EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1995-1-2:2004/AC

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English version
Version Française
Deutsche Fassung

Eurocode 5: Design of timber structures - Part 1-2: General - Structural fire design

Eurocode 5: Conception et Calcul des structures en bois - Part 1-2: Généralités - Calcul des structures au feu

Eurocode 5: Bemessung und Konstruktion von Holzbauten - Teil 1-2: Allgemeine Regeln - Tragwerksbemessung für den Brandfall

This corrigendum becomes effective on 11 March 2009 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 11 mars 2009 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 11.März 2009 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No.:EN 1995-1-2:2004/AC:2009 D/E/F

1.2 Normative references

Paragraph (1)P, delete:

"

EN 520	Gypsum plasterboards - Specifications - Test methods

"

and replace with:

"

EN 520	Gypsum plasterboards – Definitions, requirements and test methods

"

2.4.2 Member analysis

Paragraph (3), delete:

"

ψ_{fi} is the combination factor for frequent values of variable actions in the fire situation, given either by $\psi_{1,1}$ or $\psi_{2,1}$, see EN 1991-1-2:2002;

"

and replace with:

"

ψ_{fi} is the combination factor for frequent values of variable actions in the fire situation, given either by $\psi_{1,1}$ or $\psi_{2,1}$, see EN 1991-1-1;

"

3.4.2 Surfaces unprotected throughout the time of fire exposure

Paragraph (5), delete:

"

For surfaces of timber, unprotected throughout the time of fire exposure, design charring rates β_0 and β_n are given in table 3.1.

"

and replace with:

"

For surfaces of timber and wood-based materials, unprotected throughout the time of fire exposure, design charring rates β_0 and β_n are given in table 3.1.

"

5.2 Analysis of load-bearing function

Paragraph (1), delete:

"

(1) Non-separating load-bearing constructions shall be designed for fire exposure on both sides at the same time.

"

and replace with:

"
(1)P Non-separating load-bearing constructions shall be designed for fire exposure on both sides at the same time.
"

6.2.2.1 Unprotected connections

Paragraph (1), modify to read as follows:

"(1) The rules for bolts and dowels are valid where the thickness of the side plate is equal or greater than t_1, in mm:".

Paragraph (3), modify to read as follows:

"
The design fire resistance of the unprotected connection loaded by the design effect of actions in the fire situation, see 2.4.1, should be taken as:

$$t_{d,fi} = -\frac{1}{k} \ln \frac{\eta_{fi}\ \eta_0\ k_{mod}\ \gamma_{M,fi}}{\gamma_M\ k_{fi}} \tag{6.7}$$

where:

k is a parameter given in table 6.3;

η_{fi} is the reduction factor for the design load in the fire situation, see 2.4.2 (2);

η_0 is the degree of utilisation at normal temperature;

k_{mod} is the modification factor from EN 1995-1-1, subclause 3.1.3;

γ_M is the partial factor for the connection, see EN 1995-1-1, subclause 2.4.1;

k_{fi} is a value according to 2.3 (4);

$\gamma_{M,fi}$ is the partial safety factor for timber in fire, see 2.3(1).
"

A2 Charring rates and charring depths

Equation (A.6), modify to read as follows:

"

$$d_{char} = \begin{cases} \beta_{par} t & \text{for } t \le t_0 \quad \text{(a)} \\ \beta_{par}\left(1{,}5t - \frac{t^2}{4t_0} - \frac{t_0}{4}\right) & \text{for } t_0 < t \le 3t_0 \quad \text{(b)} \\ 2\beta_{par} t_0 & \text{for } 3t_0 < t \le 5t_0 \quad \text{(c)} \end{cases} \tag{A.6}$$

"

B2 Thermal properties

Paragraph (1), delete:

"
(1) For standard fire exposure, values of thermal conductivity, specific heat and the ratio of density of softwood may be taken as given in figures B1 to B3 and tables B1 and B2.
"

and replace with:

"

For standard fire exposure, values of thermal conductivity, specific heat and the ratio of density to dry density of softwood may be taken as given in figures B1 to B3 and tables B1 and B2.

