SLOVENSKI STANDARD
SIST EN 15497:2014

01-julij-2014

Nadomešča:
SIST EN 385:2002

Konstrukcijski zobato spojen masivni les - Zahteve za uporabo in minimalne zahteve za proizvodnjo

Structural finger jointed solid timber - Performance requirements and minimum production requirements

Keilzinkenverbindungen im Bauholz - Leistungsanforderungen und Mindestanforderungen an die Herstellung

Bois massif de structure à entures multiples - Exigences de performances et exigences minimales de fabrication

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/fc9c29c0-923d-41ff-917c-a80398800b08/sist-en-15497-2014

Ta slovenski standard je istoveten z: EN 15497:2014

ICS:

79.040	Les, hlodovina in žagan les	Wood, sawlogs and sawn timber

SIST EN 15497:2014 **en,fr,de**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

SIST EN 15497:2014

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/fc9c29c0-923d-41ff-917c-a80398800b08/sist-en-15497-2014

SIST EN 15497:2014

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 15497

April 2014

ICS 79.040

Supersedes EN 385:2001

English Version

Structural finger jointed solid timber - Performance requirements and minimum production requirements

Bois massif de structure à entures multiples - Exigences de performances et exigences minimales de fabrication

Keilgezinktes Vollholz für tragende Zwecke - Leistungsanforderungen und Mindestanforderungen an die Herstellung

This European Standard was approved by CEN on 6 February 2014.

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 CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists 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 CEN-CENELEC Management Centre has the same status as the official versions.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

CEN members are the national standards bodies of 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 United Kingdom.

SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/fc9c29c0-923d-41ff-917c-a80398800b08/sist-en-15497-2014

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2014 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN 15497:2014 E

SIST EN 15497:2014

Contents

Page

Foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 7

4 Symbols 9
4.1 Main symbols 9
4.2 Subscripts 9

5 Performance characteristics for structural finger jointed timber 10
5.1 Mechanical resistance 10
5.1.1 General 10
5.1.2 Timber 10
5.1.3 Bending strength of finger joints 10
5.1.4 Related material properties 10
5.2 Bonding strength and durability of bonding strength 10
5.2.1 General 10
5.2.2 Species 11
5.2.3 Adhesives for the production of structural finger jointed timber 11
5.3 Durability against biological attack 13
5.3.1 Structural finger jointed timber without preservative treatment 13
5.3.2 Structural finger jointed timber with preservative treatment 13
5.4 Resistance to fire 13
5.5 Reaction to fire 13
5.6 Formaldehyde emission 15
5.7 Release/content of other dangerous substances 15
5.8 Deviation in sizes 15

6 Assessment and Verification of Constancy of Performance (AVCP) 16
6.1 General 16
6.2 Type testing 16
6.2.1 General 16
6.2.2 Test samples, testing and compliance criteria 17
6.2.3 Test reports 19
6.2.4 Shared other party results 19
6.2.5 Cascading determination of the product type results 20
6.3 Factory production control (FPC) 21
6.3.1 General 21
6.3.2 Provisions 21
6.3.3 Product specific provisions 26
6.3.4 Initial inspection of factory and of FPC 26
6.3.5 Continuous surveillance of FPC 27
6.3.6 Procedure for modifications 27

7 Marking and labelling 27

Annex A (normative) Release of Formaldehyde 29
A.1 General 29
A.2 Classification 29
A.2.1 Provisions 29

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/fc9c29c0-923d-41ff-917c-a80398800b08/sist-en-15497-2014

SIST EN 15497:2014

A.2.2 Test procedure 29
A.2.3 Test report 30

Annex B (normative) Additional test methods and provisions for adhesives 31
B.1 General 31
B.2 Long-term sustained load test at cyclic climate conditions with specimens loaded perpendicular to the glue line for moisture curing one-component polyurethane and emulsion polymer isocyanate adhesives 31
B.2.1 General description 31
B.2.2 Production of the specimens 31
B.2.3 Test procedure and climate conditions 32
B.2.4 Provisions 33
B.2.5 Report 33

Annex C (normative) Bending tests with finger joints (including compliance criteria) 34
C.1 Sampling 34
C.1.1 General 34
C.1.2 For type testing 34
C.1.3 For factory production control 34
C.2 Testing 34
C.2.1 General 34
C.2.2 Additional provisions for type testing 34
C.2.3 Additional provisions for factory production control 34
C.3 Compliance criteria 35
C.3.1 For type testing 35
C.3.2 For factory production control 35
C.4 Report 35

