



Продуктов каталог

на сглобяеми
стоманобетонoви елементи

ЗСК СТОМАНОБЕТОН

1870, София, България

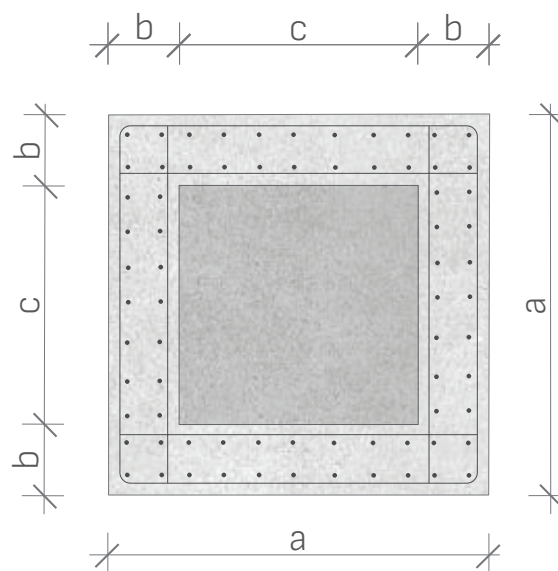
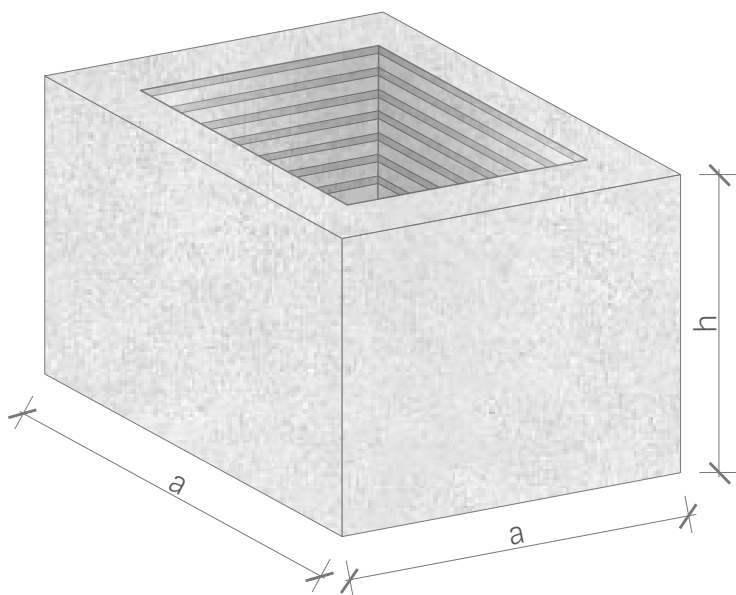
Индустрoиална зона Кремиковци

e-mail: zsk1960@abv.bg

тeл: +359 2 994 34 64

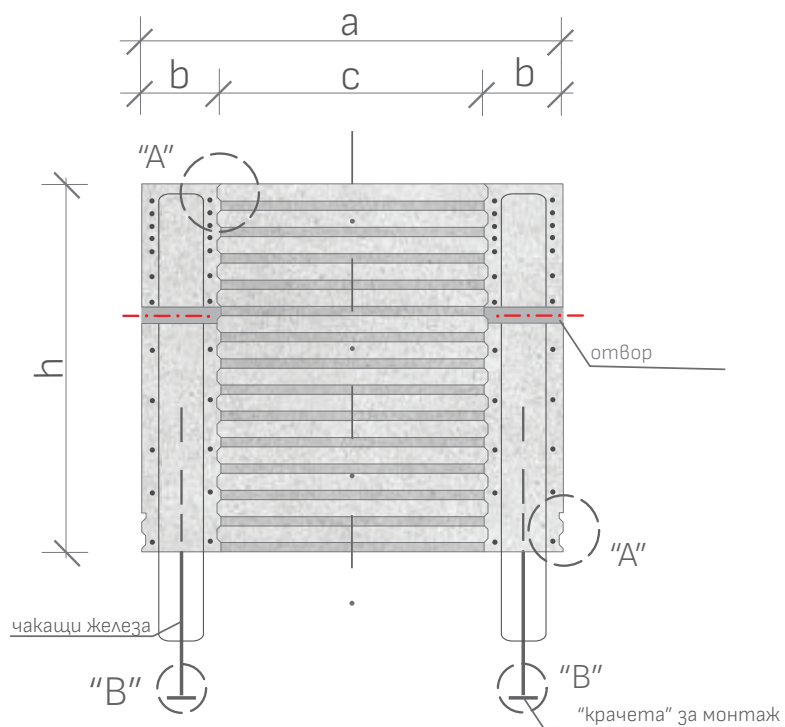
факс: +359 2 994 35 15



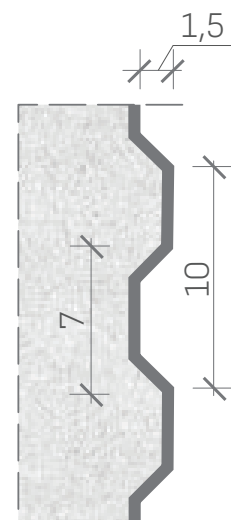


МАТЕРИАЛ	ХАРАКТЕРИСТИКИ
Бетон	C≥35/45
Стомана	B500

КОЛОНА	ЧАШКА			
	a	b	c	h
30/30	100	25	50	*
40/40	110	25	60	*
50/50	120	25	70	*
60/60	130	25	80	*
70/70	150	30	90	*
75/75	155	30	95	*
80/80	160	30	100	*



Детайл "А"



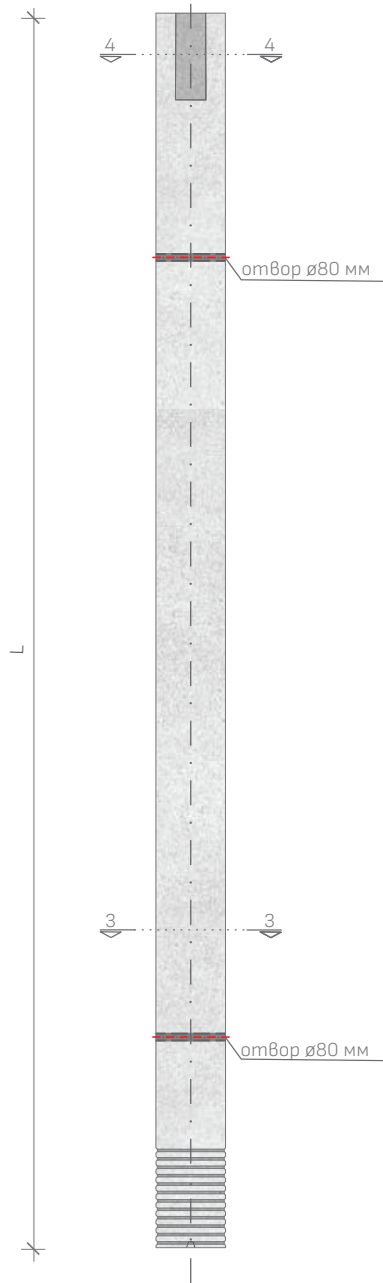
Детайл "В"



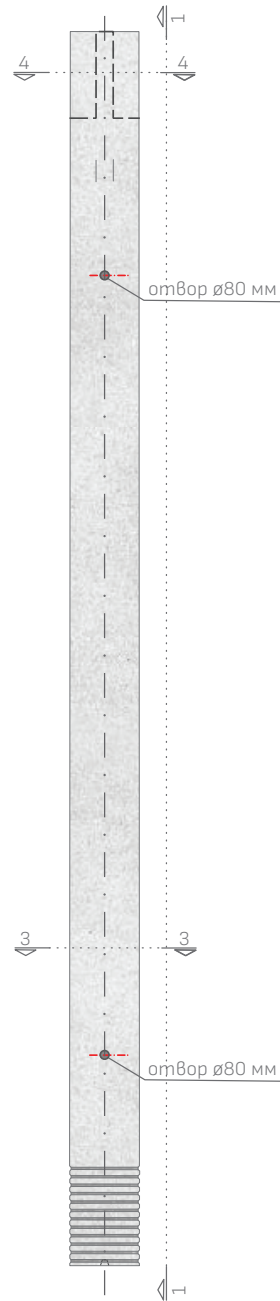
- a - пълно стъпване
- b - понижено стъпване
- * - по изчисление
- - кофраж
- ~ - свободна повърхност



Поглед 1-1



Поглед 2-2



МАТЕРИАЛ

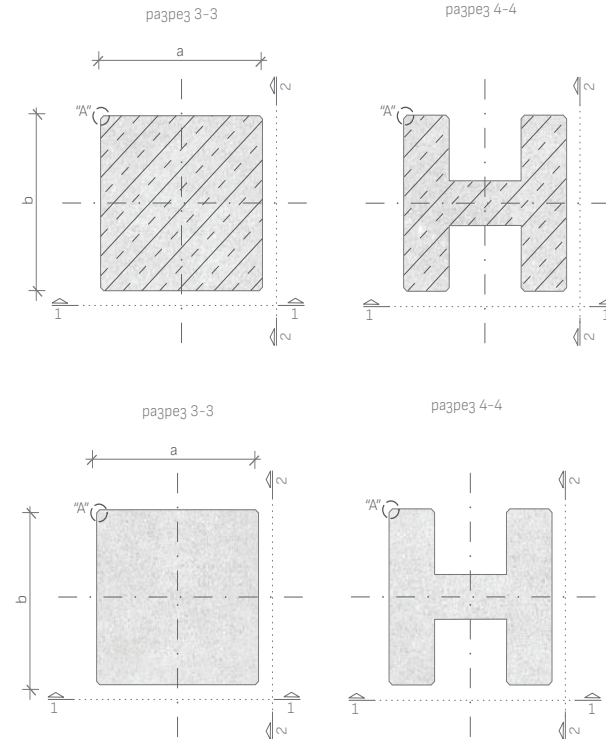
ХАРАКТЕРИСТИКИ

Бетон

C_{≥30/37}

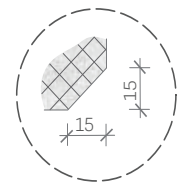
Стомана

B500



Детайл "А"

