



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

DG ENTREPRISE & INDUSTRIE I/5

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N° Adonis: A/20033

Mr. Reinhard Klein
Head of Unit Construction
DG Enterprise
Rue de la Science 15
1040 BRUSSELS

Ref: HP/CORR/141/ADC

2004-12-16

Subject: Amended response to M/112

Dear Mr. Klein,

I am pleased to send you for acceptance the amended response of CEN/TC 124 'Structural timber' to the mandate M/112 "Structural timber products".

As agreed with the Commission Services, you will also find attached the comments of Dr. Adam Pinney, CEN Consultant, on the answer of CEN/TC 124.

Yours sincerely,

Hugues Plissart
Director
Standards Development

c.c. Mrs. C. Vanden Schrieck

Adam Pinney Phd BSc
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8th December, 2004

Dear Amilcar,

Subject: Response from CEN TC124 to Commission mandate M112

I refer to the document CEN/TC124 N555 rev.1 "Mandate on "Structural Timber products" (M112) – Final answer from CEN/TC124 Structural timber" dated 29.11.2004, this being the final amended response from CEN TC124 to Mandate M112. This is a partial response to the mandate because there are other TCs involved, in particular CEN TC112, CEN TC 256, ECISS TC30 and CEN TC185, whose responses have already been provided.

I have examined this response closely and find that it is fully in line with the requirements of the mandate and forms a completely satisfactory basis for the preparation of harmonised standards.

I have no technical comments to make on the mandate but would draw the attention of the Commission services to the following points:

- the EC should note that several of the harmonised standards listed have either already been submitted to Formal Vote or are at an advanced stage of drafting. The need to get approval for this mandate response is, therefore, urgent;

- the EC should note the request to add mechanically-fixed prefabricated elements, and staples, to the mandate. Both of these products are subject to regulatory requirements. In the case of the elements, the TC suggests a different level of attestation of conformity from that given in the mandate for glued elements;

Mr Amilcar DaCosta
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cc Prof. A. Ranta-Maunas, Chairman, CEN TC124
Mrs R. Rauhala, Secretary, CEN TC124

- the request to add "water vapour permeability" and "thermal conductivity" as mandated characteristics for prefabricated elements (given in 0.5) is justified based on the existence of regulatory requirements;

- in 0.6, the text should read "The standards will make normative reference ... and TC124 will liaise with ...";

- most of the standards proposed do not cover fire-retardant treated timber. The exclusion of "resistance to fire" from most standards is justified for this reason and because, for untreated timber, it is not possible to identify end uses and therefore not practical to carry out tests;

- it is not practical to deal with durability in the way normally recommended for other products, i.e. to state the change in a characteristic against an action. The various standards and methods cited for durability represent the currently-accepted means of declaring durability;

- the non-relevance of certain mandated characteristics, where appropriate in the document, seems to be justified for the reasons given;

- in A.2.1, given the suggested date of FV, I question whether it would not be possible to already add preservative-treated timber to the Scope, using the same approach as for other product groups. This comment also applies to C.3.1;

- in A.3.1, no justification is given for the non-relevance of "dimensional stability". This seems acceptable, however, on the basis that there are no regulatory requirements for this characteristic, and that the structural stability of these products is covered by the different strength characteristics.

Other than these small remarks, I repeat that this response fully conforms to the requirements of the mandate.

Yours sincerely,

A handwritten signature in black ink, consisting of the letters 'A.A.P.' followed by a stylized flourish that ends in a small loop.

Adam Pinney

**MANDATE ON "STRUCTURAL TIMBER PRODUCTS" (M112)
- REPLY FROM CEN/TC124 Timber structures**

0) General comments from TC124 related to the answer to the mandate

0.1) Requests for clarification on the scope of the mandate concerning the products and allocation of work:

None.

0.2) Requests for clarification on the intended use:

None.

0.3) Information on products under the scope of the mandate which are the subject of other CEN/TCs - Information on the organisation of the work between TCs:

None.

0.4) Information on issues concerning the scope and intended uses included in the mandate, for which no work has yet been started in the TC, or for which the TC cannot provide a standard:

See individual Work Item entries.

0.5) Specific requests for additions to the mandate of products, materials, intended uses, essential characteristics, etc.:

TC124 requests the addition of the products "Mechanically fixed prefabricated wall, floor and roof elements" to the mandate (covered by prEN 14732-1, see C.4), and the addition of "Staples" (covered by prEN 14592, see D.1).

TC124 requests the addition of the characteristics "Water vapour permeability" and "Thermal conductivity" for "Prefabricated wall, floor and roof elements" (covered by prEN 14732-1, see C.4).

0.6) Liaison with other TCs for certain horizontal tests - Information on the organisation of the work between the TCs:

The standard will make normative reference to standards from CEN TC127 on reaction and resistance to fire, and will liaise with TC112 in respect of LVL products and wood-based panel products for use in prefabricated wall, floor and roof elements.

The standard may make normative reference to thermal conductivity test standards and/or reference data from CEN TC89.

TC124 also has liaison with TC50 in respect of transmission poles.

0.7) Other issues which the TC considers necessary for the comprehension of the answer to the mandate:

None.

