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**Evrokod 6: Projektiranje zidanih konstrukcij - 1-2. del: Splošna pravila - Požarnoodporno projektiranje**

Eurocode 6 - Design of masonry structures - Part 1-2: General rules - Structural fire design

Eurocode 6 - Bemessung und Konstruktion von Mauerwerksbauten - Teil 1-2: Allgemeine Regeln - Tragwerksbemessung für den Brandfall

Eurocode 6 - Calcul des ouvrages en maçonnerie - Partie 1-2: Règles générales - Calcul du comportement au feu

[SIST EN 1996-1-2:2005/AC:2011](https://standards.iteh.ai/catalog/standards/sist/a04caa49-3da5-4861-ad4b-ae9be59273a8/sist-en-1996-1-2-2005-ac-2011)

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**Ta slovenski standard je istoveten z: EN 1996-1-2:2005/AC:2010**

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**ICS:**

13.220.50	Požarna odpornost gradbenih materialov in elementov	Fire-resistance of building materials and elements
91.010.30	Tehnični vidiki	Technical aspects
91.080.30	Zidane konstrukcije	Masonry

**SIST EN 1996-1-2:2005/AC:2011**      **en,fr,de**

**iTeh STANDARD PREVIEW**  
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EUROPEAN STANDARD

**EN 1996-1-2:2005/AC**

NORME EUROPÉENNE

October 2010

EUROPÄISCHE NORM

Octobre 2010

Oktober 2010

ICS 13.220.50; 91.010.30; 91.080.30

English version  
Version Française  
Deutsche Fassung

Eurocode 6 - Design of masonry structures - Part 1-2: General rules -  
Structural fire design

Eurocode 6 - Calcul des ouvrages en  
maçonnerie - Partie 1-2: Règles générales -  
Calcul du comportement au feu

Eurocode 6 - Bemessung und Konstruktion  
von Mauerwerksbauten - Teil 1-2:  
Allgemeine Regeln - Tragwerksbemessung  
für den Brandfall

This corrigendum becomes effective on 27 October 2010 for incorporation in the three official language versions of the EN.

**iTeh STANDARD PREVIEW**

Ce corrigendum prendra effet le 27 octobre 2010 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 27. Oktober 2010 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.

<https://standards.iteh.ai/catalog/standards/sist/a04caa49-3da5-4861-ad4b-ae9be59273a8/sist-en-1996-1-2-2005-ac-2011>



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

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Ref. No.: EN 1996-1-2:2005/AC:2010 D/E/F

**EN 1996-1-2:2005/AC:2010 (E)****1 Modifications to the Foreword**

*Links between Eurocodes and products harmonised technical specifications (ENs and ETAs), 2<sup>nd</sup> paragraph, replace:*

"EN 1996-1-1: Common rules for reinforced and unreinforced masonry structures."

*with:*

"EN 1996-1-1: General rules for reinforced and unreinforced masonry structures".

*Links between Eurocodes and products harmonised technical specifications (ENs and ETAs), 2<sup>nd</sup> paragraph, replace:*

"EN 1996-3: Simplified calculation methods and simple rules for masonry structures"

*with:*

"EN 1996-3: Simplified calculation methods for unreinforced masonry structures".

*National Annex for EN 1996-1-2, 2<sup>nd</sup> paragraph, add a new item at the very beginning of the list:*

"

- 2.1.3(2) Parametric fire exposure;"

*National Annex for EN 1996-1-2, 2nd paragraph, list, replace "2.2 (2)" with "2.2(2)".*

*National Annex for EN 1996-1-2, 2nd paragraph, list, replace "2.3 (2)" with "2.3(2)P".*

*National Annex for EN 1996-1-2, 2nd paragraph, list, delete the line:*

"

- 2.4.2(3) Member analysis;"

*National Annex for EN 1996-1-2, 2nd paragraph, list, replace "3.3.3.2 (1)" with "3.3.3.2(1)".*

*National Annex for EN 1996-1-2, 2nd paragraph, list, replace "3.3.3.3" with "3.3.3.3(1)".*

*National Annex for EN 1996-1-2, 2nd paragraph, last list entry, replace "constant c" with "constant c".*

**2 Modification to 1.2**

*Reference to EN 1996, replace:*

"EN 1996 Design of masonry structures:  
Part 1.1: Common rules for reinforced and unreinforced masonry structures  
Part 2: Design, selection of materials and execution of masonry  
Part 3: Simplified and simple rules for masonry structures"

*with:*

"EN 1996 Design of masonry structures:

Part 1-1: General rules for reinforced and unreinforced masonry structures  
 Part 2: Design considerations, selection of materials and execution of masonry  
 Part 3: Simplified calculation methods for unreinforced masonry structures".