Annex D (normative) Measurement of moisture content 37
D.1 General 37
D.2 Measurement of moisture content of timber during production 37
D.3 Mean moisture content of structural finger jointed timber 37

Annex E (normative) Equipment 38

Annex F (normative) Separation tests with finger joints produced with contact-free application of adhesive 39

Annex G (normative) Minimum production provisions 40
G.1 Personnel 40
G.2 Production and storage facilities 40
G.2.1 General 40
G.2.2 Facilities for drying and storage of timber 40
G.2.3 Facilities for processing and storage of adhesives 40
G.2.4 Facilities for production and curing 40
G.3 Equipment 40
G.4 Finger joints 41
G.4.1 Wane and edge damages 41
G.4.2 Finger joint geometry 42
G.4.3 Knots, local grain deviations and fissures 42
G.4.4 Moisture content at bonding 43
G.4.5 Bonding surface and application of the adhesive 43
G.4.6 Time between cutting and adhesive application 44
G.4.7 Pressure 44
G.4.8 Curing 45

Annex ZA (informative) Clauses of this European Standard addressing the provisions of EU Construction Products Regulation 46

Bibliography 57

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/a80398800b08/sist-en-15497-2014

SIST EN 15497:2014

Foreword

This document (EN 15497:2014) 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 October 2014, and conflicting national standards shall be withdrawn at the latest by January 2016.

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, along with EN 14080:2013, supersedes EN 385:2001.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports basic work requirements of Regulation (EU) No 305/2011.

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

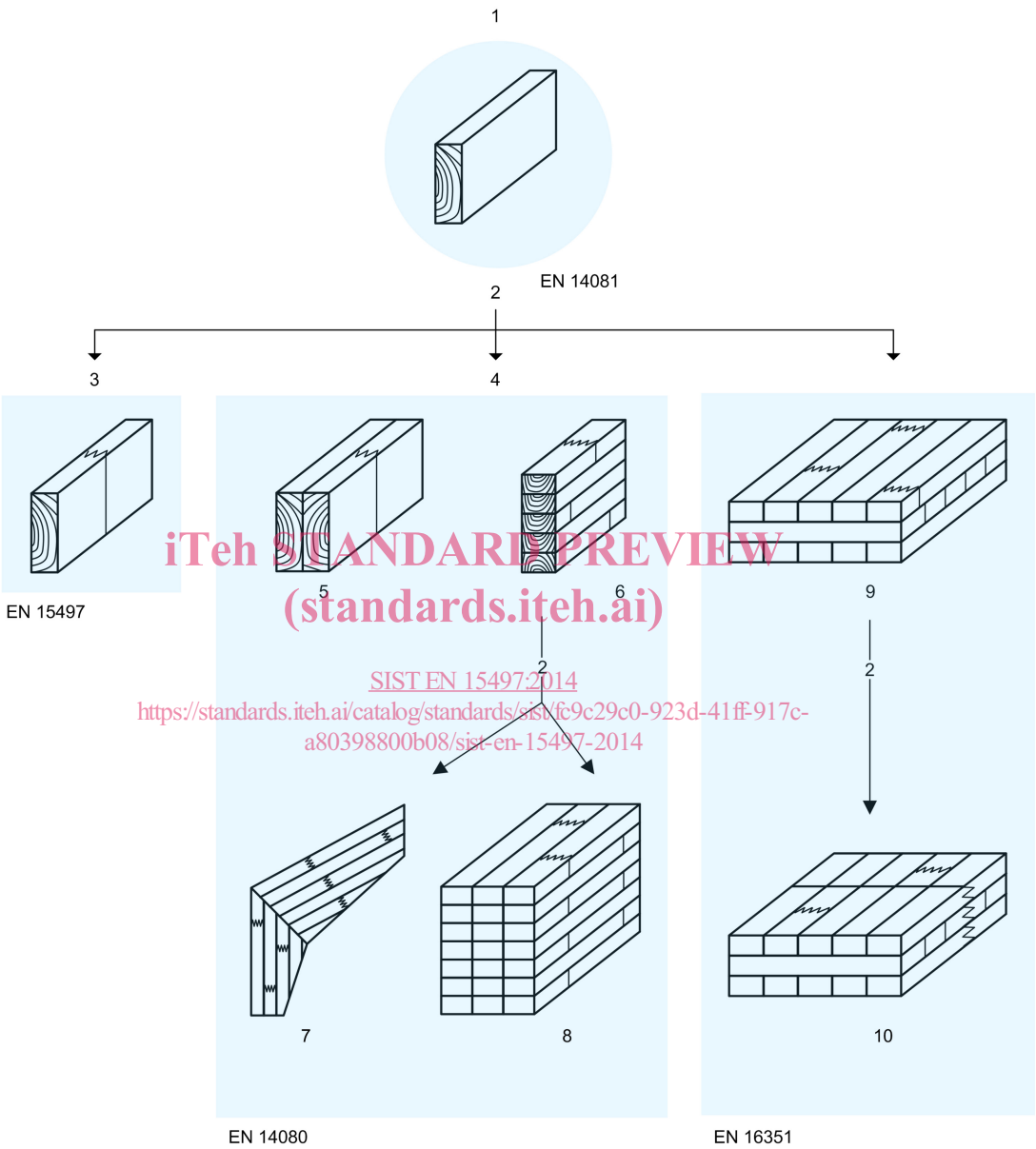
According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany,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