A. Solid structural timber products used in bridges, rail-tracks and buildings

A.1.1 Harmonised product standard

WI 124061, prEN 14081-1

Dates of availability

Stage 32: achieved,

Stage 40: achieved,

Stage 49: 2003/07 (failed)

New Stage 49: 2005/04

- (i) Title : Structural timber with rectangular cross section - Part 1: Grading requirements to strength graded timber
- (ii) Scope : This European Standard lays down the requirements for visual and machine graded structural timber with rectangular cross-sections shaped by sawing, planing or other methods, and having deviations from the target sizes corresponding to EN 336.
- This standard covers structural rectangular timber.
- This standard identifies as a minimum the characteristics for which limits shall be given in visual grading rules.
- Finger jointed timber is not covered in this standard.
- This standard covers untreated products and products treated for biological durability, but does not cover fire retardant treated timber.
- (iii) Int. use : For use in buildings and bridges.
- (iv) The essential characteristics according to the mandate which will be dealt with in the above standard will be :
- modulus of elasticity
 - bending strength
 - compression strength
 - tensile (tension) strength
 - shear strength
 - dimensional stability
 - resistance to fire (not relevant)
 - reaction to fire
 - release of formaldehyde (not relevant)
- (v) Durability Natural durability classification or classification of treated timber (use class, type of preservative, retention class and penetration class).
- (vi) Other aspects : The harmonised product standard will also contain:
- a reference to the Commission's Decision on attestation of conformity,
 - clauses on the evaluation of conformity (including Factory Production Control),
 - guidance on the characteristics to be stated in the labelling accompanying the CE marking and on the way of expressing the determined values of these characteristics.

A.1.2 Supporting standards

The following ENs, prENs and WIs are proposed as test or calculation methods for the determination of the essential characteristics required by the mandate and indicated in clause A.1.1 (iv) above:

Modulus of elasticity: EN 338 *Structural timber - Strength classes* or EN 384 *Structural timber - Determination of characteristic values of mechanical properties and density* - Both published.

Bending strength: EN 338 *Structural timber - Strength classes* or EN 384 *Structural timber - Determination of characteristic values of mechanical properties and density* - Both published.

Compression strength: EN 338 *Structural timber - Strength classes* or EN 384 *Structural timber - Determination of characteristic values of mechanical properties and density* - Both published.

Tension strength: EN 338 *Structural timber - Strength classes* or EN 384 *Structural timber - Determination of characteristic values of mechanical properties and density* - Both published.

Shear strength: EN 338 *Structural timber - Strength classes* or EN 384 *Structural timber - Determination of characteristic values of mechanical properties and density* - Both published.

Dimensional stability: EN 1310:1997 *Round and sawn timber - Method of measurement of features.*

Reaction to fire:

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

Reference to Commission Decision 2003/43/EC (and amendment 2003/593/EC) for materials Classified Without Further Testing (CWFT).

Biological Durability: 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*) and prEN WI 124??? *Structural timber preservative-treated against biological attacks* (Stage 40: 2005/01)

A.1.3 Additional information, comments and remarks

1.3.1 Deviations from a performance approach in the product standard: See 1.3.6 below.

1.3.2 Requests for clarification on the scope of the mandate concerning the product in A.1.1 above: None.

1.3.3 Requests for clarification on the intended uses concerning the product in A.1.1 above: None.

1.3.4 Requests for clarification on the essential characteristics for the intended uses included in the mandate concerning the product under A.1.1 above: None.

1.3.5 Information on essential characteristics required by the mandate concerning the product in A.1.1 above, for which no work has yet been started in the TC, or for which the TC cannot provide a standard:

TC124 considers the characteristic "Resistance to fire" to be not applicable, because it is not possible to know the intended end use conditions for products according to this standard. TC124 also considers "Release of formaldehyde" to be not relevant, because neither treated nor untreated timber contain formaldehyde in any significant quantity.

This standard does not currently cover fire retardant treated products. These will ultimately be covered by a future Amendment to the standard.

1.3.6 Explanation of the state of the art concerning biological durability issues:

There is no direct assessment of the change of the essential characteristics themselves. However, durability is covered by stating either the natural durability class of untreated timber or aspects related to the classification of treated timber (use class, type of preservative, retention class and penetration class).

1.3.7 Information on other Directives under which the product in A.1.1 above falls, and compliance conditions: None.

1.3.8 Specific requests for additions to the mandate of materials, intended uses or essential characteristics concerning the product in A.1.1 above: None.

1.3.9 Other issues which the TC considers necessary for comprehension of the answer to the mandate: None.

A.2.1 Harmonised product standard
WI 124058, prEN 14544

Dates of availability
Stage 32: achieved,
Stage 40: achieved,
Stage 49: 2005/05

(ii) Title : Structural timber with round cross section - Requirements

(ii) Scope : This European Standard lays down requirements for visually graded structural timber with round cross-sections, barked or unbarked and cut to length.

The standard does not cover timber treated against biological attack or fire. [NOTE: Timber treated against biological attack will be covered by a future first Amendment, see A.2.3.6 below]

(iii) Int. use : For use in buildings and bridges.

(iv) The essential characteristics according to the mandate which will be dealt with in the above standard will be :

- modulus of elasticity
- bending strength
- compression strength
- tensile (tension) strength (not relevant)
- shear strength (not relevant)
- dimensional stability (not relevant)
- resistance to fire (not relevant)
- reaction to fire
- release of formaldehyde (not relevant)

(v) Biological durability Natural durability classification [classification of treated timber (use class, type of preservative, retention class and penetration class) will be added by future Amendment, see above].

(vi) Other The harmonised product standard will also contain:
aspects :

- a reference to the Commission's Decision on attestation of conformity,
- clauses on the evaluation of conformity (including Factory Production Control),
- guidance on the characteristics to be stated in the labelling accompanying the CE marking and on the way of expressing the determined values of these characteristics.

A.2.2 Supporting standards

The following ENs, prENs and WIs are proposed as test or calculation methods for the determination of the essential characteristics required by the mandate and indicated in clause A.1 (iv) above:

Modulus of elasticity: EN 14251 *Timber structures – Structural round timber – Determination of the strength and stiffness parallel to grain in bending and compression* and EN 384 *Timber structures – Structural round timber – Determination of the strength and stiffness parallel to grain in bending and compression* - Both published.

Bending strength: EN 14251 *Structural round timber – Test methods* and EN 384 *Structural timber - Determination of characteristic values of mechanical properties and density* - Both published.