"

Delete Table B2 and replace with:

"

Table B2 – Specific heat capacity and ratio of density to dry density of softwood for service class 1

Temperature °C	**Specific heat capacity** kJ kg^{-1} K^{-1}	**Ratio of density to dry density**[a]
20	1,53	1 + ω
99	1,77	1 + ω
99	13,60	1 + ω
120	13,50	1,00
120	2,12	1,00
200	2,00	1,00
250	1,62	0,93
300	0,71	0,76
350	0,85	0,52
400	1,00	0,38
600	1,40	0,28
800	1,65	0,26
1200	1,65	0
[a] ω is the moisture content		

"

D2 Charring rates

Modify to read as follows:

"

(1) 3.4.3.2(1), (2), (4) and (5) apply.

"

E1 General

Paragraph (1), modify to read as follows:

"The fixing of the panel on the side of the assembly not exposed to fire should be secured into unburnt timber."

E2.1 General

Paragraph (1), delete:

"

The relevant number of layers should be determined from table E1 and figure E2.

"

and replace with:

"

The relevant number of layers should be determined from table E1 and figure E1.

"

E2.3 Position coefficients

Modify to read as follows:

"

(1) For walls with single layered claddings, the position coefficient for panels on the exposed side of walls should be taken from table E3, and for panels on the unexposed side of walls from table E4, utilising the following expressions:

$$k_{pos} = \min \begin{cases} 0{,}02\, h_p + 0{,}54 \\ 1 \end{cases} \quad \text{(E.9)}$$

$$k_{pos} = 0{,}07\, h_p - 0{,}17 \quad \text{(E.10)}$$

where h_p is the thickness of the panel on the exposed side.

Where the exposed panel is made of materials other than gypsum plasterboard type F, the position coefficient, k_{pos}, for a void cavity and an insulation layer should be taken as 1,0. Where the exposed panel is made of gypsum plasterboard type F, the position coefficient should be taken as:

- k_{pos} = 1,5 for a void cavity, or a cavity filled with rock fibre insulation;
- k_{pos} = 2,0 for a cavity filled with glass fibre insulation.

"

Replace Tables 3 and 4 with the following:

"

Table E3 — Position coefficients k_{pos} for single layered panels on the exposed side

Panel on the exposed side	*Thickness* mm	**Position coefficient for panels backed by**	
		rock or glass fibre insulation	**void**
Plywood with characteristic density ≥ 450 kg/m^3	9 to 25	Expression (E.9)	0,8
Particleboard, fibreboard with characteristic density ≥ 600 kg/m^3	9 to 25		
Wood panelling with characteristic density ≥ 400 kg/m^3	15 to 19		
Gypsum plasterboard type A, H, F	9 to 15		

Table E4 — Position coefficients k_{pos} for single layered panels on the unexposed side

Panel on the exposed side	*Thickness of panel on unexposed side* mm	**Position coefficient for panels preceded by**				
		Glass fibre	*Rock fibre of thickness*[a]			**Void**
			45 to 95	*145*	*195*	
Plywood with density ≥ 450 kg/m^3	9 to 25	Expression (E.10)	***1,5***	***3,9***	***4,9***	***0,6***
Particleboard and fibreboard with density ≥ 600 kg/m^3	9 to 25	Expression (E.10)				0,6
Wood panelling with density ≥ 400 kg/m^3	15 19	0,45 0,67				0,6
Gypsum plasterboard type A, H, F	9 to 15	Expression (E.10)				0,7
[a] For intermediate values, linear interpolation may be applied.						

"

E2.4 Effect of joints

Table E.4, first row, second column, delete:

"Thickness of panel on unexposed side"

and replace with:

"Thickness of panel on exposed side*".*