### 3 Modifications to 1.6

1st paragraph, replace "EN 1991-1-1" with "EN 1996-1-1".

List of symbols, delete:

" $f_b$  characteristic unit strength".

List of symbols, delete:

" $h_{ef}$  effective height of the wall".

List of symbols, replace the definition of " $\alpha$ " with the following one: "the ratio of the applied design load on the wall to the design resistance of the wall;".

After the line with " $\Delta t$ " and its definition, add:

"

$\Delta\theta_1$  average temperature rise of the unexposed side;

$\Delta\theta_2$  maximum temperature rise of the unexposed side at any point;".

### 4 Modification to 2.1.2

[SIST EN 1996-1-2:2005/AC:2011](https://standards.iteh.ai/catalog/standards/sist/a04caa49-3da5-4861-ad4b-ae9bc50272a8/sist-en-1996-1-2-2005-ac-2011)

[https://standards.iteh.ai/catalog/standards/sist/a04caa49-3da5-4861-ad4b-](https://standards.iteh.ai/catalog/standards/sist/a04caa49-3da5-4861-ad4b-ae9bc50272a8/sist-en-1996-1-2-2005-ac-2011)

Paragraph (3), replace "140 °K" with "140 K" and replace "180 °K" with "180 K".

### 5 Modifications to 2.1.3

Paragraph (2), in the first bullet point, replace "140°K" with "140 K" and "180°K" with "180 K".

Paragraph (2), replace the second bullet point with the following one:

"

- the average temperature rise of the unexposed side of the construction should be limited to  $\Delta\theta_1$  and the maximum temperature rise of the unexposed side should not exceed  $\Delta\theta_2$  during the decay phase."

Paragraph (2), add the following NOTE:

"NOTE: The recommended values for maximum temperature rise during the decay phase are  $\Delta\theta_1 = 200$  K and  $\Delta\theta_2 = 240$  K. The choice to be made at the national level may be given in the National Annex."

### 6 Modifications to 2.4.2

Paragraph (1), 1st line, replace " $t=0$ " with " $t = 0$ ".

**EN 1996-1-2:2005/AC:2010 (E)**

*Paragraph (3), replace the second paragraph of NOTE 1 with:*

"The values of partial factors for use in a Country may be found in its National Annex for EN 1990. Recommended values are given in EN 1990. The choice of expression (6.10) or (6.10)a and (6.10)b may also be found in the National Annex for EN 1990."

**7 Modification to 4.3**

*Paragraph (4), end of paragraph (4), delete the text "[Rob, deleted render, as it is not considered to be a suitable finish!]"*

**8 Modification to 4.5**

*Paragraph (1), replace "the tables, in Annex B" to "Tables B.1 to B.6 in Annex B".*

**9 Modification to 5.3**

*Paragraph (5), end of the NOTE, delete the second punctuation sign "."*

**10 Modifications to Annex B**

*Paragraph (3), end of the clause, delete "[deleted rendering or plaster again, ref to 4.2(1) is enough]"*

*Paragraph (4), replace "5mm" with "5 mm".*

*Paragraph (4), delete the additional space between "least" and "one"*

*1st columns of Tables B.1 to B.6, add 6 times "gross dry" before "density".*

*In NOTE 1 after Table B.6, replace "perods" with "periods".*

*NOTE 4, replace the sections N.B.1 to N.B.5 with the following ones:*

"

## N.B.1 Clay masonry

Clay units conforming to EN 771-1

**Table N.B.1.1 Clay Masonry Minimum thickness of separating non-loadbearing walls  
(Criterion EI) for fire resistance classifications**

row number	material properties: gross dry density $\rho$ [kg/m <sup>3</sup> ]	Minimum wall thickness (mm) $t_F$ for fire resistance classification EI for time (minutes) $t_{fi,d}$						
		30	45	60	90	120	180	240
1.	<b>Group 1S, 1, 2, 3 and 4 units</b>							
1.1	mortar : general purpose, thin layer, lightweight $500 \leq \rho \leq 2\ 400$							
1.1.1		60/100	90/100	90/100	100/140	100/170	160/190	190/210
1.1.2		(50/70)	(50/70)	(60/70)	(70/100)	(90/140)	(110/140)	(170)

