

SVENSK STANDARD

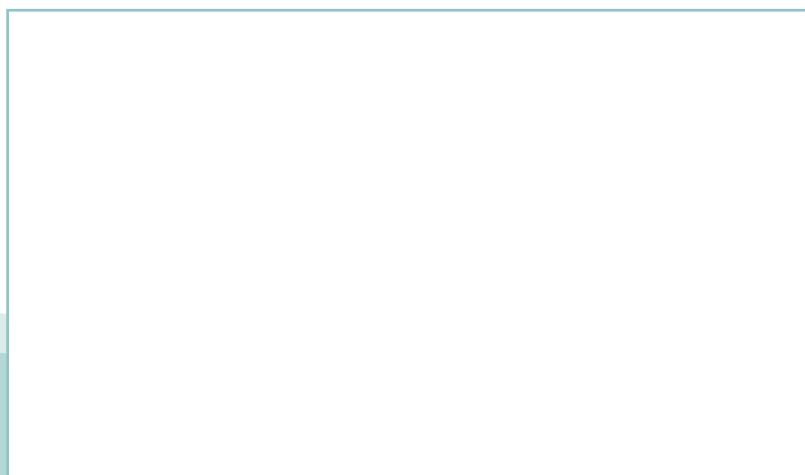
SS-EN 1995-1-2:2004/AC:2010



Fastställt/Approved: 2010-06-15
Publicerad/Published: 2010-08-18
Utgåva/Edition: 1
Språk/Language: engelska/English
ICS: 13.220.50; 91.010.30; 91.070.05; 91.070.70; 91.080.20

Eurokod 5: Dimensionering av träkonstruktioner – Del 1-2: Allmänt – Brandteknisk dimensionering

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



Standarder får världen att fungera

SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.

Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

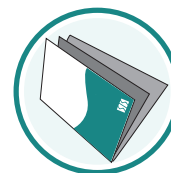
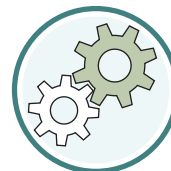
Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på www.sis.se eller ta kontakt med oss på tel 08-555 523 00.



Standards make the world go round

SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.

Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

If you want to know more about SIS, or how standards can streamline your organisation, please visit www.sis.se or contact us on phone +46 (0)8-555 523 00



Europastandarden EN 1995-1-2:2004/AC:2009 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 1995-1-2:2004/AC:2009.

The European Standard EN 1995-1-2:2004/AC:2009 has the status of a Swedish Standard. This document contains the official English version of EN 1995-1-2:2004/AC:2009.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Uppllysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna uppllysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Standarden är framtagen av kommittén för Bärande träkonstruktioner, SIS/TK 182/AG 4.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

EN 1995-1-2:2004/AC

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2009

ICS 91.010.30; 13.220.50; 91.080.20

English version

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.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2009 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

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:

"

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

"

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.
 "