Compression strength: EN 14251 *Timber structures – Structural round timber – Determination of the strength and stiffness parallel to grain in bending and compression* and EN 384 *Timber structures – Structural round timber – Determination of the strength and stiffness parallel to grain in bending and compression* - Both published.

Reaction to fire:

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

Reference to Commission Decision 2003/43/EC (and amendment 2003/593/EC) for materials Classified Without Further Testing (CWFT).

Durability: 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*) and prEN WI 124??? *Structural timber preservative-treated against biological attacks* (Stage 40: 2005/01)

A.2.3 Additional information, comments and remarks

2.3.1 Deviations from a performance approach in the product standard: See 2.3.6 below.

2.3.2 Requests for clarification on the scope of the mandate concerning the product in A.2.1 above: None.

2.3.3 Requests for clarification on the intended uses concerning the product in A.2.1 above: None.

2.3.4 Requests for clarification on the essential characteristics for the intended uses included in the mandate concerning the product under A.2.1 above: None.

2.3.5 Information on essential characteristics required by the mandate concerning the product in A.2.1 above, for which no work has yet been started in the TC, or for which the TC cannot provide a standard:

TC124 considers the characteristic "Resistance to fire" to be not applicable, because it is not possible to know the intended end use conditions for products according to this standard. TC124 also considers "Release of formaldehyde" to be not relevant, because neither treated nor untreated timber contain formaldehyde in any significant quantity.

TC124 considers the characteristics "Tension strength", "Shear strength" and "Dimensional stability" to be not relevant because these are not subject to regulatory requirements in any Member State for round timber.

This standard does not currently cover products treated for durability or fire retardant treated products. The former will be covered by a first Amendment, the latter will ultimately be covered by a further Amendment to the standard.

2.3.6 Explanation of the state of the art concerning biological durability issues:

There is no direct assessment of the change of the essential characteristics themselves. However, durability is covered by stating the natural durability class of untreated timber [Aspects related to the classification of treated timber (use class, type of preservative, retention class and penetration class) will be covered by the first Amendment].

2.3.7 Information on other Directives under which the product in A.2.1 above falls, and compliance conditions: None.

2.3.8 Specific requests for additions to the mandate of materials, intended uses or essential characteristics concerning the product in A.2.1 above: None.

2.3.9 Other issues which the TC considers necessary for comprehension of the answer to the mandate: None.

A.3.1 Harmonised product standard
WI 124059, prEN 14250

Dates of availability
Stage 32: achieved,
Stage 40: achieved,
Stage 49: 2003/11

(i) Title : Timber structures - Product requirements for prefabricated trusses using punched metal plate fasteners

(ii) Scope : This European Standard specifies product requirements for prefabricated structural members (e.g. trusses, beams and girders) for use in buildings and bridges made from members of structural timber (with or without finger joints) assembled with punched metal plate fasteners.

The standard also covers methods to carry out the evaluation of conformity and the marking.

(iii) Int. use : For use in buildings and bridges.

(iv) The essential characteristics according to the mandate which will be dealt with in the above standard will be :

modulus of elasticity
bending strength
compression strength
tensile (tension) strength
shear strength
dimensional stability (not relevant)
resistance to fire (not relevant)
reaction to fire
release of formaldehyde (not relevant)

(v) Biological durability Natural durability classification or classification of treated timber (use class, type of preservative, retention class and penetration class).

(vi) Other aspects : The harmonised product standard will also contain:

- a reference to the Commission's Decision on attestation of conformity,
- clauses on the evaluation of conformity (including Factory Production Control),
- guidance on the characteristics to be stated in the labelling accompanying the CE marking and on the way of expressing the determined values of these characteristics.

A.3.2 Supporting standards

The following ENs, prENs and WIs are proposed as test or calculation methods for the determination of the essential characteristics required by the mandate and indicated in clause A.3.1 (iv) above:

Modulus of elasticity: prEN 14081-1 *Structural timber with rectangular cross section - Part 1: Grading requirements to strength graded timber* - (Stage 49 - 2005/03 (second FV)).

Bending strength: prEN 14081-1 *Structural timber with rectangular cross section - Part 1: Grading requirements to strength graded timber* - (Stage 49 - 2005/03).

Compression strength: prEN 14081-1 *Structural timber with rectangular cross section - Part 1: Grading requirements to strength graded timber* - (Stage 49 - 2003/03).

Tension strength: prEN 14081-1 *Structural timber with rectangular cross section - Part 1: Grading requirements to strength graded timber* - (Stage 49 - 2005/03).

Shear strength: prEN 14081-1 *Structural timber with rectangular cross section - Part 1: Grading requirements to strength graded timber* - (Stage 49 - 2005/03).

Reaction to fire:

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

Reference to Commission Decision 2003/43/EC (and amendment 2003/593/EC) for materials Classified Without Further Testing (CWFT).

Durability: 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 – Preservative treated solid wood – Part 1: Classification of preservative penetration and retention* and EN 14545 *Timber structures – Connectors – Requirements*.

A.3.3 Additional information, comments and remarks

3.3.1 Deviations from a performance approach in the product standard: See 3.3.6 below.

3.3.2 Requests for clarification on the scope of the mandate concerning the product in A.3.1 above: None.

3.3.3 Requests for clarification on the intended uses concerning the product in A.3.1 above: None.

3.3.4 Requests for clarification on the essential characteristics for the intended uses included in the mandate concerning the product under A.3.1 above: None.

3.3.5 Information on essential characteristics required by the mandate concerning the product in A.3.1 above, for which no work has yet been started in the TC, or for which the TC cannot provide a standard:

TC124 considers the characteristic "Resistance to fire" to be not applicable, because it is not possible to know the intended end use conditions for products according to this standard. TC124 also considers "Release of formaldehyde" to be not relevant, because neither treated nor untreated timber contain formaldehyde in any significant quantity.

