



**NSAI**  
Standards

Irish Standard  
I.S. EN 16351:2015

# Timber structures - Cross laminated timber - Requirements

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**I.S. EN 16351:2015**

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## National Foreword

I.S. EN 16351:2015 is the adopted Irish version of the European Document EN 16351:2015, Timber structures  
- Cross laminated timber - Requirements

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**EUROPEAN STANDARD**

**EN 16351**

**NORME EUROPÉENNE**

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English Version

## **Timber structures - Cross laminated timber - Requirements**

Structures en bois - Bois lamellé croisé - Exigences

Holzbauwerke - Brettsper Holz - Anforderungen

This European Standard was approved by CEN on 29 August 2015.

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## **EN 16351:2015 (E)**

### **European foreword**

This document (EN 16351:2015) 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of an identical text or by endorsement, at the latest by April 2016, and conflicting national standards shall be withdrawn at the latest by July 2017.

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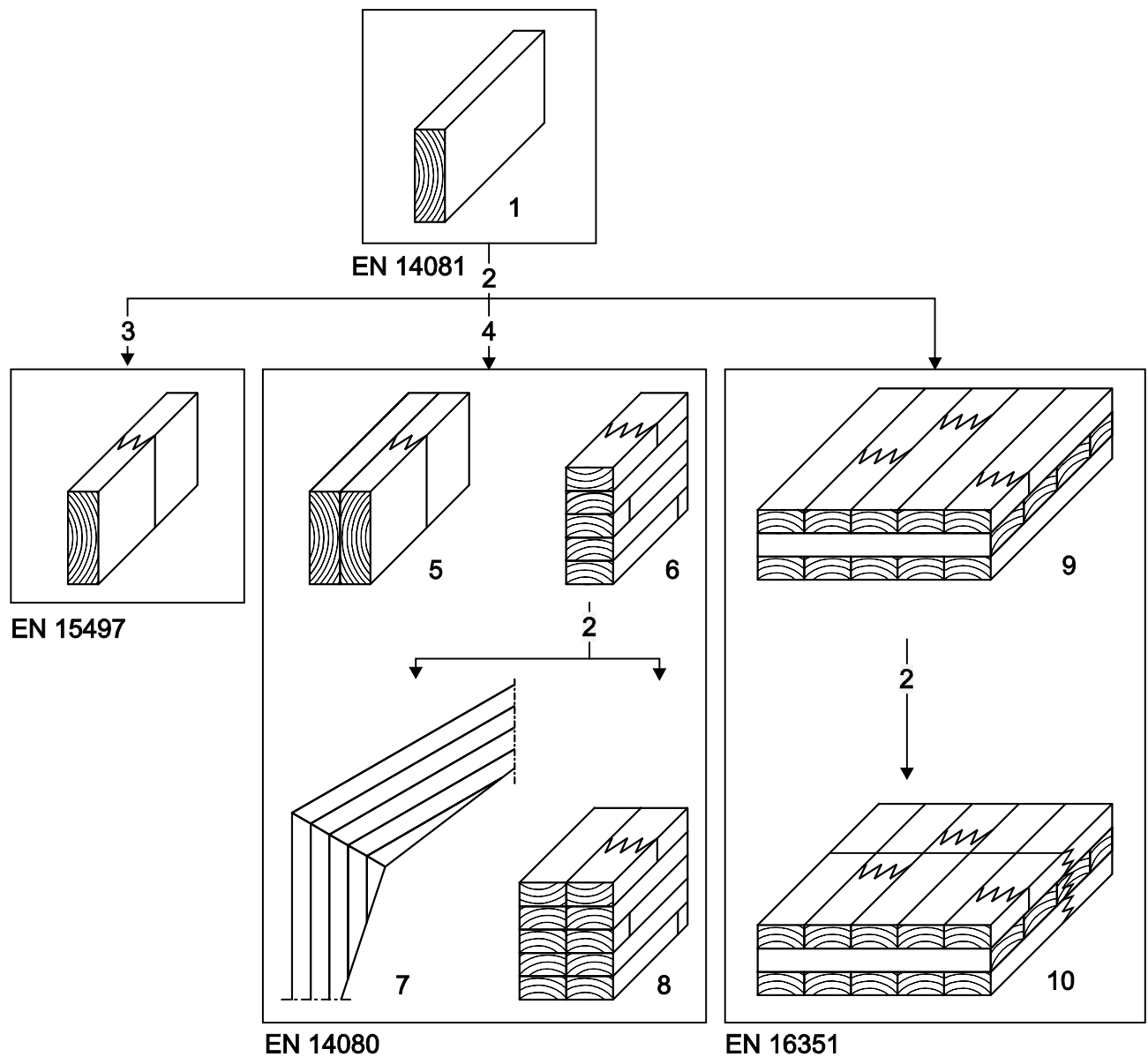
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For relationship with the EU Regulations, see informative Annex ZA, which is an integral part of this document.