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/fc9c29c0-923d-41ff-917c-a80398800b08/sist-en-15497-2014

SIST EN 15497:2014

Introduction

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



iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/fc9c29c0-923d-41ff-917c-a80398800b08/sist-en-15497-2014

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

SIST EN 15497:2014

1 Scope

This European Standard sets out provisions regarding the performance characteristics for structural finger jointed timber with rectangular cross section for use in buildings and bridges.

The use of structural finger jointed timber may be limited to certain service classes in some member states.

It also lays down minimum production provisions and procedures for Assessment and Verification of Constancy of Performance for structural finger jointed timber.

This European Standard is applicable to structural finger jointed timber made of coniferous timber species listed in this standard or poplar.

Although it may be possible to produce structural finger jointed timber made from specific broadleaf species based on some provisions of this European Standard, this standard is not applicable to these products.

This European Standard is only applicable to finger joints between timber sections of the same species.

This European Standard does not cover impressed (die-formed) finger joints.

This European Standard covers structural finger jointed timber untreated or treated against biological attack. Structural finger jointed timber treated with fire retardants is not covered.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

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.

SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/e7e7e2f3-4ccb-4ff-917c-a80398800b08/sist-en-15497-2014

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 302-5:2013, *Adhesives for load-bearing timber structures — Test methods — Part 5: Determination of maximum assembly time under referenced conditions*

EN 336, *Structural timber — Sizes, permitted deviations*

EN 338, *Structural timber — Strength classes*

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*

SIST EN 15497:2014

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

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*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 13501-2, *Fire classification of construction products and building elements — Part 2: Classification using data from fire resistance tests, excluding ventilation services*

EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item*

EN 14081-1:2005+A1:2011, *Timber structures — Strength graded structural timber with rectangular cross section — Part 1: General requirements*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

EN 14358, *Timber structures — Calculation of characteristic 5-percentile values and acceptance criteria for a sample*

SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/fc9c29c0-923d-41ff-917c-a80398800b08/sist-en-15497-2014

EN 15228:2009, *Structural timber — Structural timber preservative treated against biological attack*

EN 15416-3, *Adhesives for load bearing timber structures other than phenolic and aminoplastic — Test methods — Part 3: Creep deformation test at cyclic climate conditions with specimens loaded in bending shear*

EN 15425:2008, *Adhesives — One component polyurethane for load bearing timber structures — Classification and performance requirements*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
bonding strength
structural effectiveness of adhesives between timber components when subjected to stresses

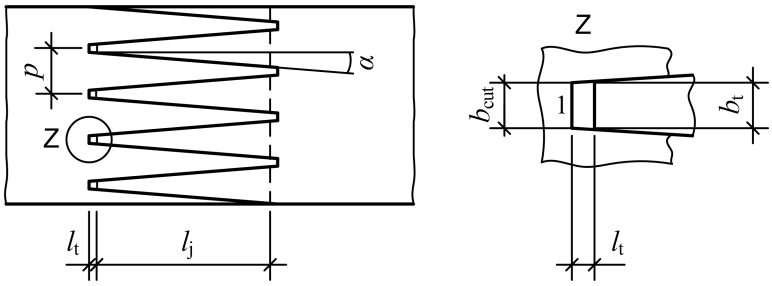
3.2
finger angle
inclination α of each side of the fingers of a finger joint

Note 1 to entry: See Figure 2.