фаска 15 мм

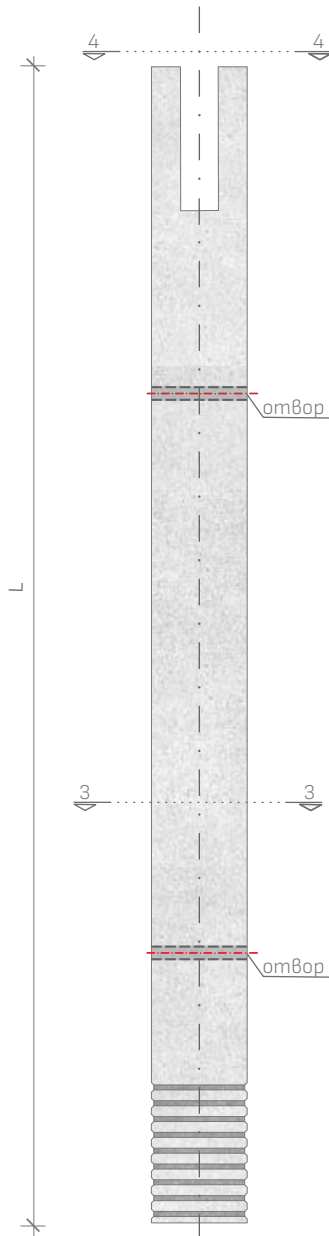


КОЛОНА		
a	b	L
30	30	*
40	40	*
50	50	*
60	60	*
70	70	*
75	75	*
80	80	*
90	90	*
100	100	*

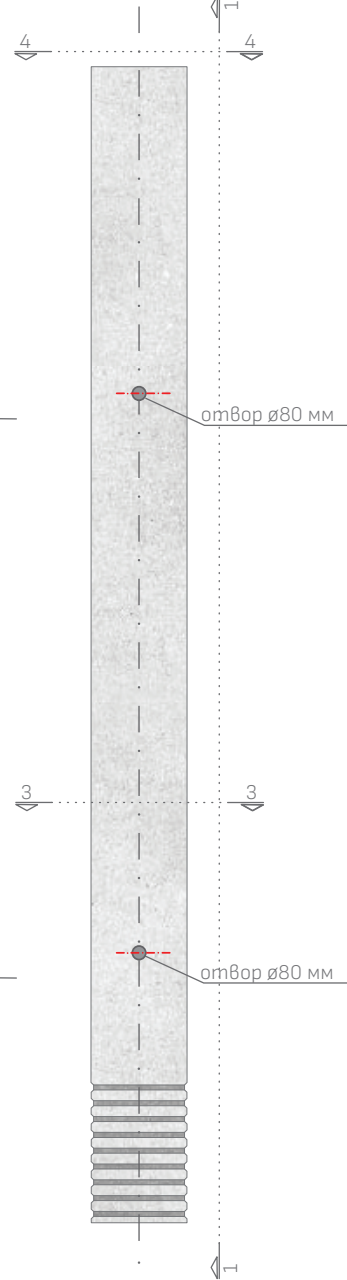
- a** - пълно стъпване
- b** - понижено стъпване
- *** - по изчисление
- - кофраж
- ~ - свободна повърхност



Поглед 1-1

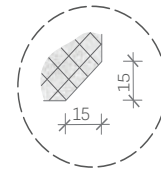


Поглед 2-2

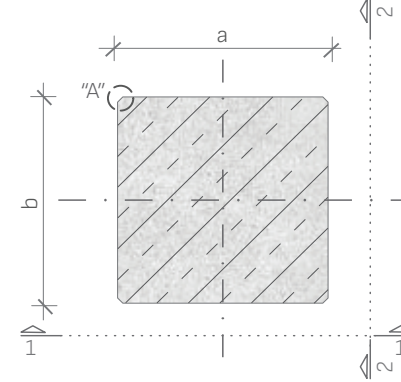


Детайл "А"

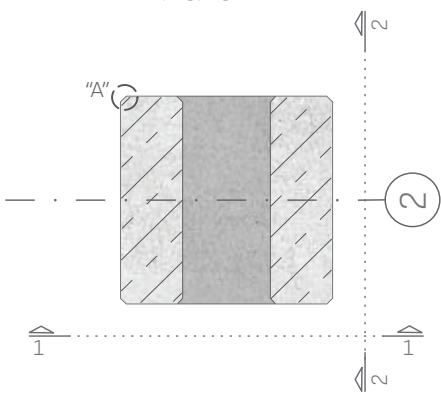
фаска 15 мм



разрез 3-3



разрез 4-4



МАТЕРИАЛ

ХАРАКТЕРИСТИКИ

Бетон

C_{≥30/37}

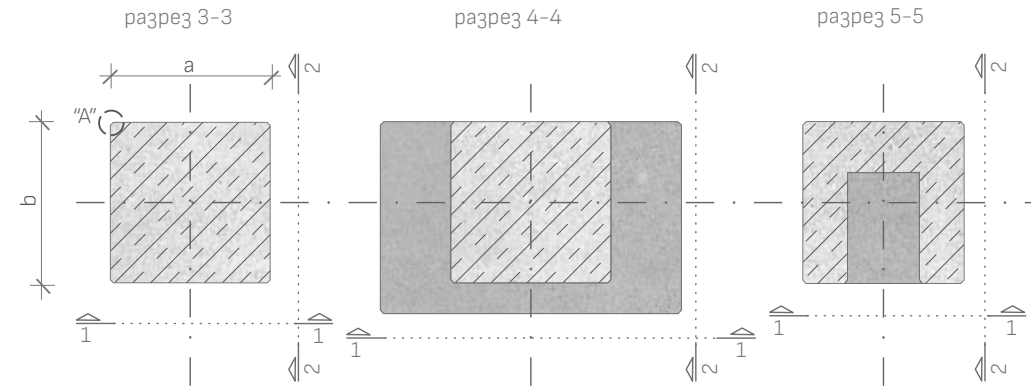
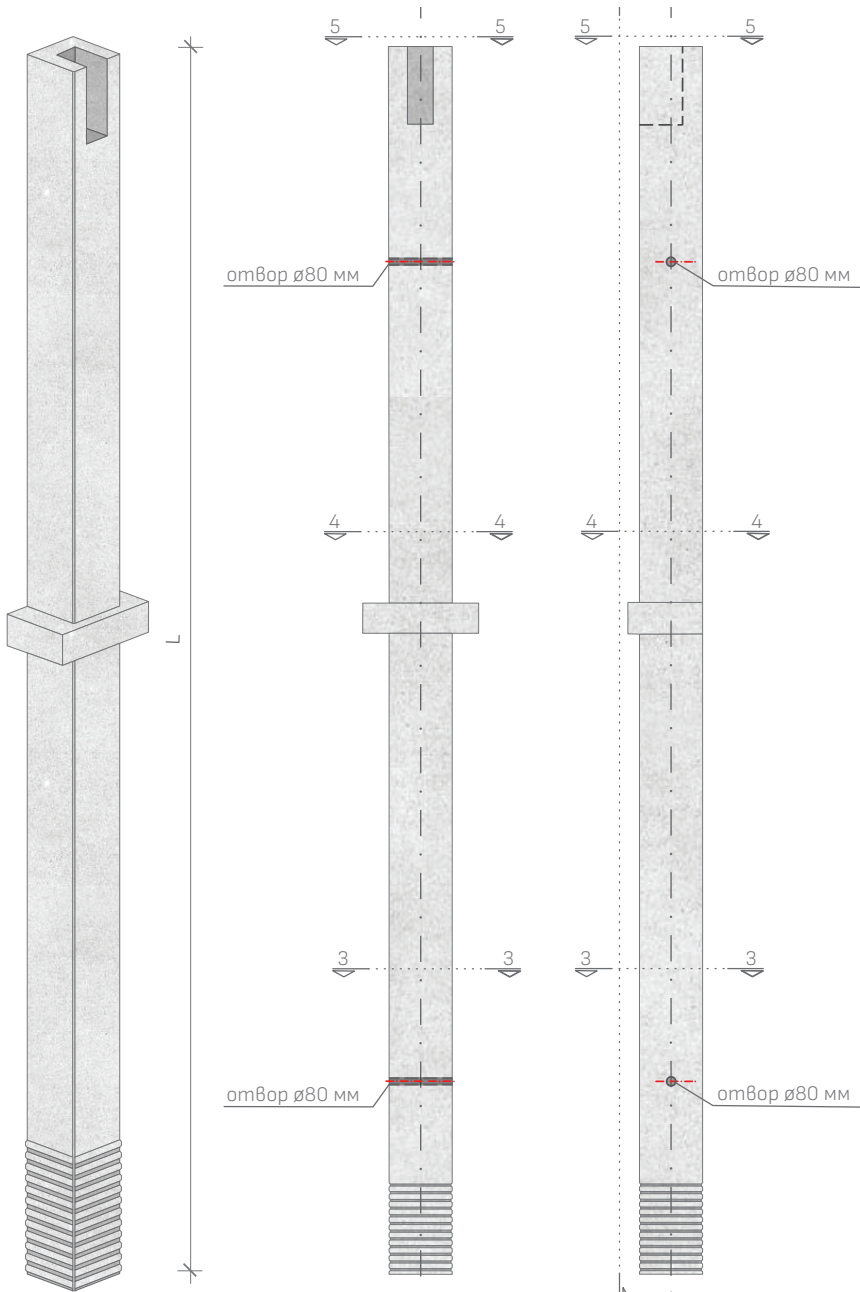
Стомана

