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NSAI Standards

Irish Standard
I.S. EN 14080:2013

Timber structures - Glued laminated timber and glued solid timber - Requirements

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14080

June 2013

ICS 79.060.99

Supersedes EN 1194:1999, EN 14080:2005, EN 385:2001, EN 386:2001, EN 387:2001, EN 390:1994, EN 391:2001, EN 392:1995

English Version

Timber structures - Glued laminated timber and glued solid timber - Requirements

Structures en bois - Bois lamellé collé et bois massif reconstitué - Exigences

Holzbauwerke - Brettschichtholz und Balkenschichtholz - Anforderungen

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Foreword

This document (EN 14080:2013) has been prepared by Technical Committee CEN/TC 124 “Timber structures”, 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of an identical text or by endorsement, at the latest by December 2013, and conflicting national standards shall be withdrawn at the latest by December 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 391:2001, EN 392:1995, EN 14080:2005, EN 387:2001, EN 385:2001, EN 390:1994, EN 1194:1999 and EN 386:2001 (see below).

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This standard supersedes the following standards:

— EN 387:2001, *Glued laminated timber — Large finger joints — Performance requirements and minimum production requirements*;

— EN 390:1994, *Glued laminated timber — Sizes, permissible deviations*;

— EN 1194:1999, *Timber structures — Glued laminated timber — Strength classes and determination of characteristic values*;

— EN 14080:2005, *Timber structures — Glued laminated timber — Requirements*.

Regarding glued laminated timber this standard supersedes the following standards:

— EN 385:2001, *Finger jointed structural timber — Performance requirements and minimum production requirement* (superseded by the present document and prEN 15497);

— EN 386:2001, *Glued laminated timber — Performance requirements and minimum production requirements*;

NOTE For glulam made of hardwood species a European Standard is under preparation.

— EN 391:2001, *Glued laminated timber — Delamination test of glue lines*;

— EN 392:1995, *Glued laminated timber — Shear test of glue lines*.

The above standards have been merged into this standard and changed considerably. The list below shows the relevant changes and amendments.

The following have been included:

— Block glued glulam and glued solid timber;

— Requirements for emulsion polymer isocyanate adhesives and for gap-filling adhesives;

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- A uniform denomination for lamination strength classes has been included. These T-classes are related to strength classes given in other European Standards;
- Rules for estimation mechanical properties of glued laminated timber resawn by length;
- Provisions for Resistance to fire;
- Maximum deviations for curved glued laminated products;
- New values for tensile and compression strength perpendicular to the grain, for shear strength and shear modulus, modulus of elasticity parallel and perpendicular to the grain for glued laminated timber with values for rolling shear strength and modulus.

The scope covers glued laminated products made from coniferous species listed in this standard and poplar.

For moisture curing one-component polyurethane adhesives normative reference is now made to EN 15416-5 and EN 15425.

For phenolic and aminoplastic adhesives reference is made to prEN 301 and prEN 302.

With respect to durability against biological attack reference is made to EN 15228.

The performance requirements for finger joints in laminations have been changed.

Requirements have been introduced for the machinery for the separate application of resin and hardener to finger joints in laminations.

The rules for laminations laid side by side and for grooves in laminations have been changed.

The required cramping pressure for the production of large finger joints has been changed.

The evaluation of conformity section and the Annex ZA has been changed according to the revised answer to the mandate.

The rules for marking and labelling have been adopted to the changes mentioned above.

Figure 1 shows the relation of European Standards for structural timber products prepared by CEN/TC 124.

