glued laminated timber - Performance requirements and minimum production requirements*

EN408,*Timber structures – Tet methods – Structural timber and glued laminated timber – Determination of some physical and mechanical properties*

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*

prEN 13307-1, *Timber blanks and semi-finished profiled for non-structural uses – Part 1 : Requirements?*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in prEN 13307-1 and the following apply.

3.1
adhesive failure
failure in the glueline, where an adhesive film may be detected on the matching sheared wood surfaces (compare 3.11 wood failure).

3.2
closed assembly time
interval between joining the lamellae together (with the adhesive already spread on its surface) and the application of pressure and/or heat to the member

---

1) This draft standard is at present (Sept-00) in the CEN/TC193 (Adhesives) for decision concerning Formal

3.3
end-pressure (for finger jointing)
applied lengthways force divided by the lamellae cross-sectional area.

3.4
exposure classes1, 2 and 3
classification system which indicates the average equilibrium wood moisture content for timber blanks and semi-finished profiles in service in service. Described in prEN 13307-1.

3.5
lot
lamellae with same lay-up prepared within the same time period in same production line.

3.6
open assembly time
interval between the spreading of the adhesive onto the lamella, and joining the lamellae together,but not yet applying heat or pressure (compare 3.2 closed assembly time).

3.7
potlife
length of time a ready mixed catalysed adhesive system retains a viscosity low enough to be used in processing.

3.8
pressure
effective perpendicular clamping pressure in the glueline expressed as applied force divided by clamping area.

3.9
thermoplastic adhesive
adhesive capable of being softened by heat and hardened by cooling.

NOTE "hardened" as apposed to "chemically cured"

3.10
thermosetting adhesive
cross-linked adhesive which has undergone a chemical reaction by the action of e g heat, catalysts, ultraviolet light, etc, leading to a relatively infusible state.

3.11
wood failure
failure of the glueline which is not an adhesive failure.

3.12
wood failure percentage
percentage of the wood failure area in relation to the total sheared area.

4 Material requirements

4.1 Timber

4.1.1 Species

The manufacturer shall identify the species used in the production of the profile. If the product is glued the use of a combination of species is permitted, provided sufficient information is available to enable these species to be satisfactorily combined in a glueline.

4.1.2 Timber quality

The manufacturer shall identify the quality of timber used in the production. The requirements for the various timber quality classes are given in prEN 13307-1.

NOTE The timber quality requirements for glued laminated blanks may vary depending on the end use.

4.1.3 Moisture content and dimensions

The manufacturer shall, at the time of production, check the moisture content and the dimensions as specified in pr EN 13307-1. In the case of glued products the manufacturer shall ensure that, at the time of assembly, the moisture content of the wood is within the limits specified by the adhesive manufacturer.

The moisture content of the timber in the completed components shall not exceed the guidance in Table 1 for the particular end uses described.

Table 1 — Typical content levels of timber in particular end uses

Use class (EN 335)	Exposure	Moisture content in service	Examples of end use products
1	Internal E1 and E2	(9 ± 3)%	Internal doors, staircases
2 or 3	External E2 and E3	(12 ± 3)%	External doors, windows
4	Exposed to weather E5	(15 ± 3)%	Fences, external stairs

At assembly, the mean wood moisture content:-

- in every lamella shall be in the range identified by the adhesive manufacturer.
- between any two neighbouring lamellae in the same profile shall not be greater than 3%.

The same requirements apply to wood intended for finger jointing of the lamellae. Moisture content measurements made with calibrated resistance moisture meters are considered satisfactory.

The moisture content of any piece or parcel shall be estimated using the method described in EN 13183–2. In the case of a dispute the method to be used shall be the method described in EN 13183–1.

4.2 Adhesive

The adhesive selected shall be capable of producing strong and durable joints so that the integrity of the bond is maintained throughout the intended lifetime of the product. Adjustments in the formulation of the adhesive system are permitted if approved by the adhesive manufacturer. Minimum adhesive requirements for each of the exposure classes are given in Annex A**.**

5 Manufacturing

5.1 Premises

The premises shall be suitable for all production phases, taking the requirements given in this standard into consideration. Special attention shall be paid to the air temperature and to the relative humidity. The relative humidity in the production premises shall be such that the equilibrium moisture content of the wood can be maintained.

NOTE The temperature in the production and curing shall be maintained above 15 °C. During curing, a higher temperature may be needed, but this requirement may be limited to a specific part of the premises (curing and post-curing chambers).

5.2 Storage

5.2.1 Timber

Timber for use in the production of the finger jointed blanks and laminated profiles shall be stored so as to maintain its moisture content within the limits approved by the adhesive specified.

5.2.2 Adhesive

The adhesive shall be stored according to the adhesive manufacturer's recommendations.

Components of the adhesive system shall be stored according to the adhesives manufacturer's instructions. Adhesives shall not be used later than the expiration date. The storage time is also dependent on the temperature. Fluid resins, hardeners and mixed adhesives shall be stored in closed tanks. Hardeners in powder form shall be kept dry.

5.2.3 Finished components

After bonding and pressing of the components, the adhesive manufacturer's instructions regarding post-curing shall be followed.

5.3 Equipment

Equipment shall be available:

- to continuously monitor and record the temperature and relative humidity (thermohygrograph) in storage, production and curing areas.

- to measure the wood moisture content.

- for any necessary machining to provide surfaces fulfilling the requirements of the thickness tolerances and surface quality

- for weighing and mixing resin and hardener in the required proportions.