B500



Поглед 1-1

Поглед 2-2



МАТЕРИАЛ

ХАРАКТЕРИСТИКИ

Бетон

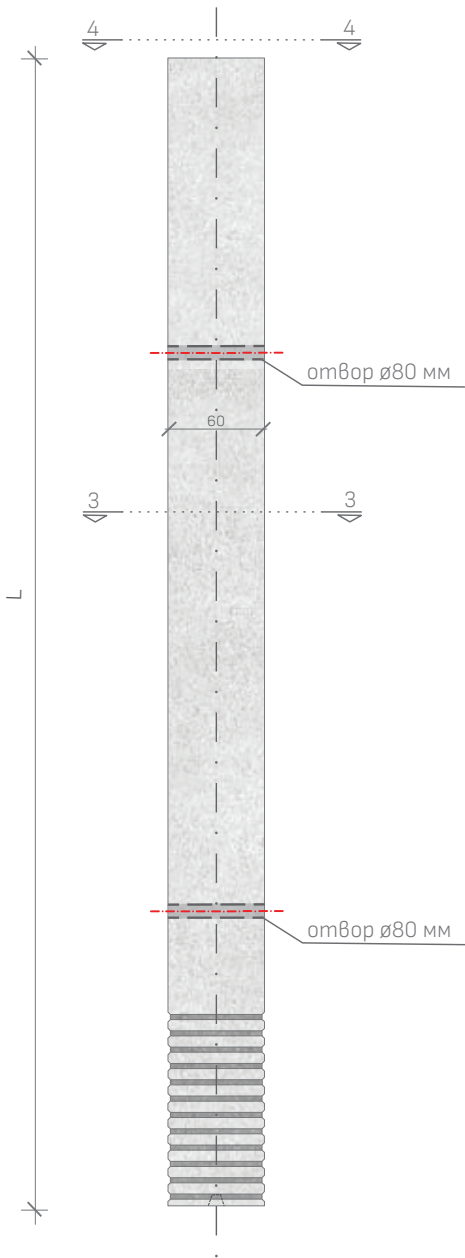
C \geq 30/37

Стомана

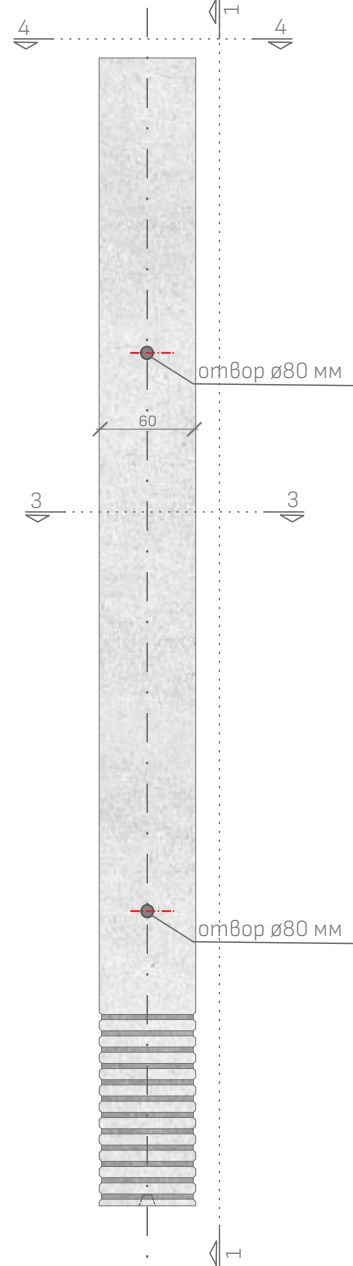
B500



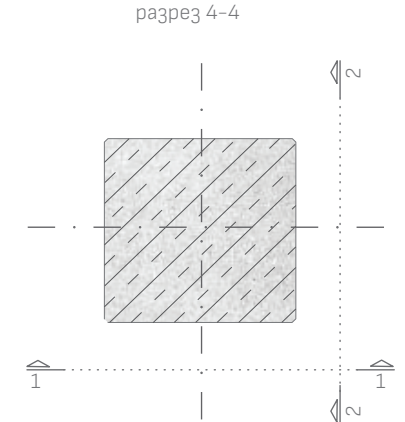
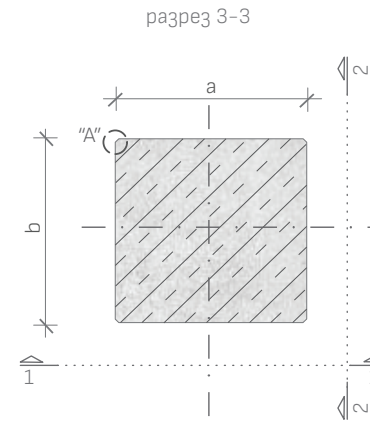
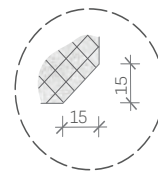
Поглед 1-1



Поглед 2-2



Детайл "А"
Фаска 15 мм



МАТЕРИАЛ

Бетон

Стомана

ХАРАКТЕРИСТИКИ

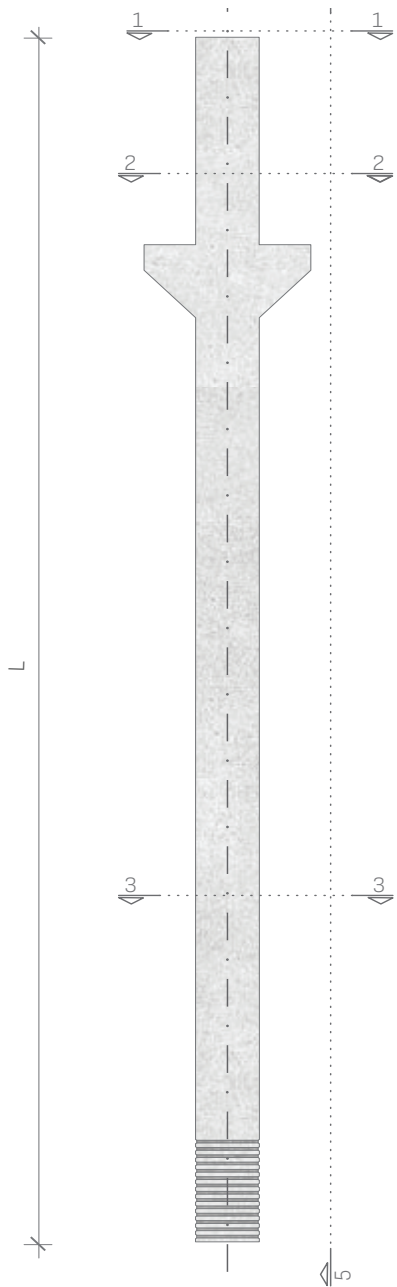
C_{≥30/37}

B500

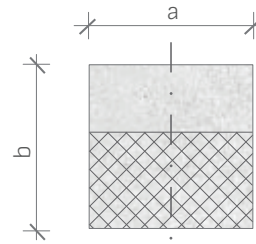


Поглед 1-1

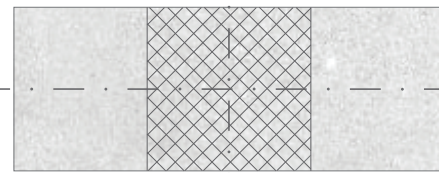
Поглед 2-2



разрез 1-1

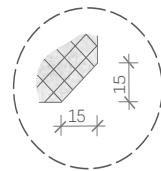


разрез 2-2

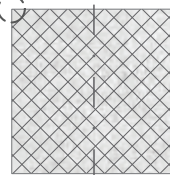


Детайл "А"

фаска 15 мм



"А"



МАТЕРИАЛ

ХАРАКТЕРИСТИКИ

Бетон

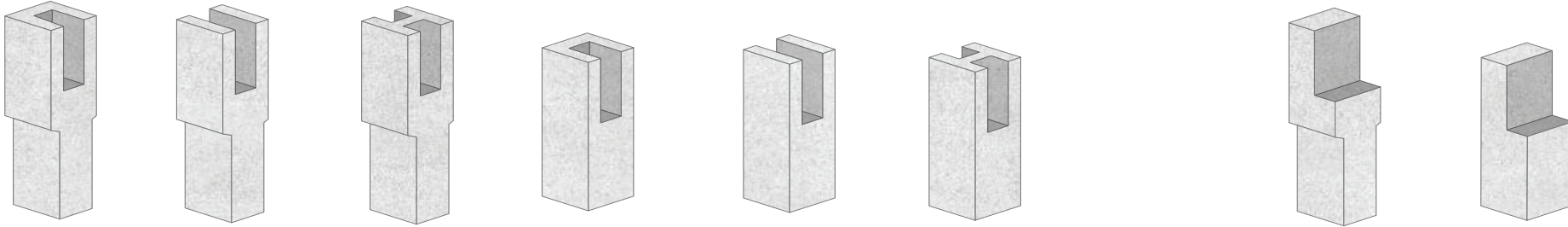
C_{30/37}

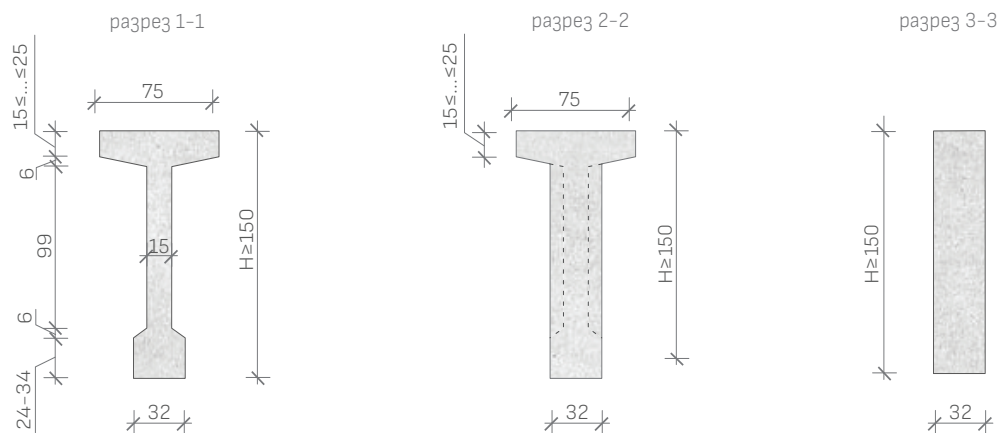
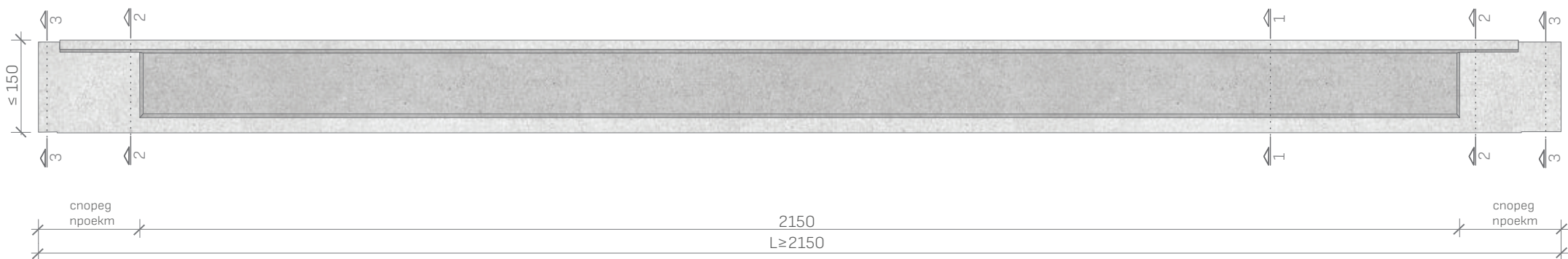
Стомана