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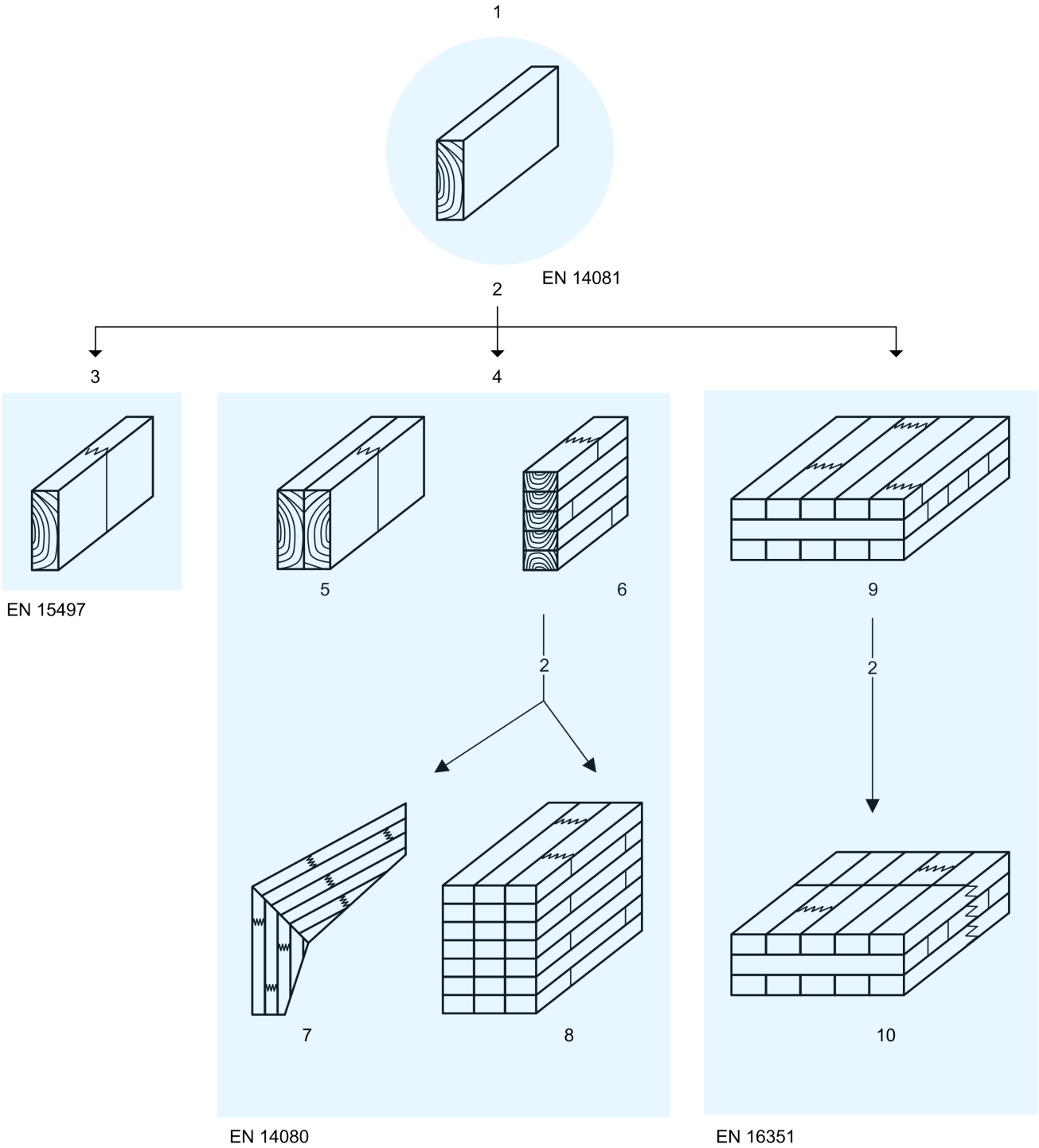

Key

1 boards
2 is a component for
3 structural finger jointed timber
4 glued laminated products
5 glued solid timber
6 glued laminated timber (glulam)
7 glulam with large finger joints
8 block glued glulam
9 cross laminated timber (X-Lam)
10 cross laminated timber (X-Lam) with large finger joints

Figure 1 — Relation of European Standards for structural timber products prepared by CEN/TC 124

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

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1 Scope

This European Standard sets the performance requirements of the following glued laminated products:

— Glued laminated timber (glulam);

— Glued solid timber;

— Glulam with large finger joints;

— Block glued glulam

for use in buildings and bridges.

It also lays down minimum production requirements, provisions for evaluation and attestation of conformity and marking of glued laminated products.

This European Standard is applicable for glued laminated timber made of coniferous species listed in this standard or poplar consisting of two or more laminations having a thickness from 6 mm up to 45 mm (inclusive).

It may be possible to produce glulam made from specific hardwood species based on some provisions of this European Standard. In this case, Annex ZA does not apply.

This European Standard is applicable for glued solid timber made of coniferous species listed in this standard or poplar consisting of two to five laminations having a thickness greater than 45 mm and less than or equal to 85 mm.

This European Standard is applicable for large finger joints in glued laminated timber with a finger length of at least 45 mm.

This European Standard is applicable for block glued glulam having solid rectangular cross sections.

This European Standard also gives the requirements for glued laminated products treated against biological attack. Glued laminated products treated with fire retardants are not covered.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

prEN 301:2011, *Adhesives, phenolic and aminoplastic, for load-bearing timber structures — Classification and performance requirements*

prEN 302-1, *Adhesives for load-bearing timber structures — Test methods — Part 1: Determination of longitudinal tensile shear strength*

prEN 302-2:2011, *Adhesives for load-bearing timber structures — Test methods — Part 2: Determination of resistance to delamination*

prEN 302-3:2011, *Adhesives for load-bearing timber structures — Test methods — Part 3: Determination of the effect of acid damage to wood fibres by temperature and humidity cycling on the transverse tensile strength*

prEN 302-4, *Adhesives for load-bearing timber structures — Test methods — Part 4: Determination of the effect of wood shrinkage on the shear strength*

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