This standard does not currently cover fire retardant treated products. These will ultimately be covered by a future Amendment to the standard.

3.3.6 Explanation of the state of the art concerning biological durability issues:

There is no direct assessment of the change of the essential characteristics themselves. However, durability is covered by stating either the natural durability class of untreated timber or aspects related to the classification of treated timber (usage class, type of preservative, retention class and penetration class).

3.3.7 Information on other Directives under which the product in A.3.1 above falls, and compliance conditions: None.

3.3.8 Specific requests for additions to the mandate of materials, intended uses or essential characteristics concerning the product in A.3.1 above: None.

3.3.9 Other issues which the TC considers necessary for comprehension of the answer to the mandate: None.

B. Timber (wood) poles for overhead lines

B.1 Harmonised product standard WI 124060, prEN 14229

Dates of availability
Stage 32: achieved,
Stage 40: achieved,
Stage 49: 2005/03

- (iii) Title : Wood poles for overhead lines - Requirements
- (ii) Scope : This standard specifies strength, stiffness and durability requirements for wood poles for overhead lines with maximum geometrical deviations within the limits given in EN 12479, 5.3.
- This standard applies to both softwood and hardwood poles untreated or treated against biological attacks.
- This standard covers only single poles under cantilever or compression loading.
- (iii) Int. use : For use in transmission lines.
- (iv) The essential characteristics according to the mandate which will be dealt with in the above standard will be :
- modulus of elasticity
 - bending strength
 - compression strength (not relevant)
 - tensile (tension) strength (not relevant)
- (v) Biological durability Natural durability classification or classification of treated timber (use class, type of preservative, retention class and penetration class).
- (vi) Other aspects : The harmonised product standard will also contain:
- a reference to the Commission's Decision on attestation of conformity,
 - clauses on the evaluation of conformity (including Factory Production Control),
 - guidance on the characteristics to be stated in the labelling accompanying the CE marking and on the way of expressing the determined values of these characteristics.

B.2 Supporting standards

The following ENs, prENs and WIs are proposed as test or calculation methods for the determination of the essential characteristics required by the mandate and indicated in clause B.1 (iv) above:

Modulus of elasticity: EN 12509 *Wood poles for overhead lines – Test methods – Determination of modulus of elasticity, bending strength, density and moisture content* or EN 12511 *Wood poles for overhead lines – Determination of characteristic values*) - Both published.

Bending strength: EN 12509 *Wood poles for overhead lines – Test methods – Determination of modulus of elasticity, bending strength, density and moisture content* or EN 12511 *Wood poles for overhead lines – Determination of characteristic values*) - Both published.

Durability: EN 351-1 *Durability of wood and wood-based products. Natural durability of 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* and EN 12465 *Wood poles for overhead lines – Durability requirements*.

B.3 Additional information, comments and remarks

3.1 Deviations from a performance approach in the product standard: See 3.6 below.

3.2 Requests for clarification on the scope of the mandate concerning the product in B.1 above: None.

3.3 Requests for clarification on the intended uses concerning the product in B.1 above: None.

3.4 Requests for clarification on the essential characteristics for the intended uses included in the mandate concerning the product under B.1 above: None.

3.5 Information on essential characteristics required by the mandate concerning the product in B.1 above, for which no work has yet been started in the TC, or for which the TC cannot provide a standard:

TC124 considers the characteristics "Compressive strength" and "Tension strength" to be not relevant because these are not subject to regulatory requirements in any Member State for wood poles.

3.6 Explanation of the state of the art concerning biological durability issues:

There is no direct assessment of the change of the essential characteristics themselves. However, durability is covered by stating either the natural durability class of untreated timber or aspects related to the classification of treated timber (use class, type of preservative, retention class and penetration class).

3.7 Information on other Directives under which the product in B.1 above falls, and compliance conditions: None.

3.8 Specific requests for additions to the mandate of materials, intended uses or essential characteristics concerning the product in B.1 above: None.

3.9 Other issues which the TC considers necessary for comprehension of the answer to the mandate: None.

C. Structural glued laminated products and other glued timber products

C.1.1 Harmonised product standard

WI 124061, EN 14080

Dates of availability
Stage 32: achieved,
Stage 40: achieved,
Stage 49: 2003/08 (failed)
New Stage 49: 2005/01

(iv) Title : Glued laminated timber - Requirements

(ii) Scope : This European Standard specifies the requirements for glued laminated timber for use in load bearing structures.

It also specifies the requirements for large finger joints in the glued laminated timber.

This standard specifies the requirements for glued laminated timber produced from untreated timber or from timber treated against biological attack

(iii) Int. use : For use in buildings and bridges.

(iv) The essential characteristics according to the mandate which will be dealt with in the above standard will be :

modulus of elasticity
bending strength
compression strength
tensile (tension) strength
shear strength
bonding strength
dimensional stability (not relevant)
resistance to fire (not relevant)
reaction to fire
release of formaldehyde

(v) Biological durability Natural durability classification or classification of treated timber (use class, type of preservative, retention class and penetration class).

(vi) Other aspects : The harmonised product standard will also contain:

- a reference to the Commission's Decision on attestation of conformity,
- clauses on the evaluation of conformity (including Factory Production Control),
- guidance on the characteristics to be stated in the labelling accompanying the CE marking and on the way of expressing the determined values of these characteristics.

C.1.2 Supporting standards

The following ENs, prENs and WIs are proposed as test or calculation methods for the determination of the essential characteristics required by the mandate and indicated in clause C.1.1 (iv) above:

Modulus of elasticity: EN 1194 *Timber structures – Glued laminated timber – Strength classes and determination of characteristic values* - Published.

Bending strength: EN 1194 *Timber structures – Glued laminated timber – Strength classes and determination of characteristic values* - Published.

Compression strength: EN 1194 *Timber structures – Glued laminated timber – Strength classes and determination of characteristic values* - Published.