B500



Камертони





МАТЕРИАЛ

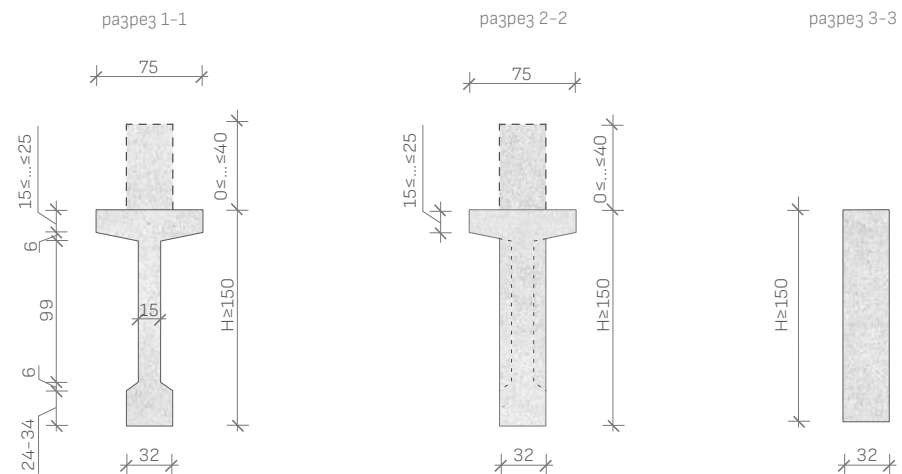
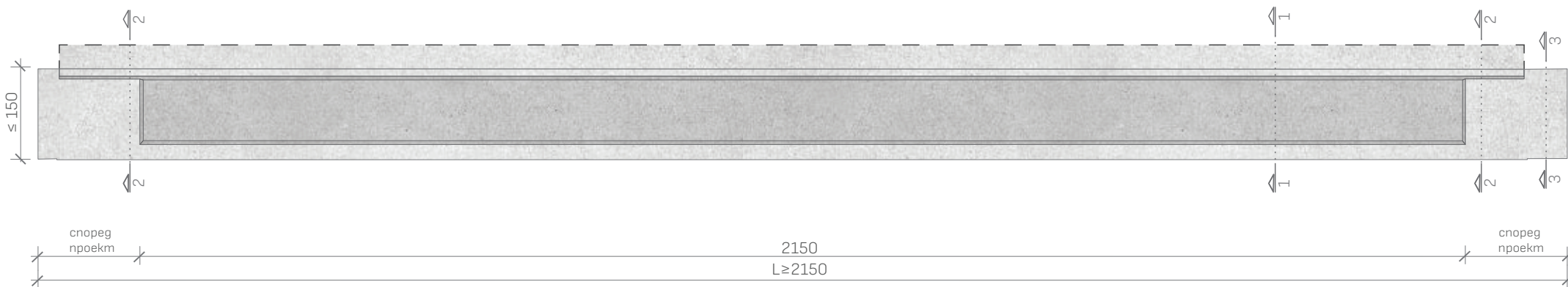
ХАРАКТЕРИСТИКИ

Бетон

C≥30/37

Стомана

B500



МАТЕРИАЛ

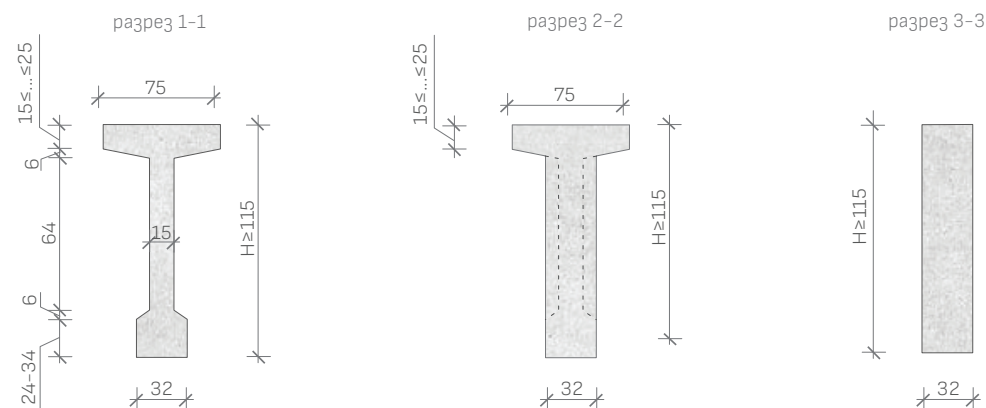
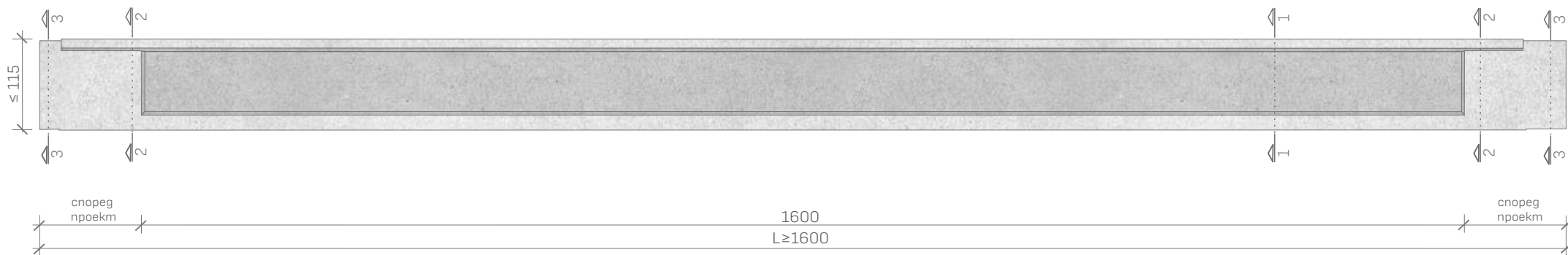
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Бетон

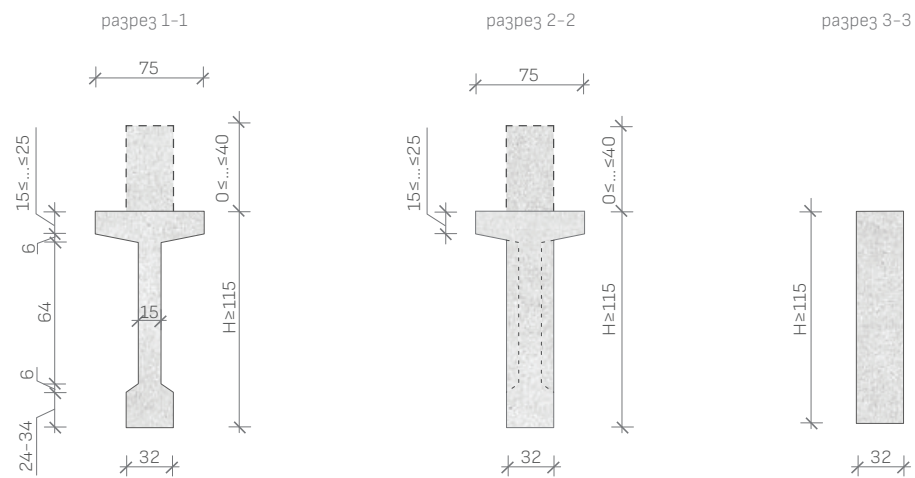
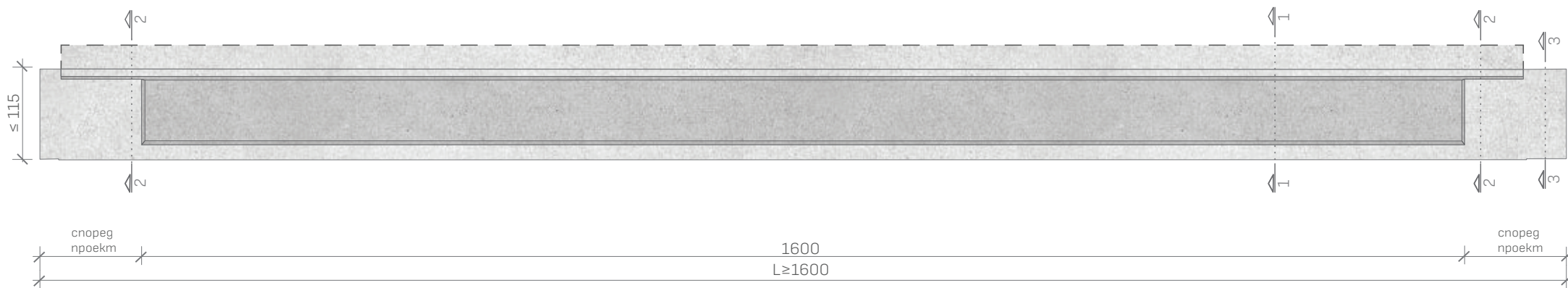
C \geq 30/37