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## Introduction

Figure 1 shows the relation of European Standards prepared by CEN/TC 124.



### Key

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

**Figure 1 — Relation of European Standards prepared by CEN/TC 124**

**EN 16351:2015 (E)****1 Scope**

This European Standard sets out provisions regarding the performance characteristics for straight and curved structural cross laminated timber (X-Lam) both without and with large finger joints as a material for the manufacture of structural elements to be used in buildings and bridges.

This European Standard applies to cross laminated timber:

- to be used in service class 1 or 2 according to EN 1995-1-1;
- made of coniferous species and poplar listed in 5.1.5 of this standard;
- built up of at least three orthogonally bonded layers (at least two of them timber layers);
- having, depending on the number of layers, adjacent layers which may be bonded parallel to the grain;
- made of timber layers which are made of strength graded timber according to EN 14081-1;
- made of timber layers having thicknesses between 6 mm and 60 mm (including) taking into account the layup requirements given in this European standard;
- made of timber layers which may be edge bonded or which are not bonded and have spacing less than 6 mm between adjacent laminations;
- which may comprise wood based panel layers made of structural wood based panels specified in this European standard, fulfilling the requirements for use in service class 2 or 3 according to EN 1995-1-1, having no structural joints between the single panels and having thicknesses between 6 mm and 45 mm (including);
- bonded with adhesives, fulfilling the requirements given in this European standard;
- having overall thicknesses up to 500 mm;
- which is not made from reused timber or wood based panels comprising reused timber.

This European Standard also applies to cross laminated timber with large finger joints:

- made from cross laminated timber pieces having the same cross section and layup;
- made from cross laminated timber pieces having cross sectional thicknesses from 51 mm up to 345 mm (inclusive) and minimum thicknesses of the outermost layers not less than 17 mm.
- made from cross laminated timber pieces solely comprising timber layers;
- made from plane cross laminated timber pieces jointed so that no regular change between the grain directions of the layers occurs;
- with finger joints having a finger length of at least 45 mm and fingers which are visible at the two narrow sides of the components.

This European Standard applies to cross laminated timber treated against biological attack. Cross laminated timber treated with fire retardants is not covered.

It also sets out minimum production requirements and procedures for Assessment and Verification of Constancy of Performance.

## 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.

EN 301:2013, *Adhesives, phenolic and aminoplastic, for load-bearing timber structures — Classification and performance requirements*

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

EN 302-2:2013, *Adhesives for load-bearing timber structures — Test methods — Part 2: Determination of resistance to delamination*

EN 302-3:2013, *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*

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

EN 302-6, *Adhesives for load-bearing timber structures — Test methods — Part 6: Determination of the minimum pressing time under referenced conditions*

EN 338, *Structural timber - Strength classes*

EN 350-1, *Durability of wood and wood-based products — Natural durability of solid wood — Part 1: Guide to the principles of testing and classification of the natural durability of wood*

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 408, *Timber structures — Structural timber and glued laminated timber — Determination of some physical and mechanical properties*

EN 717-1, *Wood-based panels — Determination of formaldehyde release — Part 1: Formaldehyde emission by the chamber method*

EN 789:2004, *Timber structures — Test methods — Determination of mechanical properties of wood based panels*

EN 1995-1-1, *Eurocode 5: Design of timber structures — Part 1-1: General — Common rules and rules for buildings*

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 13238, *Reaction to fire tests for building products — Conditioning procedures and general rules for selection of substrates*

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