Tension strength: EN 1194 *Timber structures – Glued laminated timber – Strength classes and determination of characteristic values* - Published.

Shear strength: EN 1194 *Timber structures – Glued laminated timber – Strength classes and determination of characteristic values* - Published.

Bonding strength: EN 408, *Timber structures – Structural and glued laminated timber – Determination of shear strength and mechanical properties perpendicular to the grain* - Published.

Reaction to fire:

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

Reference to Commission Decision 2003/43/EC (and amendment 2003/593/EC) for materials Classified Without Further Testing (CWFT).

Release of formaldehyde: ENV 717-1, *Wood-based panels – Determination of formaldehyde release – Part 1: Formaldehyde emission by the chamber method*.

Durability: EN 386:2001, *Glued laminated timber – Performance requirements and minimum production requirements*. EN 387:2001, *Glued laminated timber – Large finger joints – Performance requirements and minimum production requirements*. EN 390, *Glued laminated timber – Sizes – Permissible deviations*. 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*) and prEN WI 124??? *Structural timber preservative-treated against biological attacks* (Stage 40: 2005/01)

C.1.3 Additional information, comments and remarks

1.3.1 Deviations from a performance approach in the product standard: See 1.3.6 below.

1.3.2 Requests for clarification on the scope of the mandate concerning the product in C.1.1 above: None.

1.3.3 Requests for clarification on the intended uses concerning the product in C.1.1 above: None.

1.3.4 Requests for clarification on the essential characteristics for the intended uses included in the mandate concerning the product under C.1.1 above: None.

1.3.5 Information on essential characteristics required by the mandate concerning the product in C.1.1 above, for which no work has yet been started in the TC, or for which the TC cannot provide a standard:

TC124 considers the characteristic "Resistance to fire" to be not applicable, because it is not possible to know the intended end use conditions for products according to this standard. TC124 also considers the characteristic "Dimensional stability" to be not relevant, because this is not subject to regulatory requirements in any Member State.

This standard does not currently cover fire retardant treated products. These will ultimately be covered by a future Amendment to the standard.

1.3.6 Explanation of the state of the art concerning biological durability issues:

There is no direct assessment of the change of the essential characteristics themselves. However, durability is covered by stating either the natural durability class of untreated timber or aspects related to the classification of treated timber (use class, type of preservative, retention class and penetration class).

1.3.7 Information on other Directives under which the product in C.1.1 above falls, and compliance conditions: None.

1.3.8 Specific requests for additions to the mandate of materials, intended uses or essential characteristics concerning the product in C.1.1 above: None.

1.3.9 Other issues which the TC considers necessary for comprehension of the answer to the mandate: None.

C.2.1 Harmonised product standard
WI 124072, prEN 14374

Dates of availability
Stage 32: achieved,
Stage 40: achieved,
Stage 49: 2003/12 (accepted)

- (v) Title : Timber structures - Structural laminated veneer lumber - Requirements
- (ii) Scope : This European Standard specifies the requirements for laminated veneer lumber for structural applications. The tests to be used, methods to carry out the evaluation of conformity and content of the marking of the product are given.
- This European Standard does not cover laminated veneer lumber treated against biological attack or fire. [NOTE: Timber treated against biological attack will be covered by a future Amendment, see C.2.3.6 below]
- (iii) Int. use : For use in buildings and bridges.
- (iv) The essential characteristics according to the mandate which will be dealt with in the above standard will be :
- modulus of elasticity
 - bending strength
 - compression strength
 - tensile (tension) strength
 - shear strength
 - bonding strength
 - dimensional stability (not relevant)
 - resistance to fire (not relevant)
 - reaction to fire
 - release of formaldehyde
- (v) Biological durability. Natural durability classification [classification of treated timber (use class, type of preservative, retention class and penetration class) will be added by future Amendment, see above].
- (vi) Other aspects : The harmonised product standard will also contain:
- a reference to the Commission's Decision on attestation of conformity,
 - clauses on the evaluation of conformity (including Factory Production Control),
 - guidance on the characteristics to be stated in the labelling accompanying the CE marking and on the way of expressing the determined values of these characteristics.

C.1.2 Supporting standards

The following ENs, prENs and WIs are proposed as test or calculation methods for the determination of the essential characteristics required by the mandate and indicated in clause C.1.1 (iv) above:

Modulus of elasticity: EN 408 *Timber structures – Structural timber and glued laminated timber – Determination of some physical and mechanical properties* - Published.

Bending strength: EN 408 *Timber structures – Structural timber and glued laminated timber – Determination of some physical and mechanical properties* - Published.

Compression strength: EN 408 *Timber structures – Structural timber and glued laminated timber – Determination of some physical and mechanical properties* - Published.

Tension strength: EN 408 *Timber structures – Structural timber and glued laminated timber – Determination of some physical and mechanical properties* - Published.

Shear strength: To edgewise bending, EN 408, *Timber structures – Structural timber and glued laminated timber – Determination of some physical and mechanical properties* - Published; to flatwise bending, EN 789 *Timber structures – Test methods – Determination of mechanical properties of wood based panels* - Both published.

Bonding strength: EN 14374, Annex B.

Reaction to fire:

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

Reference to Commission Decision 2003/43/EC (and amendment 2003/593/EC) for materials Classified Without Further Testing (CWFT).

Release of formaldehyde: ENV 717-1, *Wood-based panels – Determination of formaldehyde release – Part 1: Formaldehyde emission by the chamber method*.

Durability: 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* and prEN WI 124??? *Structural timber preservative-treated against biological attacks* (Stage 40: 2005/01).

C.2.3 Additional information, comments and remarks

2.3.1 Deviations from a performance approach in the product standard: See 2.3.6 below.

2.3.2 Requests for clarification on the scope of the mandate concerning the product in C.2.1 above: None.

2.3.3 Requests for clarification on the intended uses concerning the product in C.2.1 above: None.

2.3.4 Requests for clarification on the essential characteristics for the intended uses included in the mandate concerning the product under C.2.1 above: None.