Стомана

B500



МАТЕРИАЛ	ХАРАКТЕРИСТИКИ
Бетон	C \geq 30/37
Стомана	B500



МАТЕРИАЛ

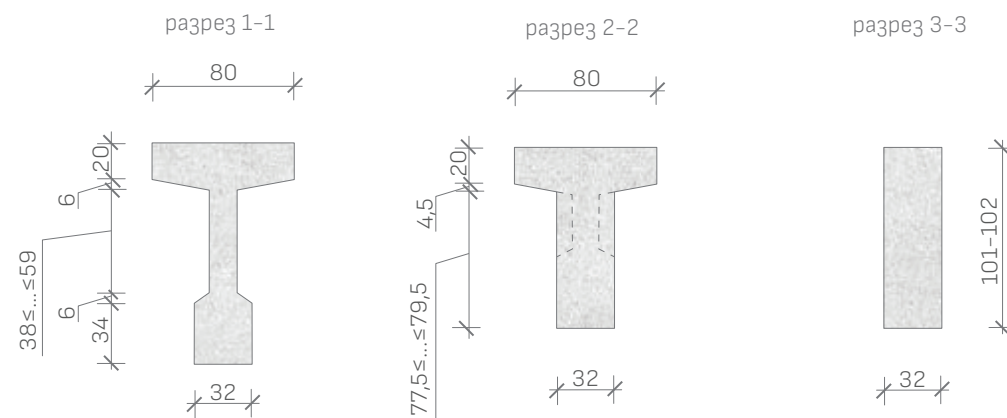
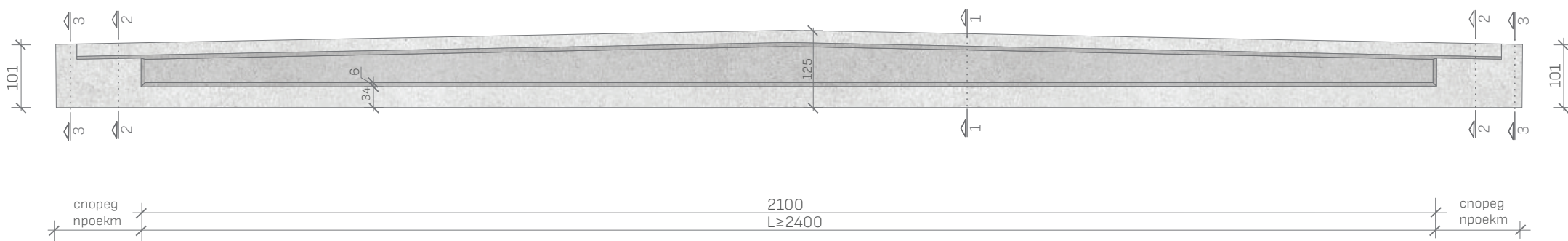
ХАРАКТЕРИСТИКИ

Бетон

$C \geq 30/37$

Стомана

B500



МАТЕРИАЛ

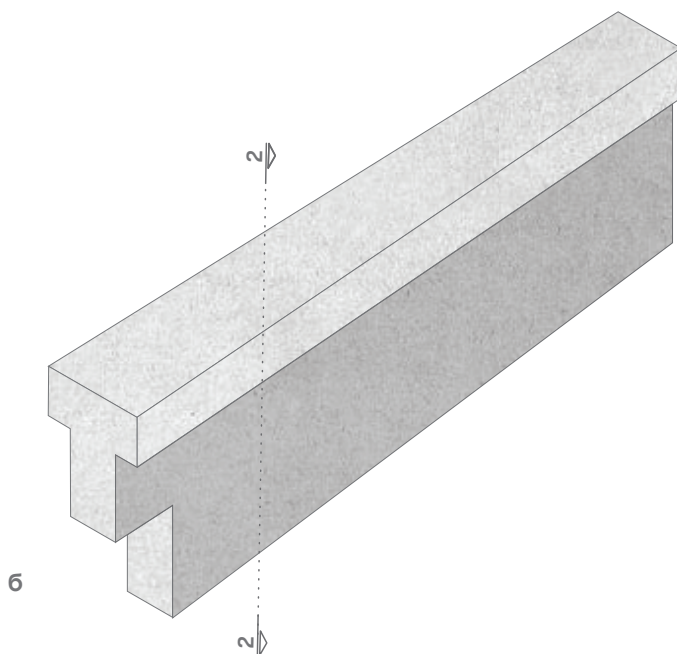
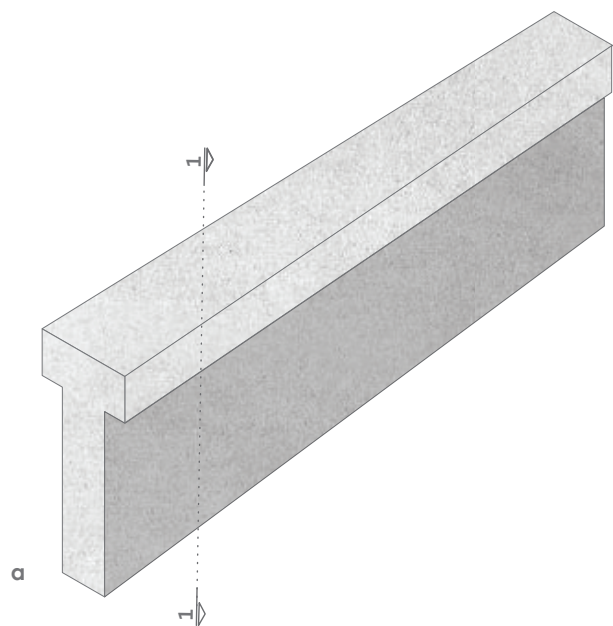
ХАРАКТЕРИСТИКИ

Бетон

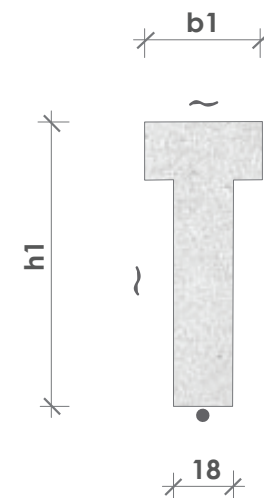
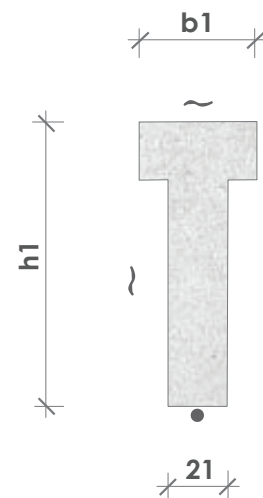
$C \geq 30/37$

Стомана

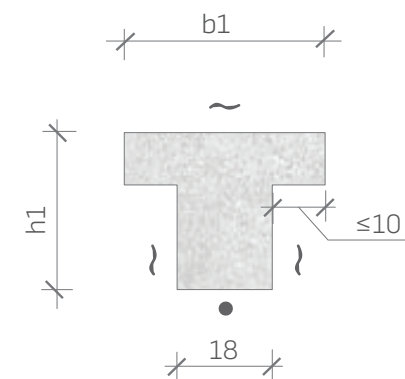
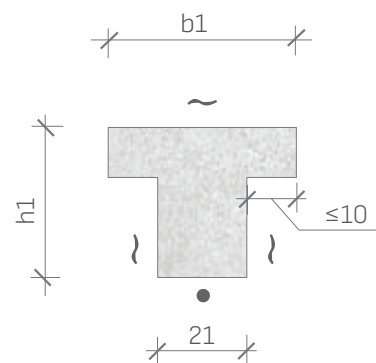
B500



Поглед 1-1

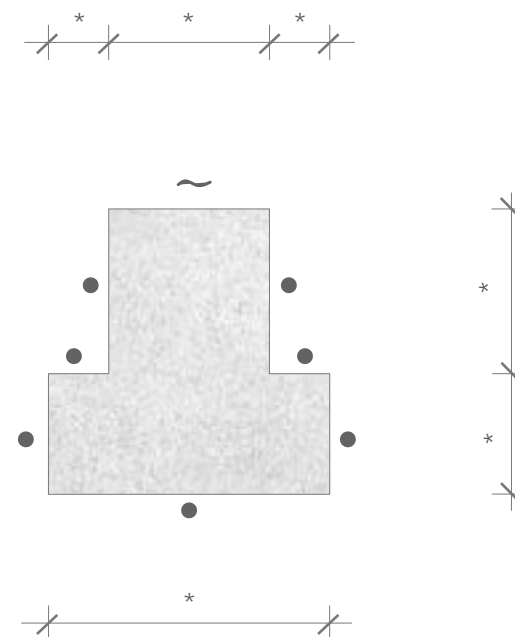
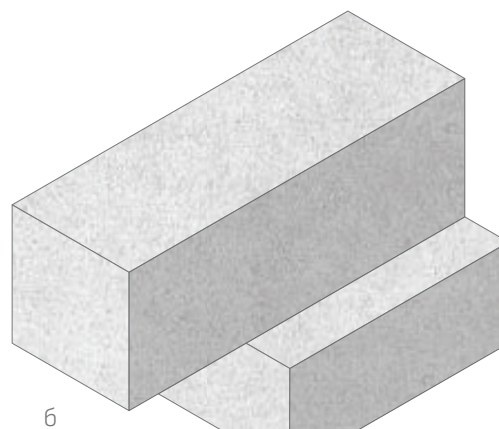
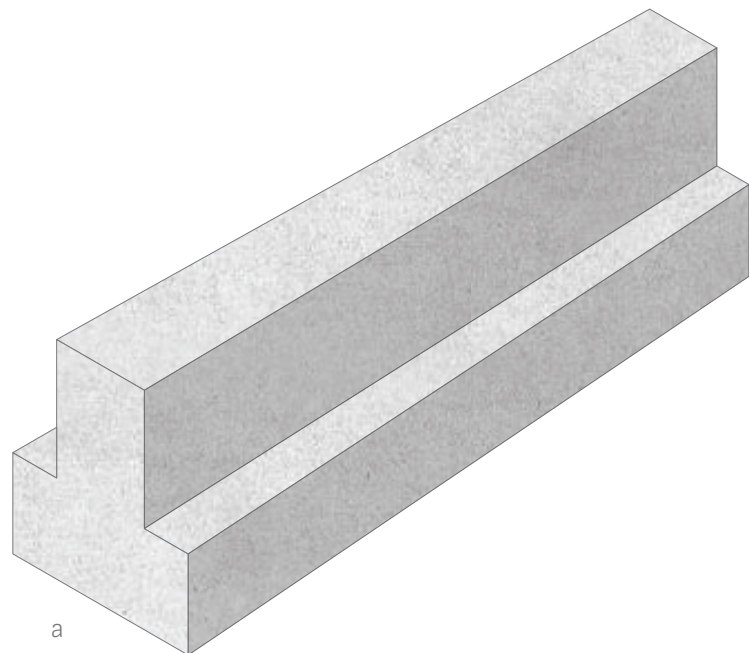