3.3
finger joint
interlocking end joint formed by machining a number of similar, tapered, symmetrical fingers in the ends of timber members using a finger joint cutter and then bonded together

SIST EN 15497:2014

Note 1 to entry: See Figure 2:



Key

1 slot base

l_j finger length

p pitch

α finger angle

l_t tip gap

b_{cut} tip width of the cutter

b_t tip width

Figure 2 — Typical profile of a finger joint

iTeh STANDARD PREVIEW
(standards.iteh.ai)

3.4
finger length
distance between the finger base and the tip of the finger, measured along the centre line of the finger

SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/fc9c29c0-923d-41ff-917c-a80398800b08/sist-en-15497-2014

Note 1 to entry: See Figure 2.

3.5
manufacturer specific strength class
set of characteristic strength, stiffness and density properties declared by a manufacturer

3.6
minimum mean density
required mean density at reference moisture content

Note 1 to entry: Minimum mean density is used for the classification of the reaction to fire.

3.7
pitch
distance between centres of adjacent finger tips

Note 1 to entry: See Figure 2.

3.8
ratio of resin to hardener
proportion of resin and hardener by mass with the resin set at 100 parts

3.9
reduction factor
ratio between tip width and pitch

Note 1 to entry: See Figure 2.

SIST EN 15497:2014

3.10
relative tip gap
ratio between tip gap and finger length

Note 1 to entry: See Figure 2.

3.11
tip gap
distance between finger tip and slot base in a bonded finger joint

Note 1 to entry: See Figure 2.

3.12
tip width
distance between finger faces, measured at the tip of the finger

Note 1 to entry: See Figure 2.

4 Symbols

4.1 Main symbols

A area, in mm^2;

A_W area of one wane, in mm^2;

a_W diagonal length of wane, in mm;

b width of cross section, in mm;

b_{cut} tip width of the cutter, in mm (see Figure 2);

b_t tip width, in mm (see Figure 2);

d diameter, in mm;

e relative tip gap;

f strength, in N/mm^2;

h depth of cross section, in mm;

k_{15} statistical factor;

k_f divisor for flatwise bending;

l_j finger joint length, in mm;

l_t tip gap, in mm (see Figure 2);

p pitch, in mm (see Figure 2);

u moisture content, in %;

v reduction factor of a finger joint;

α finger angle, in degree (see Figure 2).

4.2 Subscripts

dc declared value;

j properties of finger joints;

k characteristic;

m bending;

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/fc9c29c0-923d-41ff-917c-c0398800b08/sist-en-15497-2014

SIST EN 15497:2014

0 parallel to the grain;

05 5 %-fractile.

5 Performance characteristics for structural finger jointed timber

5.1 Mechanical resistance

5.1.1 General

This European Standard covers the following mechanical resistance characteristics: modulus of elasticity and bending strength, compressive strength, tensile strength and shear strength. These characteristics may be determined either by testing or by strength grading according to EN 14081-1 and declared either as individual values or as strength class. For the declaration of the bending strength of the structural finger jointed timber, 5.2.1 shall be taken into account.

In order to allow the calculation of the mechanical resistance of any structural product made with structural finger jointed timber it is necessary to determine and declare also the cross section of the finger jointed timber.

NOTE The above mentioned mechanical resistance characteristics of the structural finger jointed timber, together with the cross section, allow the determination of the mechanical performance of structural elements made with this structural material using the relevant calculation methods applicable in the country of final use.

5.1.2 Timber

iTeh STANDARD PREVIEW
(standards.iteh.ai)

The timber used in the manufacturing of structural finger jointed timber shall be strength graded according to EN 14081-1.

5.1.3 Bending strength of finger joints

SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/fc9c29c0-923d-41ff-917c-a8038800b08/sist-en-15497-2014

The bending strength of the finger joints shall be determined and declared according to Annex C and shall be equal to or greater than the declared characteristic bending strength of the unjointed timber.

If it is intended to manufacture preservative treated structural finger jointed timber it shall be verified that the treatment does not affect the strength of the finger joints.

5.1.4 Related material properties

If the provisions of 5.1.3 are met the strength, stiffness and density properties of structural finger jointed timber shall be declared as the properties of the unjointed timber, e.g. as a strength class according to EN 338.