2.3.5 Information on essential characteristics required by the mandate concerning the product in C.2.1 above, for which no work has yet been started in the TC, or for which the TC cannot provide a standard:

TC124 considers the characteristic "Resistance to fire" to be not applicable, because it is not possible to know the intended end use conditions for products according to this standard. TC124 also considers the characteristic "Dimensional stability" to be not relevant, because this is not subject to regulatory requirements in any Member State.

This standard does not currently cover products treated for durability or fire retardant treated products. The former will be covered by a first Amendment, the latter will ultimately be covered by a further Amendment to the standard.

2.3.6 Explanation of the state of the art concerning biological durability issues:

There is no direct assessment of the change of the essential characteristics themselves. However, durability is covered by stating either the natural durability class of untreated timber [Aspects related to the classification of treated timber (use class, type of preservative, retention class and penetration class) will be covered by the first Amendment].

2.3.7 Information on other Directives under which the product in C.2.1 above falls, and compliance conditions: None.

2.3.8 Specific requests for additions to the mandate of materials, intended uses or essential characteristics concerning the product in C.2.1 above: None.

2.3.9 Other issues which the TC considers necessary for comprehension of the answer to the mandate: None.

C.3.1 Harmonised product standard
WI 124xx1, prEN 385

Dates of availability
Stage 32: achieved,
Stage 40: 2004/12,
Stage 49: 2006/03

(i) Title : Finger jointed structural timber - Performance requirements and minimum production requirements

(ii) Scope : This standard specifies requirements for structural timber with rectangular cross-section with bonded finger joints and minimum requirements for the manufacture of cut, interlocking, bonded finger joints in structural timber members.

This standard is only applicable to finger joints between timber members of the same species type.

The standard covers coniferous species as well as broad-leaved species where information is available to enable them to be satisfactorily bonded.

This standard does not cover impressed (die-formed) joints.

Individual laminations for glued laminated timber are covered by EN 385.

Large finger joints in glued laminated timber members are covered by EN 387.

Structural timber treated against biological attack or fire is not covered in this standard.

(iii) Int. use : For use in buildings and bridges.

(iv) The essential characteristics according to the mandate which will be dealt with in the above standard will be :

modulus of elasticity
bending strength
compression strength
tensile (tension) strength
shear strength
bonding strength
dimensional stability (not relevant)
resistance to fire (not relevant)
reaction to fire
release of formaldehyde

(v) Biological durability Natural durability classification [classification of treated timber (use class, type of preservative, retention class and penetration class) will be added by future Amendment, see above].

(vi) Other aspects : The harmonised product standard will also contain:

- a reference to the Commission's Decision on attestation of conformity,
- clauses on the evaluation of conformity (including Factory Production Control),
- guidance on the characteristics to be stated in the labelling accompanying the CE marking and on the way of expressing the determined values of these characteristics.

C.3.2 Supporting standards

The following ENs, prENs and WIs are proposed as test or calculation methods for the determination of the essential characteristics required by the mandate and indicated in clause C.1.1 (iv) above:

Modulus of elasticity: prEN 14081-1 *Structural timber with rectangular cross section - Part 1: Grading requirements to strength graded timber* - (Stage 49, 2005/03 - second FV).

Bending strength: prEN 14081-1 *Structural timber with rectangular cross section - Part 1: Grading requirements to strength graded timber* - (Stage 49, 2005/03).

Compression strength: prEN 14081-1 *Structural timber with rectangular cross section - Part 1: Grading requirements to strength graded timber* - (Stage 49, 2005/03).

Tension strength: prEN 14081-1 *Structural timber with rectangular cross section - Part 1: Grading requirements to strength graded timber* - (Stage 49, 2005/03).

Shear strength: prEN 14081-1 *Structural timber with rectangular cross section - Part 1: Grading requirements to strength graded timber* - (Stage 49, 2005/03).

Bonding strength: EN 301, *Adhesives, phenolic and aminoplastic for load-bearing timber structures - Classification and performance requirements*.

Reaction to fire:

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

Reference to Commission Decision 2003/43/EC (and amendment 2003/593/EC) for materials Classified Without Further Testing (CWFT).

Release of formaldehyde: ENV 717-1, *Wood-based panels – Determination of formaldehyde release – Part 1: Formaldehyde emission by the chamber method*.

Durability: 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*) and prEN WI 124??? *Structural timber preservative-treated against biological attacks* (Stage 40: 2005/01).

C.3.3 Additional information, comments and remarks

3.3.1 Deviations from a performance approach in the product standard: See 3.3.6 below.

3.3.2 Requests for clarification on the scope of the mandate concerning the product in C.3.1 above: None.

3.3.3 Requests for clarification on the intended uses concerning the product in C.3.1 above: None.

3.3.4 Requests for clarification on the essential characteristics for the intended uses included in the mandate concerning the product under C.3.1 above: None.

3.3.5 Information on essential characteristics required by the mandate concerning the product in C.3.1 above, for which no work has yet been started in the TC, or for which the TC cannot provide a standard:

TC124 considers the characteristic "Resistance to fire" to be not applicable, because it is not possible to know the intended end use conditions for products according to this standard. TC124 also considers the characteristic "Dimensional stability" to be not relevant, because this is not subject to regulatory requirements in any Member State.

This standard does not currently cover products treated for durability or fire retardant treated products. The former will be covered by a first Amendment, the latter will ultimately be covered by a further Amendment to the standard.

3.3.6 Explanation of the state of the art concerning biological durability issues:

There is no direct assessment of the change of the essential characteristics themselves. However, durability is covered by stating either the natural durability class of untreated timber [Aspects related to the classification of treated timber (use class, type of preservative, retention class and penetration class) will be covered by the first Amendment].