**Table N.B.1.2 Clay masonry minimum thickness of separating loadbearing single-leaf walls  
(Criteria REI) for fire resistance classifications**

row number	material properties: unit strength $f_b$ [N/mm <sup>2</sup> ] gross dry density $\rho$ [kg/m <sup>3</sup> ] combined thickness $ct$ % of wall thickness	Minimum wall thickness (mm) $t_F$ for fire resistance classification REI for time (minutes) $t_{fi,d}$						
		30	45	60	90	120	180	240
1S	<b>Group 1S units</b>							
1S.1	$5 \leq f_b \leq 75$ general purpose mortar $5 \leq f_b \leq 50$ thin layer mortar $1\ 000 \leq \rho \leq 2\ 400$							
1S.1.1	$\alpha \leq 1,0$	90 (70/90)	90 (70/90)	90 (70/90)	100 (70/90)	100/140 (90/140)	170/190 (110/140)	170/190 (170/190)
1S.1.2		(70/90)	(70/90)	(70/90)	(70/90)	(90/140)	(110/140)	(170/190)
1S.1.3	$\alpha \leq 0,6$	90 (70/90)	90 (70/90)	90 (70/90)	100 (70/90)	100/140 (100/140)	170 (110/140)	170 (140/170)
1S.1.4		(70/90)	(70/90)	(70/90)	(70/90)	(100/140)	(110/140)	(140/170)
1	<b>Group 1 units</b> mortar: general purpose, thin layer							
1.2	$5 \leq f_b \leq 75$ $800 < \rho \leq 2\ 400$							
1.2.1	$\alpha \leq 1,0$	90/100 (70/90)	90/100 (70/90)	90/100 (70/90)	100/170 (70/90)	140/170 (100/140)	170/190 (110/170)	190/210 (170/190)
1.2.2		(70/90)	(70/90)	(70/90)	(70/90)	(100/140)	(110/170)	(170/190)
1.2.3	$\alpha \leq 0,6$	90/100 (70/90)	90/100 (70/90)	90/100 (70/90)	100/140 (70/90)	140/170 (100/140)	140/170 (110/170)	190/200 (170/190)
1.2.4		(70/90)	(70/90)	(70/90)	(70/90)	(100/140)	(110/170)	(170/190)
1.3	$5 \leq f_b \leq 25$ $500 \leq \rho \leq 800$							
1.3.1	$\alpha \leq 1,0$	100 (100)	200 (170)	200 (170)	200 (170)	200/365 (200/300)	200/365 (200/300)	300/370 (300/370)
1.3.2		(100)	(170)	(170)	(170)	(200/300)	(200/300)	(300/370)
1.3.3	$\alpha \leq 0,6$	100 (100)	170 (140)	170 (140)	200 (170)	200/365 (200/300)	200/365 (200/300)	300/370 (300/370)
1.3.4		(100)	(140)	(140)	(170)	(200/300)	(200/300)	(300/370)
2	<b>Group 2 units</b>							
2.1	Mortar: general purpose, thin layer $5 \leq f_b \leq 35$ $800 < \rho \leq 2\ 200$ $ct \geq 25\%$							
2.1.1	$\alpha \leq 1,0$	90/100 (90/100)	90/100 (90/100)	90/100 (90/100)	100/170 (100/140)	140/240 (140)	190/240 (190/240)	190/240 (190/240)
2.1.2		(90/100)	(90/100)	(90/100)	(100/140)	(140)	(190/240)	(190/240)
2.1.3	$\alpha \leq 0,6$	90/100 (90)	90/100 (90)	90/100 (90/100)	100/140 (100/140)	190/240 (100/140)	190/240 (140/190)	190/240 (190)
2.1.4		(90)	(90)	(90/100)	(100/140)	(100/140)	(140/190)	(190)