The designation of strength classes shall be accompanied by the letter M, if machine graded. If the designation of a manufacturer specific strength class is Cxx (where “xx” is the characteristic bending strength) it shall be accompanied by the company name, e.g. C24 AnyCompany.

5.2 Bonding strength and durability of bonding strength

5.2.1 General

Durable and reliable finger joints can only be achieved under accurately defined conditions of production. That general provision shall be considered satisfied if the respective minimum production provisions given in Annex G are fulfilled.

The bonding strength of the finger joints in the finger jointed timber is determined by the bending strength of the finger joints according to Annex C and is declared as the characteristic bending strength of the timber used in the manufacturing of the finger jointed timber.

SIST EN 15497:2014

Durability of bonding strength is declared indirectly by reference to species, adhesive type and adhesive family.

5.2.2 Species

Structural finger jointed timber shall consist of only one species throughout.

This European Standard covers structural finger jointed timber made from one of the following species:

Norway spruce (*Picea abies*, PCAB), Fir (*Abies alba*, ABAL), Scots pine redwood (*Pinus sylvestris*, PNSY), Douglas fir (*Pseudotsuga menziesii*, PSMN), Western Hemlock (*Tsuga heterophylla*, TSHT), Corsican pine (*Pinus nigra Arnold subsp. laricio, PNNL),* Austrian pine (*Pinus nigra Arnold subsp. nigra*, PNNN), European larch (*Larix decidua*, LADC), Siberian larch (*Larix sibirica,* LASI), Dahurian larch (*Larix gmelinii (Rupr.) Kuzen.*), Poplar (Applicable clones: *Populus x euramericana cv "Robusta", "Dorskamp", "I214" and "I4551"*, POAL), Maritime pine (*Pinus pinaster*, PNPN), Radiata-Pine (*Pinus radiata*, PNRD), Sitka-spruce (*Picea sitchensis*, PCST), Southern Yellow pine (*Pinus palustris*, PNPL), Western Red Cedar (*Thuja plicata*, THPL), Yellow Cedar (*Chamaecyparis nootkatensis*, CHNT).

Norway spruce and Fir may be considered as one species.

NOTE 1 Letter codes according to EN 13556, if available, are given after the botanical name.

NOTE 2 Not all of the species listed above have a national grade related to a European strength class in EN 1912.

5.2.3 Adhesives for the production of structural finger jointed timber

iTeh STANDARD PREVIEW
(standards.iteh.ai)

5.2.3.1 General

Adhesives shall enable the production of durable bonds in structural finger jointed timber throughout the lifetime of the structure for the required service class according to EN 1995-1-1.

SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/fe9e29b0-923d-41ff-917c-a80398800b08/sist-en-15497-2014

For structural finger jointed timber used in service class 1 adhesives, which can be assigned to an adhesive type I or II (including subclasses, if relevant) according to EN 301:2013, Table 1, or EN 15425:2008, Table 1, shall be used. For structural finger jointed timber used in service class 2 or 3 adhesives, which can be assigned to an adhesive type I (including subclasses, if relevant) according to EN 301:2013, Table 1, or EN 15425:2008, Table 1, shall be used. Emulsion polymer isocyanate adhesives shall also be assigned to an adhesive type according to EN 15425:2008, Table 1.

Taking into account the restrictions given in the referred subclauses, the following adhesive families are applicable:

— phenolic and aminoplastic adhesives (e.g. MF, MUF, PRF, UF) in accordance with 5.2.3.2;

— moisture curing one-component polyurethane adhesives (PUR) in accordance with 5.2.3.3;

— emulsion polymer isocyanate adhesives (EPI) in accordance with 5.2.3.4.

NOTE The applicability of adhesives may be further limited by national provisions valid at the place of use.

If a preservative treatment is done before the bonding of the timber, it shall be documented that the provisions are fulfilled for the combination of the preservative and adhesive.

5.2.3.2 Phenolic and aminoplastic adhesives

Phenolic and aminoplastic adhesives shall fulfil the provisions of EN 301.

SIST EN 15497:2014

5.2.3.3 Moisture curing one-component polyurethane adhesives

Moisture curing one-component polyurethane adhesives shall fulfil the provisions of EN 15425 and B.2 taking into account the conditions given in B.1.