3.3.7 Information on other Directives under which the product in C.3.1 above falls, and compliance conditions: None.

3.3.8 Specific requests for additions to the mandate of materials, intended uses or essential characteristics concerning the product in C.3.1 above: None.

3.3.9 Other issues which the TC considers necessary for the comprehension of the answer to the mandate: none.

C.4.1 Harmonised product standard
WI 124075, prEN 14732-1

Dates of availability
Stage 32: achieved,
Stage 40: 2004/02,
Stage 49: 2005/03

- (i) Title : Timber structures - Prefabricated wall, floor and roof elements - Requirements
- (ii) Scope : This standard specifies requirements to wood-based semi-rigidly and rigidly built-up, prefabricated wall, floor and roof elements for use in load bearing structures.
- It also provides for the evaluation of conformity to this standard.
- Note: Protection against noise is not covered, because it can be calculated only for the complete structure, so it is “not relevant”.
- (iii) Int. use : For use in buildings and bridges.
- (iv) The essential characteristics according to the mandate which will be dealt with in the above standard will be :
- modulus of elasticity
 - bending strength
 - compression strength
 - tensile (tension) strength
 - shear strength
 - bonding strength
 - dimensional stability (not relevant)
 - resistance to fire
 - reaction to fire
 - release of formaldehyde
 - water vapour permeability (see 4.3.8)
 - thermal conductivity (see 4.3.8)
- (v) Biological durability Natural durability classification or classification of treated timber (use class, type of preservative, retention class and penetration class).
- (vi) Other aspects : The harmonised product standard will also contain:
- a reference to the Commission’s Decision on attestation of conformity,
 - clauses on the evaluation of conformity (including Factory Production Control),
 - guidance on the characteristics to be stated in the labelling accompanying the CE marking and on the way of expressing the determined values of these characteristics.

C.4.2 Supporting standards

The following ENs, prENs and WIs are proposed as test or calculation methods for the determination of the essential characteristics required by the mandate and indicated in clause C.1.1 (iv) above:

Modulus of elasticity: prEN 14732-2 *Timber structures; Prefabricated wall, floor and roof elements — Part 2: Performance requirements and minimum production requirements* (Stage 40, 2004/02).

Bending strength: prEN 14732-2 *Timber structures; Prefabricated wall, floor and roof elements — Part 2: Performance requirements and minimum production requirements* (Stage 40, 2004/02).

Compression strength: prEN 14732-2 *Timber structures; Prefabricated wall, floor and roof elements — Part 2: Performance requirements and minimum production requirements* (Stage 40, 2004/02).

Tension strength: prEN 14732-2 *Timber structures; Prefabricated wall, floor and roof elements — Part 2: Performance requirements and minimum production requirements* (Stage 40, 2004/02).

Shear strength: prEN 14732-2 *Timber structures; Prefabricated wall, floor and roof elements — Part 2: Performance requirements and minimum production requirements* (Stage 40, 2004/02).

Bonding strength: EN 1995-1-1 *Eurocode 5: Design of timber structures — Part 1-1: General rules and rules for buildings* and prEN 14732-2 *Timber structures; Prefabricated wall, floor and roof elements — Part 2: Performance requirements and minimum production requirements* (Stage 40, 2004/02).

Reaction to fire: EN 13501-1: *Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests* (published).

Resistance to fire: EN 13501-2 *Fire classification of construction products and building elements — Part 2: Classification using data from fire resistance tests (excluding products for use in ventilation systems)*.

Release of formaldehyde: ENV 717-1, *Wood-based panels – Determination of formaldehyde release – Part 1: Formaldehyde emission by the chamber method* and other appropriate published or draft harmonised product (component) standards.

Water vapour permeability: EN 1931 Title unknown.

Thermal conductivity: EN 12524 *Building materials and products — Hygrothermal properties — Tabulated thermal values* EN 12667 *Thermal performance of building materials and products – Determination of thermal resistance by means of guarded hot plate and heat flow meter methods – Products of high and medium thermal resistance* and EN 12939 *Thermal performance of building materials and products – Determination of thermal resistance by means of guarded hot plate and heat flow meter methods – Products of high and medium thermal resistance*.

Durability: 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 351-1 *Durability of wood and wood-based products — Preservative treated solid wood — Part 1: Classification of preservative penetration and retention* and EN 351-2 *Durability of wood and wood-based products — Preservative treated solid wood — Part 2: Guidance on sampling for analysis of preservative treated wood*.

C.4.3 Additional information, comments and remarks

4.3.1 Deviations from a performance approach in the product standard: See 4.3.6 below.

4.3.2 Requests for clarification on the scope of the mandate concerning the product in C.4.1 above:

The mandate current relates only to glued timber products. TC124 requests the addition to the mandate of products which are mechanically fixed only (and which are currently included in this draft

standard). TC124 believes that such products should have attestation level 2+ whereas glued products have level 1.

4.3.3 Requests for clarification on the intended uses concerning the product in C.4.1 above: None.

4.3.4 Requests for clarification on the essential characteristics for the intended uses included in the mandate concerning the product under C.4.1 above: None.

4.3.5 Information on essential characteristics required by the mandate concerning the product in C.4.1 above, for which no work has yet been started in the TC, or for which the TC cannot provide a standard:

TC124 considers the characteristic "Dimensional stability" to be not relevant, because this is not subject to regulatory requirements in any Member State.

This standard does not currently cover fire retardant treated products. These will ultimately be covered by a future Amendment to the standard.

4.3.6 Explanation of the state of the art concerning biological durability issues:

There is no direct assessment of the change of the essential characteristics themselves. However, durability is covered by stating either the natural durability class of untreated timber or aspects related to the classification of treated timber (use class, type of preservative, retention class and penetration class).