## EN 1996-1-2:2005/AC:2010 (E)

row number	material properties: unit strength $f_b$ [N/mm <sup>2</sup> ] gross dry density $\rho$ [kg/m <sup>3</sup> ] combined thickness $ct$ % of wall thickness	Minimum wall thickness (mm) $t_F$ for fire resistance classification REI for time (minutes)						
		$t_{R,d}$						
		30	45	60	90	120	180	240
2.2	Mortar: general purpose, thin layer and lightweight $5 \leq f_b \leq 25$ $700 \leq \rho \leq 800$ $ct \geq 25\%$							
2.2.1	$\alpha \leq 1,0$	nvg (100)	nvg (100)	nvg (90/170)	nvg (100/240)	nvg (140/300)	nvg (170/365)	nvg
2.2.2								
2.2.3	$\alpha \leq 0,6$	nvg (100)	nvg (100)	nvg (90/140)	nvg (100/170)	nvg (100/300)	nvg (170/300)	nvg (190/300)
2.2.4								
2.3	mortar: general purpose, thin layer and lightweight $5 \leq f_b \leq 25$ $500 < \rho \leq 900$ $16\% \leq ct < 25\%$							
2.3.1	$\alpha \leq 1,0$	nvg (100)	nvg (170)	nvg (90/170)	nvg (140/240)	nvg (140/300)	nvg (365)	nvg
2.3.2								
2.3.3	$\alpha \leq 0,6$	nvg (100)	nvg (140)	nvg (90/140)	nvg (100/170)	nvg (140/300)	nvg (300)	190
2.3.4								
3	<b>Group 3 units</b> mortar: general purpose, thin layer and lightweight							
3.1	$5 \leq f_b \leq 35$ $500 \leq \rho \leq 1\ 200$ $ct \geq 12\%$							
3.1.1	$\alpha \leq 1,0$	nvg (100)	nvg (200)	nvg (240)	nvg (300)	nvg (365)	nvg (425)	nvg
3.1.2								
3.1.3	$\alpha \leq 0,6$	300/365	300/365	300/365	300/365	300/365	300/365	365
3.1.4		(300/365)	(300/365)	(300/365)	(300/365)	(300/365)	(300/365)	(365)
4	<b>Walls in which holes in units are filled with mortar or concrete</b> mortar: general purpose, thin layer							
4.1	$10 \leq f_b \leq 35$ $500 \leq \rho \leq 1\ 200$ $ct \geq 10\%$							
4.1.1	$\alpha \leq 1,0$	90/100 (100)	90/100 (100)	90/100 (100)	140/170 (100)	140/240 (140)	170/240 (170/190)	190/240 (190)
4.1.2								
4.1.3	$\alpha \leq 0,6$	90/100 (90/100)	90/100 (100)	90/100 (90/100)	100/140 (100/140)	100/170 (100/140)	140/240 (140/190)	190/240 (190)
4.1.4								
5	<b>Group 4 units</b> mortar: general purpose, thin layer and lightweight							
5.1	$5 \leq f_b \leq 35$ $500 \leq \rho \leq 1\ 200$							
5.1.1	$\alpha \leq 1,0$	nvg (200/240)	nvg (200/240)	nvg (200/240)	nvg (300)	nvg (365)	nvg (425)	nvg
5.1.2								
5.1.3	$\alpha \leq 0,6$	nvg (200/240)	nvg (200/240)	nvg (200/240)	nvg (240)	nvg (300)	nvg (365)	nvg
5.1.4								



**Table N.B.1.3 Clay masonry minimum thickness of non-separating loadbearing single-leaf walls  $\geq 1,0\text{m}$  in length  
(Criterion R) for fire resistance classifications**