The provisions given in EN 302-5:2013, 5.1, 2nd paragraph apply. For moisture curing one-component polyurethane adhesives to be used in finger joints in larch wood the delamination test according to EN 302-2 may be replaced by tests according to EN 301:2013, Annex A, with larch wood.

5.2.3.4 Emulsion polymer isocyanate adhesives

5.2.3.4.1 General

Emulsion polymer isocyanate adhesives shall only be used for finger jointed structural timber to be used in service classes 1 and 2.

Emulsion polymer isocyanate adhesives shall be tested in accordance with EN 15425 and B.2 taking into account the conditions given in B.1 and the respective provisions shall be fulfilled.

5.2.3.4.2 Systems tested with a maximum glue line thickness of 0,3 mm

Testing according to EN 15425 and B.1 and B.2 may be done with a maximum glue line thickness of 0,3 mm instead of 0,5 mm if the glue line thicknesses in the finished structural finger jointed timber do not exceed 0,2 mm;

iTeh STANDARD PREVIEW
(standards.iteh.ai)

For tests with a maximum glue line thickness of 0,3 mm the provisions given in EN 15425 shall apply with the following exceptions:

— For bonding strength in longitudinal tensile strength tests according to EN 302-1 with a glue line thickness of 0,3 mm, the provisions given in Table 1 shall be met.

SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/fc9c29c0-923d-41ff-917c-a80398800b08/sist-en-15497-2014

— For creep deformation tests with specimens loaded in bending shear according to EN 15416-3, the specimens shall have a glue line thickness of 0,2 mm.

Table 1 — Required mean shear strength in N/mm^2 for lap shear tests according to EN 15425 for samples glued with EPI having a glue line thickness of 0,3 mm

Treatment	Adhesive type	
	Type I	Type II
A1	9,5	9,5
A2	5,5	5,5
A3	7,6	7,6
A4	5,5	NR [a]
A5	7,6	NR [a]
A6	NR [a]	8,3
A7	7,2	NR [a]

[a] Treatment cycle not required (NR).

SIST EN 15497:2014

5.3 Durability against biological attack

5.3.1 Structural finger jointed timber without preservative treatment

The natural durability of structural finger jointed timber shall be taken as the natural durability of the timber from which it is made and shall be assessed according to EN 14081-1.

5.3.2 Structural finger jointed timber with preservative treatment

Only treatments according to EN 15228:2009, 4.5, which do not affect the strength and stiffness properties of the timber shall be used.

If either preservative treated timber is jointed or structural finger jointed timber is preservative treated, the information given in EN 15228:2009, Clause 6, shall be declared.

NOTE The use of timber preservatives may be restricted by provisions valid at the place of use.

Provisions according to EN 15228 apply to the structural finger jointed timber as supplied, e.g. planing needs to be taken into account regarding retention and penetration depth.

5.4 Resistance to fire

Resistance to fire of structural finger jointed timber shall be declared according to EN 13501-2 indirectly by geometrical data (member sizes) and material properties (charring rate). Charring rate is declared indirectly by declaring both the species and the characteristic density. These parameters allow selecting the appropriate charring rate from the respective fire design code.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

NOTE The above mentioned fire resistance characteristics of the structural finger jointed timber, together with the cross section, allow the determination of the fire resistance performance of structural elements made with this structural material using the relevant calculation methods applicable in the country of final use.

SIST EN 15497:2014
https://standards.iteh.ai/catalog/standards/sist/e9e23e0-923d-4ff-917c-a80398800b08/sist-en-15497-2014

5.5 Reaction to fire

The class of reaction to fire performance of the structural finger jointed timber (including the additional classification on smoke production and flaming droplets/particles, if any), either preservative treated against biological attack or not, shall be determined and declared by either method a) or b), as follows:

a) without the need for further testing (CWFT), as given in Table 2, if the structural finger jointed timber is proved to meet the provisions of the class given therein[1)];

b) or based on testing of the structural finger jointed timber according to the standards, referred to in EN 13501-1, when such a structural finger jointed timber does not meet the provisions of Table 2 or where a higher classification than the one in a) is sought. Tests may be done without conditioning according to EN 13238 with specimens having a moisture content of u ≤ 15 %. The moisture content shall be reported.

The influence of a preservative treatment against biological attack on the performance of reaction to fire shall be taken into account as laid down in EN 15228:2009, 4.4.

1) A Commission´s decision on the applicability of Table 2 for structural finger jointed timber has been filed.