Поглед 2-2



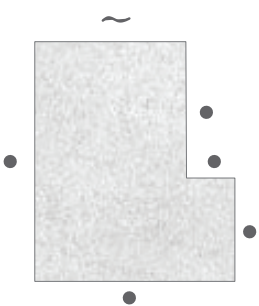
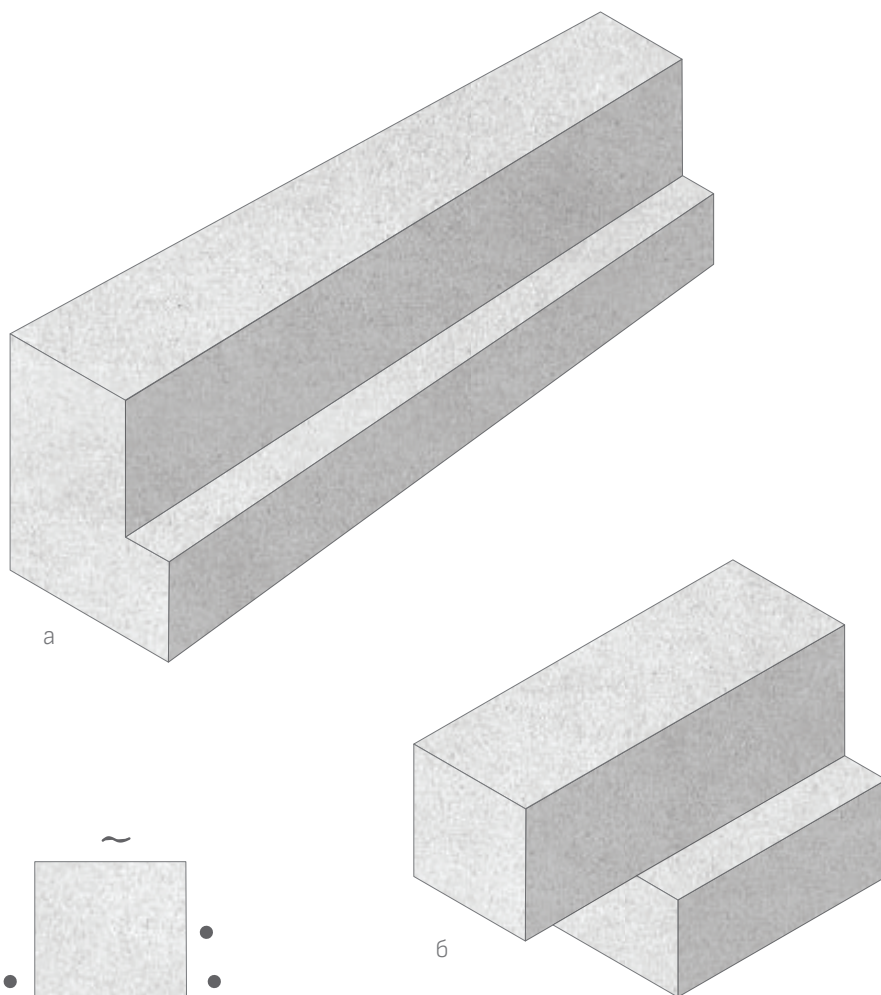
МАТЕРИАЛ	ХАРАКТЕРИСТИКИ
Бетон	C \geq 30/37
Стомана	B500

- а** - пълно стъпване
- б** - понижено стъпване
- *** - по изчисление
- - кофраж
- ~** - свободна повърхност

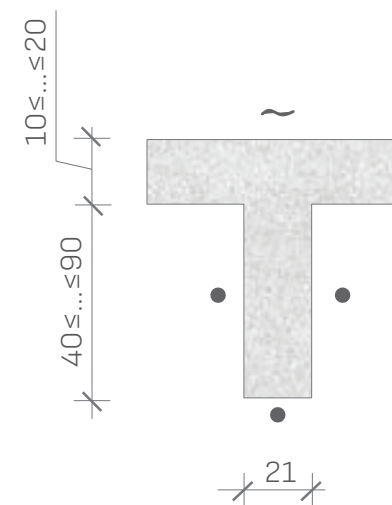
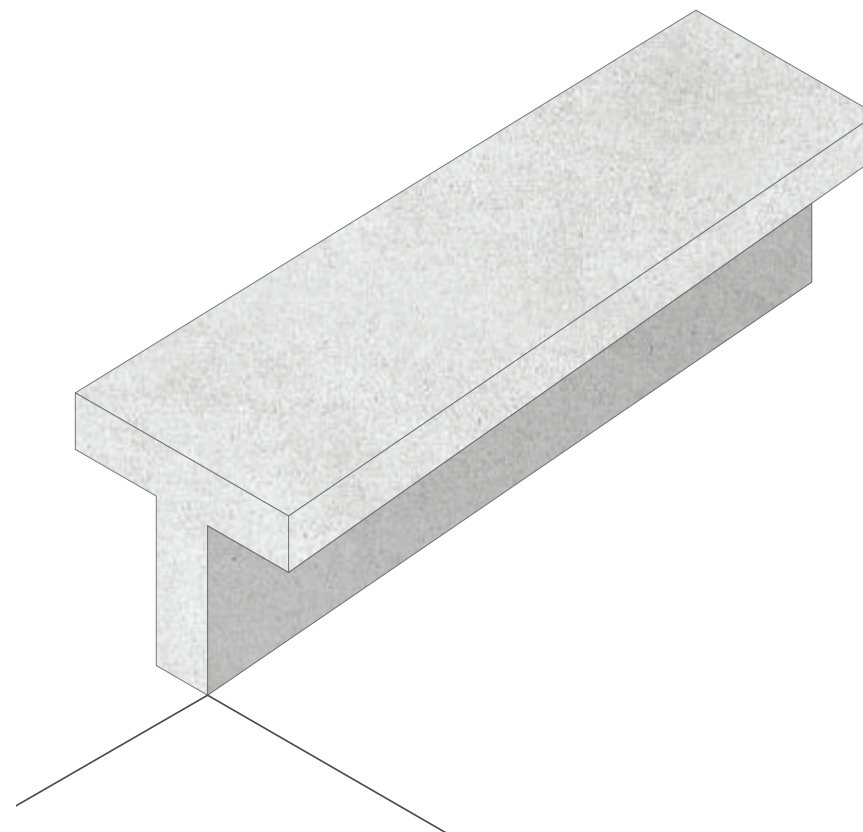


МАТЕРИАЛ	ХАРАКТЕРИСТИКИ
Бетон	C _{≥30/37}
Стомана	B500

- а - пълно стъпване
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МАТЕРИАЛ	ХАРАКТЕРИСТИКИ
Бетон	C \geq 30/37
Стомана	B500



- a** - пълно стъпване
- б** - понижено стъпване
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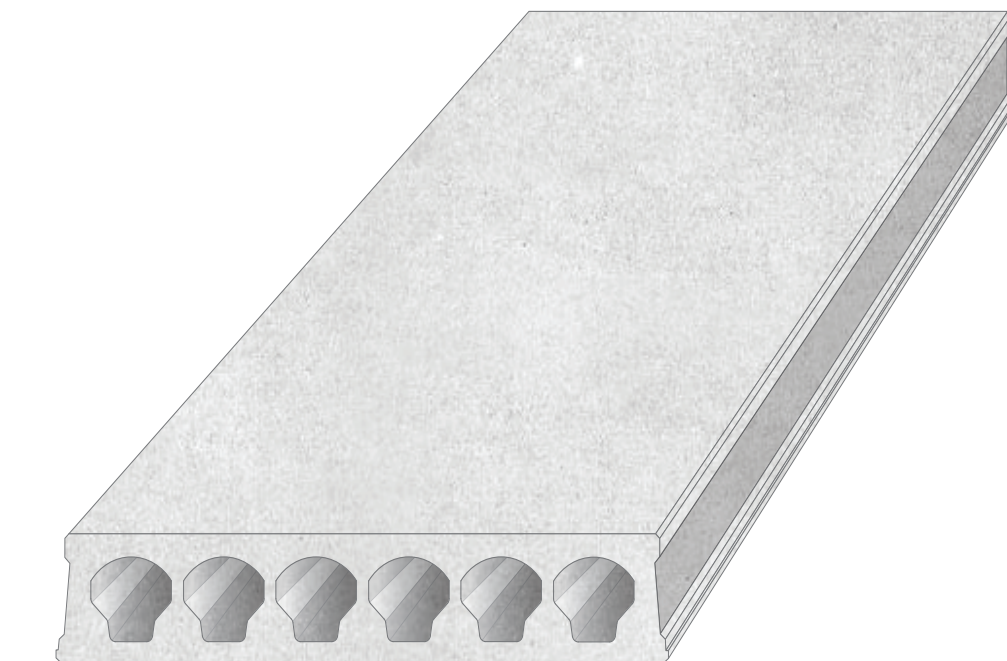
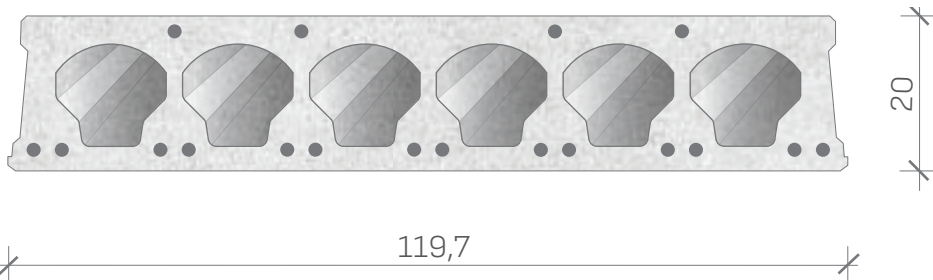
Кухотел SC 20/120 cm

МАТЕРИАЛ

ХАРАКТЕРИСТИКИ

Бетон C \geq 50/60

Стомана B500



ECHO ENGINEERING N.V.