row number	material properties: unit strength $f_b$ [N/mm <sup>2</sup> ] gross dry density $\rho$ [kg/m <sup>3</sup> ] combined thickness $ct$ % of wall thickness	Minimum wall thickness or length (mm) $t_F$ for fire resistance classification R for time (minutes) $t_{f,d}$						
		30	45	60	90	120	180	240
<b>1S</b>	<b>Group 1S units</b>							
1S.1	5 $\leq f_b \leq 75$ general purpose mortar 5 $\leq f_b \leq 50$ thin layer mortar 1 000 $\leq \rho \leq 2\ 400$							
1S.1.1	$\alpha \leq 1,0$	100	100	100	240	365	490	nvg
1S.1.2		(100)	(100)	(100)	(100)	(170)	(240)	nvg
1S.1.3	$\alpha \leq 0,6$	100	100	100	170	240	300	nvg
1S.1.4		(100)	(100)	(100)	(100)	(100)	(200)	nvg
<b>1</b>	<b>Group 1 units</b>							
1.1	mortar: general purpose, thin layer 5 $\leq f_b \leq 75$ 800 $\leq \rho \leq 2\ 400$							
1.1.1	$\alpha \leq 1,0$	100	100	100	240	365	490	nvg
1.1.2		(100)	(100)	(100)	(100)	(170)	(240)	nvg
1.1.3	$\alpha \leq 0,6$	100	100	100	170	240	300	nvg
1.1.4		(100)	(100)	(100)	(100)	(100)	(200)	nvg
1.2	5 $\leq f_b \leq 25$ 500 $\leq \rho \leq 800$							
1.2.1	$\alpha \leq 1,0$	100	100	100	240	365	490	nvg
1.2.2	$f_b < 5\ \text{N/mm}^2$	(100)	(100)	(100)	(100)	(170)	(240)	nvg
1.2.3	$\alpha \leq 0,6$	100	100	100	170	240	300	nvg
1.2.4	$f_b < 3\ \text{N/mm}^2$	(100)	(100)	(100)	(100)	(100)	(200)	nvg
<b>2</b>	<b>Group 2 units</b>							
2.1	mortar: general purpose, thin layer 5 $\leq f_b \leq 35$ 800 $\leq \rho \leq 2\ 200$ $ct \geq 25\%$							
2.1.1	$\alpha \leq 1,0$	100	100	100	240	365	490	nvg
2.1.2		(100)	(100)	(100)	(100)	(170)	(240)	nvg
2.1.3	$\alpha \leq 0,6$	100	100	100	170	240	300	nvg
2.1.4		(100)	(100)	(100)	(100)	(100)	(200)	nvg
2.2	5 $\leq f_b \leq 25$ 700 $\leq \rho \leq 800$ $ct \geq 25\%$							
2.2.1	$\alpha \leq 1,0$	100	100	100	240	365	490	nvg
2.2.2		(100/240)	(100/240)	(100/240)	(100/240)	(170/300)	(240/365)	nvg
2.2.3	$\alpha \leq 0,6$	100	100	100	170	240	300	nvg
2.2.4		(100/170)	(100/170)	(100/170)	(100/240)	(100/240)	(200/300)	nvg
2.3	mortar: general purpose, thin layer and lightweight 5 $\leq f_b \leq 25$ 500 $\leq \rho \leq 900$ 16% $\leq ct \leq 25\%$							
2.3.1	$\alpha \leq 1,0$	nvg	nvg	nvg	nvg	nvg	nvg	nvg
2.3.2		(100/240)	(100/240)	(100/240)	(100/240)	(170/300)	(240/365)	nvg
2.3.3	$\alpha \leq 0,6$	nvg	nvg	nvg	nvg	nvg	nvg	nvg
2.3.4		(100/170)	(100/170)	(100/170)	(100/240)	(100/240)	(200/300)	nvg
<b>3</b>	<b>Group 3 units</b>							

## EN 1996-1-2:2005/AC:2010 (E)

row number	material properties: unit strength $f_b$ [N/mm <sup>2</sup> ] gross dry density $\rho$ [kg/m <sup>3</sup> ] combined thickness $ct$ % of wall thickness	Minimum wall thickness or length (mm) $l_F$ for fire resistance classification R for time (minutes) $t_{fi,d}$							
		30	45	60	90	120	180	240	
3.1	mortar: general purpose, thin layer and lightweight $5 \leq f_b \leq 35$ $500 \leq \rho \leq 1\ 200$ $ct \geq 12\%$								
3.1.1	$\alpha \leq 1,0$	nvg (100)	nvg (170)	nvg (240)	nvg (300)	nvg (365)	nvg (425)	nvg	
3.1.2									
3.1.3	$\alpha \leq 0,6$	nvg (100)	nvg (140)	nvg (170)	nvg (240)	nvg (300)	nvg (365)	nvg	
3.1.4									
4	<b>Walls in which holes in units are filled with mortar or concrete</b>								
4.1	mortar: general purpose, thin layer $10 \leq f_b \leq 35$ $500 \leq \rho \leq 1\ 200$ $ct \geq 10\%$								
4.1.1	$\alpha \leq 1,0$	100 (100)	100 (100)	100 (100)	240 (100)	365 (170)	490 (240)	nvg nvg	
4.1.2									
4.1.3	$\alpha \leq 0,6$	100 (100)	100 (100)	100 (100)	170 (100)	240 (100)	300 (200)	nvg nvg	
4.1.4									
5	<b>Group 4 units</b>								
5.1	mortar: general purpose, thin layer and lightweight $5 \leq f_b \leq 35$ $500 \leq \rho \leq 1\ 200$								
5.1.1	$\alpha \leq 1,0$	nvg (100)	nvg (170)	nvg (240)	nvg (300)	nvg (365)	nvg (425)	nvg	
5.1.2									
5.1.3	$\alpha \leq 0,6$	nvg (100)	nvg (140)	nvg (170)	nvg (240)	nvg (300)	nvg (365)	nvg	
5.1.4									