4.3.7 Information on other Directives under which the product in C.4.1 above falls, and compliance conditions: None.

4.3.8 Specific requests for additions to the mandate of materials, intended uses or essential characteristics concerning the product in C.4.1 above:

TC124 requests the addition of the characteristics "Water vapour permeability" and "Thermal conductivity", because both of these are subject to regulatory requirements in several Member States.

4.3.9 Other issues which the TC considers necessary for the comprehension of the answer to the mandate: none.

D. Timber fasteners

D.1.1 Harmonised product standard WI 124063, prEN 14592

Dates of availability
Stage 32: achieved,
Stage 40: achieved,
Stage 49: 2004/12

- (i) Title : Timber structures - Dowel-type fasteners - Requirements
- (ii) Scope : This European Standard specifies the requirements for materials, geometry, strength and corrosion protection of dowel-type fasteners for use in timber structures. For the purpose of this standard, dowel-type fasteners for timber structures are taken to be nails, staples, screws, dowels, and bolts. Only products manufactured from steel are covered by this standard. Resin coated fasteners are not covered.
- (iii) Int. use : For use in prefabricated elements, buildings and bridges.
- (iv) The essential characteristics according to the mandate which will be dealt with in the above standard will be :
mechanical strength-stiffness
- (v) Biological durability : This relates to the specification of the protective coatings given to the products, which are covered by four published supporting standards.
- (vi) Other aspects : The harmonised product standard will also contain:
- a reference to the Commission's Decision on attestation of conformity,
- clauses on the evaluation of conformity (including Factory Production Control),
- guidance on the characteristics to be stated in the labelling accompanying the CE marking and on the way of expressing the determined values of these characteristics.

D.1.2 Supporting standards

The following ENs, prENs and WIs are proposed as test or calculation methods for the determination of the essential characteristics required by the mandate and indicated in clause D.1.1 (iv) above:

Mechanical strength-stiffness: Test or classification according to different existing published supporting standards, depending on the type of fastener.

Durability: See D.1.1 (v) above.

D.1.3 Additional information, comments and remarks

1.3.1 Deviations from a performance approach in the product standard: See 1.3.6 below.

1.3.2 Requests for clarification on the scope of the mandate concerning the product in D.1.1 above:

TC124 requests the addition of staples to the mandate. These are subject to the same regulatory requirements and system of attestation of conformity as other fasteners and are included in the current draft standard.

1.3.3 Requests for clarification on the intended uses concerning the product in D.1.1 above: None.

1.3.4 Requests for clarification on the essential characteristics for the intended uses included in the mandate concerning the product under D.1.1 above: None.

1.3.5 Information on essential characteristics required by the mandate concerning the product in D.1.1 above, for which no work has yet been started in the TC, or for which the TC cannot provide a standard: None.

1.3.6 Explanation of the state of the art concerning biological durability issues:

There is no direct assessment of the change of the essential characteristics themselves. However, durability is covered by prescriptive requirements on the coating and protection of the products.

1.3.7 Information on other Directives under which the product in D.1.1 above falls, and compliance conditions: None.

1.3.8 Specific requests for additions to the mandate of materials, intended uses or essential characteristics concerning the product in D.1.1 above: None.

1.3.9 Other issues which the TC considers necessary for comprehension of the answer to the mandate: None.

D.2.1 Harmonised product standard
WI 124064, prEN 14545

Dates of availability
Stage 32: achieved,
Stage 40: achieved,
Stage 49: 2004/12

- (i) Title : Timber structures - Connectors - Requirements
- (ii) Scope : This European Standard specifies the requirements for materials, geometry, strength and durability of connectors for use in load-bearing timber structures. For the purpose of this standard, connectors are taken to be shear plates, split ring connectors, tooth plate connectors, punched metal plate fasteners and nailing plates. Only products manufactured from steel are covered by this standard.
- (iii) Int. use : For use in prefabricated elements, buildings and bridges.
- (iv) The essential characteristics according to the mandate which will be dealt with in the above standard will be :
mechanical strength-stiffness
- (v) Biological durability : This relates to the specification of the protective coatings given to the products, which are covered by four published supporting standards.
- (vi) Other aspects : The harmonised product standard will also contain:
- a reference to the Commission's Decision on attestation of conformity,
 - clauses on the evaluation of conformity (including Factory Production Control),
 - guidance on the characteristics to be stated in the labelling accompanying the CE marking and on the way of expressing the determined values of these characteristics.

D.2.2 Supporting standards

The following ENs, prENs and WIs are proposed as test or calculation methods for the determination of the essential characteristics required by the mandate and indicated in clause D.2.1 (iv) above:

Mechanical strength-stiffness: Test or classification according to different existing published supporting standards, depending on the type of fastener.

Durability: See D.2.1 (v) above.

D.2.3 Additional information, comments and remarks

2.3.1 Deviations from a performance approach in the product standard: See 2.3.6 below.

2.3.2 Requests for clarification on the scope of the mandate concerning the product in D.2.1 above: None.

2.3.3 Requests for clarification on the intended uses concerning the product in D.2.1 above: None.

2.3.4 Requests for clarification on the essential characteristics for the intended uses included in the mandate concerning the product under D.2.1 above: None.

2.3.5 Information on essential characteristics required by the mandate concerning the product in D.2.1 above, for which no work has yet been started in the TC, or for which the TC cannot provide a standard: None.

2.3.6 Explanation of the state of the art concerning biological durability issues:

There is no direct assessment of the change of the essential characteristics themselves. However, durability is covered by prescriptive requirements on the coating and protection of the products.

2.3.7 Information on other Directives under which the product in D.2.1 above falls, and compliance conditions: None.

2.3.8 Specific requests for additions to the mandate of materials, intended uses or essential characteristics concerning the product in D.2.1 above: None.

2.3.9 Other issues which the TC considers necessary for comprehension of the answer to the mandate: None.