Industrieterrein Centrum Zuid 1533
B-3530 Houthalen BELGIUM
Tel. +32 11 60 08 00 Fax. +32 11 52 20 93



SC 20x120 - 6 cores (drawing nr. 55/11172)

Topping = 0 cm

Reinforcement type	CFB	EFB	GFB	LFB	NFB	PFB	SFB	UFB
Upper reinforcement	4 ϕ 7	4 ϕ 7	4 ϕ 7	4 ϕ 7	4 ϕ 7	4 ϕ 7	4 ϕ 7	4 ϕ 7
Lower reinforcement	7 ϕ 7	7 ϕ 9.3	5 ϕ 9.3 + 2 ϕ 12.5	2 ϕ 9.3 + 5 ϕ 12.5	7 ϕ 12.5	2 ϕ 9.3 + 7 ϕ 12.5	5 ϕ 9.3 + 7 ϕ 12.5	7 ϕ 9.3 + 7 ϕ 12.5
Reinforcement (kg/m ²)	2.77	3.39	3.93	4.73	5.27	5.95	6.97	7.65
Mrd (kNm/m)	51.5	75.3	90.5	112.8	127.3	145.7	171.8	187.9

perm. load (kN/m ²)	live load (kN/m ²)	CLEAR SPAN ACCORDING TO EUROCODE								
1.00	1.00	6.99	7.72	8.06	8.54	8.84	9.22	9.73	10.02	
1.50	1.00	6.67	7.38	7.70	8.15	8.43	8.78	9.26	9.53	
1.50	1.50	6.46	7.26	7.57	8.01	8.28	8.62	9.09	9.36	
1.50	2.00	6.28	7.15	7.45	7.87	8.14	8.48	8.93	9.19	
1.50	2.50	6.11	7.04	7.33	7.75	8.01	8.33	8.78	9.04	
1.50	3.00	5.95	6.94	7.22	7.63	7.88	8.20	8.64	8.89	
1.50	3.50	5.80	6.84	7.12	7.52	7.76	8.08	8.50	8.75	
1.50	4.00	5.66	6.75	7.02	7.41	7.65	7.96	8.38	8.62	
1.50	4.50	5.50	6.66	6.93	7.31	7.54	7.85	8.25	8.49	
1.50	5.00	5.35	6.48	6.83	7.21	7.44	7.74	8.14	8.37	
1.50	5.50	5.21	6.31	6.75	7.12	7.35	7.63	8.03	8.25	
1.50	6.00	5.08	6.16	6.67	7.03	7.25	7.53	7.92	8.14	
1.50	6.50	4.96	6.01	6.59	6.94	7.16	7.44	7.82	8.04	
1.50	7.00	4.85	5.88	6.45	6.86	7.08	7.35	7.72	7.94	
1.50	8.00	4.65	5.63	6.18	6.71	6.92	7.18	7.54	7.75	
1.50	9.00	4.47	5.41	5.94	6.48	6.76	7.02	7.37	7.57	
1.50	10.00	4.30	5.22	5.73	6.25	6.52	6.85	7.21	7.41	
1.50	12.50	3.97	4.81	5.07	5.75	6.03	6.33	6.75	6.99	
1.50	15.00	3.70	4.48	4.53	5.12	5.50	5.92	6.30	6.53	
1.50	20.00	3.29	3.99	3.79	4.25	4.55	4.93	5.32	5.35	

Self weight of hollow core slab + jointfilling : **3.17 + 0.17 = 3.34 kN/m²**

Density of concrete : **2500 kg/m³**

Exposure class : **1 (dry environment)**

Fire resistance : **1 hour**

Deflection criteria :

- Long term deflection under self weight of the slab + total permanent load + 40% of the live load < **L / 250**
- Long term deflection under total permanent load + 40% of the live load < **L / 500**

Acoustic insulation R_w' : **52.7 dB**

Thermal resistance R_c : **0.191 m²K/W**

Concrete quality : **C50/60**

Concrete cover on lower reinforcement = **30mm**

Prestressing of upper reinforcement = **40% of f_{pk}**

Prestressing of lower reinforcement = **60% of f_{pk}**

f_{pk} = 1770 N/mm² for wires ϕ 5

f_{pk} = 1670 N/mm² for wires ϕ 7

f_{pk} = 1860 N/mm² for strands ϕ 9.3 and ϕ 12.5

Echo Engineering is not responsible for direct or indirect damage as a result of imperfections in these data

B. Hendriks - 23-06-04

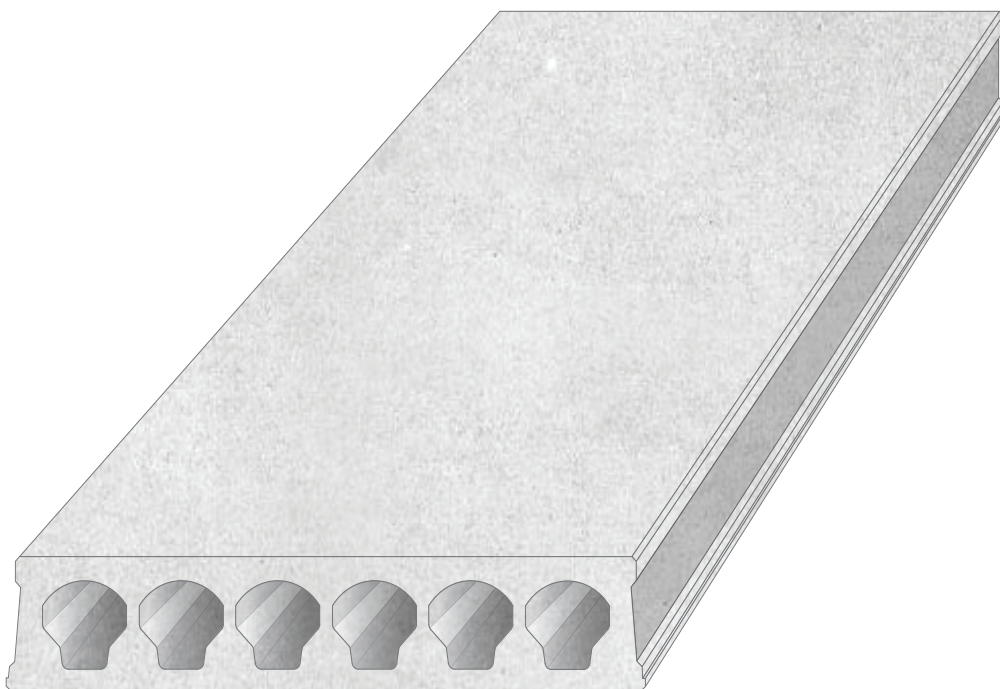
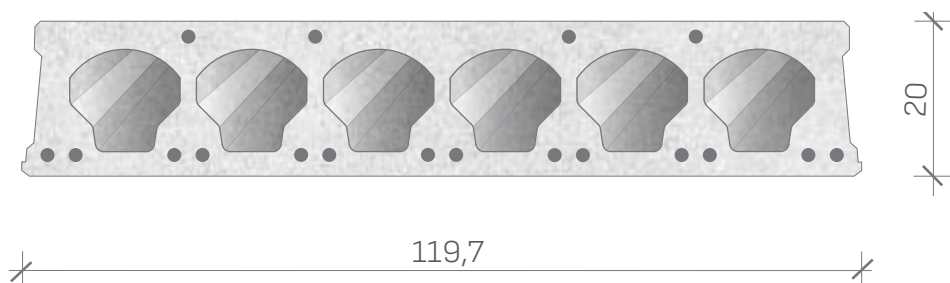
Кухотел SC 20/120 см

МАТЕРИАЛ

ХАРАКТЕРИСТИКИ

Бетон C₂₅/60

Стомана B500



ECHO ENGINEERING N.V.