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**Table N.B.1.4 Clay masonry minimum length of non-separating loadbearing single-leaf walls <1,0m in length (Criterion R) for fire resistance classifications**

row number	material properties: unit strength $f_b$ [N/mm <sup>2</sup> ] gross dry density $\rho$ [kg/m <sup>3</sup> ] combined thickness $ct$ % of wall thickness	wall thickness [mm]	Minimum wall length (mm) $l_F$ for fire resistance classification R for time (minutes) $t_{fi,d}$						
			30	45	60	90	120	180	240
1S	<b>Group 1S units</b>								
1S.1	$5 \leq f_b \leq 75$ general purpose mortar $5 \leq f_b \leq 50$ thin layer mortar $1\ 000 \leq \rho \leq 2\ 400$								
1S.1.1	$\alpha \leq 1,0$	nvg	nvg	nvg	nvg	nvg	nvg	nvg	nvg
1S.1.2									
1S.1.3	$\alpha \leq 0,6$	nvg	nvg	nvg	nvg	nvg	nvg	nvg	nvg
1S.1.4									
1	<b>Group 1 units</b>								
1.1	mortar: general purpose, thin layer $5 \leq f_b \leq 75$ $800 \leq \rho \leq 2\ 400$								
1.1.1		100	990 (490)	990 (600)	990 (600)	nvg (730)	nvg	nvg	nvg
1.1.2	$\alpha \leq 1,0$								
1.1.3		170	600 (240)	730 (240)	730 (240)	990 (365)	nvg (365)	nvg	nvg
1.1.4									

row number	material properties: unit strength $f_b$ [N/mm <sup>2</sup> ] gross dry density $\rho$ [kg/m <sup>3</sup> ] combined thickness $ct$ % of wall thickness	wall thickness [mm]	Minimum wall length (mm) $l_F$ for fire resistance classification R for time (minutes) $t_{fi,d}$							
			30	45	60	90	120	180	240	
1.1.5	$\alpha \leq 0,6$	240	365	490	490	600	nvg	nvg	nvg	
1.1.6			(170)	(170)	(170)	(240)	(240)	(365)	nvg	
1.1.7		300	300	365	365	490	nvg	nvg	nvg	
1.1.8			(170)	(170)	(170)	(200)	(240)	(300)	nvg	
1.1.9		$\alpha \leq 0,6$	100	600	730	730	990	nvg	nvg	nvg
1.1.10				(365)	(490)	(490)	(600)	(730)	nvg	nvg
1.1.11			170	490	600	600	730	990	nvg	nvg
1.1.12				(240)	(240)	(240)	(240)	(300)	nvg	nvg
1.1.13			240	200	240	240	300	365	490	nvg
1.1.14				(170)	(170)	(170)	(170)	(240)	(300)	nvg
1.1.15		300	200	200	200	240	365	490	nvg	
1.1.16			(170)	(170)	(170)	(170)	(170)	(240)	nvg	
1.2	mortar: general purpose, thin layer $5 \leq f_b \leq 25$ $500 \leq \rho \leq 800$									
1.2.1	$\alpha \leq 1,0$	100	990	990	990	nvg	nvg	nvg	nvg	
1.2.2			(490)	(600)	(600)	(730)	nvg	nvg	nvg	
1.2.3		170	600	730	730	990	nvg	nvg	nvg	
1.2.4			(240)	(240)	(240)	(365)	(365)	nvg	nvg	
1.2.5		240	365	490	490	600	nvg	nvg	nvg	
1.2.6			(170)	(170)	(170)	(240)	(240)	(365)	nvg	
1.2.7		300	300	365	365	490	nvg	nvg	nvg	
1.2.8			(170)	(170)	(170)	(200)	(240)	(300)	nvg	
1.2.9	$\alpha \leq 0,6$	100	600	730	730	990	nvg	nvg	nvg	
1.2.10			(365)	(490)	(490)	(600)	(730)	nvg	nvg	
1.2.11		170	490	600	600	730	990	nvg	nvg	
1.2.12			(240)	(240)	(240)	(240)	(300)	nvg	nvg	
1.2.13		240	200	240	240	300	365	490	nvg	
1.2.14			(170)	(170)	(170)	(170)	(170)	(240)	nvg	
1.2.15	300	200	200	200	240	365	490	nvg		
1.2.16		(170)	(170)	(170)	(170)	(170)	(240)	nvg		
2	<b>Group 2 units</b>									
2.1	mortar: general purpose, thin layer $5 \leq f_b \leq 35$ $800 < \rho \leq 2\ 200$ $ct \geq 25\%$									
2.1.1	$\alpha \leq 1,0$	100	990	990	990	nvg	nvg	nvg	nvg	
2.1.2			(490)	(600)	(600)	(730)	nvg	nvg	nvg	
2.1.3		170	600	730	730	990	nvg	nvg	nvg	
2.1.4			(240)	(240)	(240)	(365)	(365)	nvg	nvg	
2.1.5	240	365	490	490	600	nvg	nvg	nvg		
2.1.6		(170)	(170)	(170)	(240)	(240)	(365)	nvg		
2.1.7	300	300	365	365	490	nvg	nvg	nvg		
2.1.8		(170)	(170)	(170)	(200)	(240)	(300)	nvg		
2.1.9	$\alpha \leq 0,6$	100	600	730	730	990	nvg	nvg	nvg	
2.1.10			(365)	(490)	(490)	(600)	(730)	nvg	nvg	
2.1.11		170	490	600	600	730	990	nvg	nvg	
2.1.12			(240)	(240)	(240)	(240)	(300)	nvg	nvg	
2.1.13	240	200	240	240	300	365	490	nvg		
2.1.14		(170)	(170)	(170)	(170)	(240)	(300)	nvg		
2.1.15	300	200	200	200	240	365	490	nvg		
2.1.16		(170)	(170)	(170)	(170)	(170)	(240)	nvg		

## EN 1996-1-2:2005/AC:2010 (E)

row number	material properties: unit strength $f_b$ [N/mm <sup>2</sup> ] gross dry density $\rho$ [kg/m <sup>3</sup> ] combined thickness $ct$ % of wall thickness	wall thickness [mm]	Minimum wall length (mm) $l_f$ for fire resistance classification R for time (minutes) $t_{fi,d}$						
			30	45	60	90	120	180	240
2.2	$5 \leq f_b \leq 25$ $700 \leq \rho \leq 800$ $ct \geq 25\%$								
2.2.1	$\alpha \leq 1,0$	100	990 (490)	990 (600)	990 (600)	nvg (730)	nvg (730)	nvg (730)	nvg (730)
2.2.2									
2.2.3		170	600 (240)	730 (240)	730 (240)	990 (365)	nvg (365)	nvg (365)	nvg (365)
2.2.4									
2.2.5		240	365 (170)	490 (170)	490 (170)	600 (240)	nvg (240)	nvg (240)	nvg (365)
2.2.6									
2.2.7		300	300 (170)	365 (170)	365 (170)	490 (200)	nvg (240)	nvg (300)	nvg (300)
2.2.8									
2.2.9	$\alpha \leq 0,6$	100	600 (365)	730 (490)	730 (490)	990 (600)	nvg (730)	nvg (730)	nvg (730)
2.2.10									
2.2.11		170	490 (240)	600 (240)	600 (240)	730 (240)	990 (300)	nvg (300)	nvg (300)
2.2.12									
2.2.13		240	200 (170)	240 (170)	240 (170)	300 (170)	365 (240)	490 (300)	nvg (300)
2.2.14									
2.2.15		300	200 (170)	200 (170)	200 (170)	240 (170)	365 (170)	490 (240)	nvg (240)
2.2.16									
2.3	$5 \leq f_b \leq 25$ $500 \leq \rho \leq 900$ $16\% < ct \leq 25\%$								
2.3.1	$\alpha \leq 1,0$	100	nvg (490)	nvg (600)	nvg (600)	nvg (730)	nvg (730)	nvg (730)	nvg (730)
2.3.2									
2.3.3		170	nvg (240)	nvg (240)	nvg (240)	nvg (240)	nvg (365)	nvg (365)	nvg (365)
2.3.4									
2.3.5		240	nvg (170)	nvg (170)	nvg (170)	nvg (240)	nvg (240)	nvg (365)	nvg (365)
2.3.6									
2.3.7		300	nvg (170)	nvg (170)	nvg (170)	nvg (200)	nvg (240)	nvg (300)	nvg (300)
2.3.8									
2.3.9	$\alpha \leq 0,6$	100	nvg (365)	nvg (490)	nvg (490)	nvg (600)	nvg (730)	nvg (730)	nvg (730)
2.3.10									
2.3.11		170	nvg (240)	nvg (240)	nvg (240)	nvg (240)	nvg (300)	nvg (300)	nvg (300)
2.3.12									
2.3.13		240	nvg (170)	nvg (170)	nvg (170)	nvg (170)	nvg (240)	nvg (300)	nvg (300)
2.3.14									
2.3.15		300	nvg (170)	nvg (170)	nvg (170)	nvg (170)	nvg (170)	nvg (240)	nvg (240)
2.3.16									
2.3.17	365	nvg (100)	nvg (170)	nvg (170)	nvg (170)	nvg (170)	nvg (240)	nvg (240)	
2.3.18									

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<https://standards.itech.ai/catalog/standards/sist/en-1996-1-2:2005/ac:2011>

row number	material properties: unit strength $f_b$ [N/mm <sup>2</sup> ] gross dry density $\rho$ [kg/m <sup>3</sup> ] combined thickness $ct$ % of wall thickness	wall thickness [mm]	Minimum wall length (mm) $l_f$ for fire resistance classification R for time (minutes) $t_{fi,d}$							
			30	45	60	90	120	180	240	
3	<b>Group 3 units</b>									
3.1	mortar: general purpose and lightweight $5 \leq f_b \leq 35$ $500 \leq \rho \leq 1\ 200$ $ct \geq 12\%$									
3.1.1	$\alpha \leq 1,0$	240	nvg (240)	nvg (240)	nvg (240)	nvg (300)	nvg (300)	nvg (365)	nvg nvg	
3.1.2		300	nvg (240)	nvg (240)	nvg (240)	nvg (240)	nvg (240)	nvg (300)	nvg	
3.1.3			365	nvg (240)	nvg (240)	nvg (240)	nvg (240)	nvg (240)	nvg (240)	nvg
3.1.4				nvg (240)	nvg (240)	nvg (240)	nvg (240)	nvg (240)	nvg (240)	nvg
3.1.5		$\alpha \leq 0,6$	240	nvg (240)	nvg (240)	nvg (240)	nvg (240)	nvg (240)	nvg (365)	nvg nvg
3.1.6			300	nvg (170)	nvg (170)	nvg (170)	nvg (170)	nvg (240)	nvg (240)	nvg nvg
3.1.7	365			nvg (170)	nvg (170)	nvg (170)	nvg (170)	nvg (240)	nvg (240)	nvg nvg
3.1.8				nvg (170)	nvg (170)	nvg (170)	nvg (170)	nvg (240)	nvg (240)	nvg
3.1.9	300		nvg (170)	nvg (170)	nvg (170)	nvg (170)	nvg (240)	nvg (240)	nvg nvg	
3.1.10			nvg (170)	nvg (170)	nvg (170)	nvg (170)	nvg (240)	nvg (240)	nvg	
3.1.11	365	nvg (170)	nvg (170)	nvg (170)	nvg (170)	nvg (240)	nvg (240)	nvg nvg		
3.1.12		nvg (170)	nvg (170)	nvg (170)	nvg (170)	nvg (240)	nvg (240)	nvg		
4	<b>Walls in which holes in units are filled with mortar or concrete</b>									
4.1	mortar: general purpose and thin layer $10 \leq f_b \leq 35$ $500 \leq \rho \leq 1\ 200$ $ct \geq 10\%$									
4.1.1	$\alpha \leq 1,0$	100	990 (490)	990 (600)	990 (600)	nvg (730)	nvg nvg	nvg nvg	nvg nvg	
4.1.2		170	600	730	730	990	nvg	nvg	nvg	
4.1.3			990	nvg	nvg	nvg	nvg	nvg		
4.1.4			365	490	490	600	nvg	nvg	nvg	
4.1.5			240	(240)	(170)	(170)	(240)	(240)	(365)	nvg
4.1.6		300	300	365	365	490	nvg	nvg	nvg	
4.1.7			(170)	(170)	(170)	(200)	(240)	(300)	nvg	
4.1.8			100	600	730	730	990	nvg	nvg	
4.1.9	(365)		(490)	(490)	(600)	(730)	nvg	nvg		
4.1.10	$\alpha \leq 0,6$	170	490	600	600	730	990	nvg		
4.1.11		(240)	(240)	(240)	(240)	(300)	nvg	nvg		
4.1.12		240	200	240	240	300	365	490		
4.1.13		(170)	(170)	(170)	(170)	(240)	(300)	nvg		
4.1.14	300	200	200	200	240	365	490	nvg		
4.1.15		(170)	(170)	(170)	(170)	(170)	(240)	nvg		
4.1.16										