Industrieterrein Centrum Zuid 1533
 B-3530 Houthalen BELGIUM
 Tel. +32 11 60 08 00 Fax. +32 11 52 20 93



SC 20x120 - 6 cores (drawing nr. 55/11172)

Topping = 0 cm

Reinforcement type	CF6B	EF6B	GF6B	LF6B	NF6B	PF6B	SF6B	UF6B	
Upper reinforcement	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7	
Lower reinforcement	7φ7	7φ9.3	5φ9.3 + 2φ12.5	2φ9.3 + 5φ12.5	7φ12.5	2φ9.3 + 7φ12.5	5φ9.3 + 7φ12.5	7φ9.3 + 7φ12.5	
Reinforcement (kg/m ²)	2.77	3.39	3.93	4.73	5.27	5.95	6.97	7.65	
Mrd (kNm/m)	46.9	68.3	81.9	101.8	114.7	131.1	153.6	167.9	

perm. load (kN/m ²)	live load (kN/m ²)	CLEAR SPAN ACCORDING TO EUROCODE								
1.00	1.00	6.56	7.30	7.56	7.95	8.20	8.52	8.96	9.23	
1.50	1.00	6.25	6.99	7.24	7.60	7.83	8.12	8.54	8.79	
1.50	1.50	6.06	6.88	7.12	7.47	7.69	7.98	8.39	8.63	
1.50	2.00	5.89	6.77	7.01	7.35	7.57	7.85	8.25	8.49	
1.50	2.50	5.73	6.68	6.90	7.24	7.45	7.73	8.11	8.34	
1.50	3.00	5.58	6.58	6.80	7.13	7.34	7.61	7.98	8.21	
1.50	3.50	5.44	6.49	6.71	7.03	7.23	7.50	7.86	8.09	
1.50	4.00	5.31	6.41	6.62	6.93	7.13	7.39	7.75	7.97	
1.50	4.50	5.19	6.33	6.54	6.84	7.04	7.29	7.64	7.86	
1.50	5.00	5.08	6.17	6.45	6.75	6.94	7.19	7.53	7.75	
1.50	5.50	4.97	6.01	6.38	6.67	6.86	7.10	7.44	7.64	
1.50	6.00	4.84	5.86	6.30	6.59	6.77	7.01	7.34	7.54	
1.50	6.50	4.73	5.72	6.23	6.51	6.69	6.92	7.25	7.45	
1.50	7.00	4.62	5.59	6.13	6.44	6.61	6.84	7.16	7.36	
1.50	8.00	4.43	5.36	5.88	6.30	6.47	6.69	7.00	7.19	
1.50	9.00	4.26	5.15	5.65	6.15	6.33	6.55	6.85	7.03	
1.50	10.00	4.10	4.97	5.33	5.93	6.18	6.42	6.70	6.88	
1.50	12.50	3.78	4.58	4.67	5.27	5.65	6.00	6.38	6.56	
1.50	15.00	3.52	4.27	4.19	4.70	5.03	5.45	5.96	6.19	
1.50	20.00	3.13	3.80	3.51	3.92	4.18	4.52	5.00	5.30	

Self weight of hollow core slab + jointfilling : 3.17 + 0.17 = 3.34 kN/m²

Density of concrete : 2500 kg/m³

Exposure class : 1 (dry environment)

Fire resistance : 2 hours

Deflection criteria :

- Long term deflection under self weight of the slab + total permanent load + 40% of the live load < L / 250
- Long term deflection under total permanent load + 40% of the live load < L / 500

Acoustic insulation R_w⁺ : 52.7 dB

Thermal resistance R_c : 0.191 m²/KW

Concrete quality : C50/60

Concrete cover on lower reinforcement = 45mm

Prestressing of upper reinforcement = 40% of f_{pk}

Prestressing of lower reinforcement = 60% of f_{pk}

f_{pk} = 1770 N/mm² for wires φ5

f_{pk} = 1670 N/mm² for wires φ7

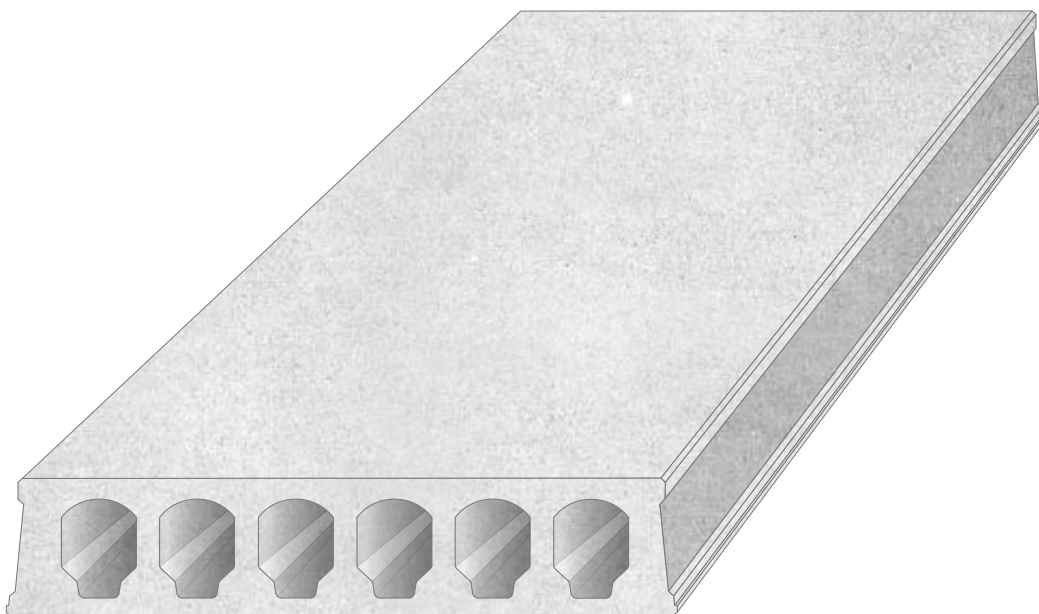
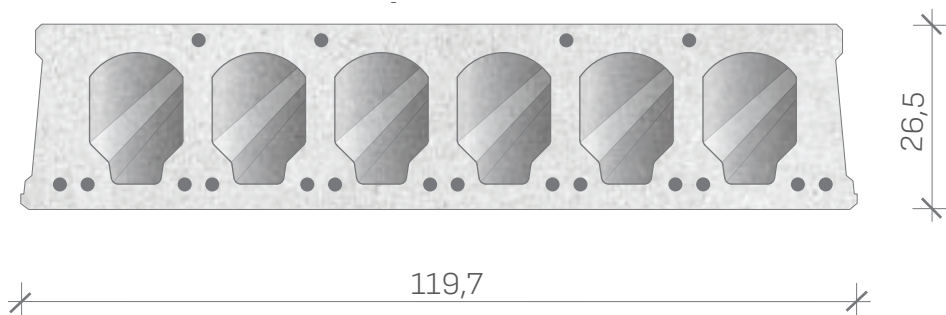
f_{pk} = 1860 N/mm² for strands φ9.3 and φ12.5

Echo Engineering is not responsible for direct or indirect damage as a result of imperfections in these data

B. Hendrixx - 23-06-04

Кухотел SC 26,5/120 см

МАТЕРИАЛ	ХАРАКТЕРИСТИКИ
Бетон	C _{≥50/60}
Стомана	B500



ECHO ENGINEERING N.V.

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SC 26,5x120 - 6 cores (drawing nr. 55/11105)

Topping = 0 cm

Reinforcement type	EFB	GFB	LFB	NFB	PFB	SFB	WFB	XFB		
Upper reinforcement	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7		
Lower reinforcement	7φ9.3	5φ9.3 + 2φ12.5	2φ9.3 + 5φ12.5	7φ12.5	2φ9.3 + 7φ12.5	5φ9.3 + 7φ12.5	12φ12.5	13φ12.5		
Reinforcement (kg/m²)	3.39	3.93	4.73	5.27	5.95	6.97	8.31	10.13		
Mrd (kNm/m)	105.6	127.8	160.4	181.9	209.2	249.3	298.8	356.1		

perm. load (kN/m ²)	live load (kN/m ²)	CLEAR SPAN ACCORDING TO EUROCODE									
1.00	1.00	9.46	9.86	10.42	10.77	11.21	11.80	12.45	13.18		
1.50	1.00	9.09	9.45	9.98	10.31	10.72	11.28	11.89	12.58		
1.50	1.50	8.91	9.31	9.83	10.15	10.55	11.09	11.69	12.36		
1.50	2.00	8.67	9.17	9.68	9.99	10.38	10.91	11.50	12.16		
1.50	2.50	8.45	9.04	9.53	9.84	10.23	10.75	11.32	11.96		
1.50	3.00	8.25	8.92	9.40	9.70	10.07	10.59	11.15	11.78		
1.50	3.50	8.05	8.80	9.27	9.57	9.93	10.43	10.98	11.60		
1.50	4.00	7.88	8.69	9.15	9.44	9.80	10.29	10.83	11.43		
1.50	4.50	7.69	8.47	9.03	9.32	9.67	10.15	10.68	11.28		
1.50	5.00	7.49	8.25	8.92	9.20	9.54	10.02	10.54	11.12		
1.50	5.50	7.30	8.04	8.81	9.09	9.43	9.89	10.40	10.98		
1.50	6.00	7.13	7.85	8.71	8.98	9.31	9.77	10.27	10.84		
1.50	6.50	6.97	7.67	8.61	8.88	9.20	9.65	10.15	10.70		
1.50	7.00	6.81	7.51	8.42	8.78	9.10	9.54	10.03	10.57		
1.50	8.00	6.54	7.20	8.08	8.59	8.90	9.33	9.80	10.33		
1.50	9.00	6.29	6.93	7.78	8.29	8.72	9.13	9.59	10.10		
1.50	10.00	6.07	6.69	7.51	8.00	8.55	8.95	9.39	9.90		
1.50	12.50	5.61	6.18	6.94	7.39	7.93	8.54	8.96	9.42		
1.50	15.00	5.24	5.77	6.48	6.90	7.41	8.07	8.58	9.02		
1.50	20.00	4.67	5.14	5.78	6.16	6.61	7.22	7.44	7.55		

Self weight of hollow core slab + jointfilling : **3.58 + 0.23 = 3.81 kN/m²**

Density of concrete : **2500 kg/m³**

Exposure class : **1 (dry environment)**

Fire resistance : **1 hour**

Deflection criteria :

- ♦ Long term deflection under self weight of the slab + total permanent load + 40% of the live load < L / 250
- ♦ Long term deflection under total permanent load + 40% of the live load < L / 500

Acoustic insulation R_{w'} : **54.4 dB**

Thermal resistance R_c : **0.206 m²K/W**

Concrete quality : **C50/60**

Concrete cover on lower reinforcement = **30mm**

Prestressing of upper reinforcement = **40% of f_{pk}**

Prestressing of lower reinforcement = **60% of f_{pk}**

f_{pk} = 1770 N/mm² for wires φ5

f_{pk} = 1670 N/mm² for wires φ7

f_{pk} = 1860 N/mm² for strands φ9.3 and φ12.5

Echo Engineering is not responsible for direct or indirect damage as a result of imperfections in these data

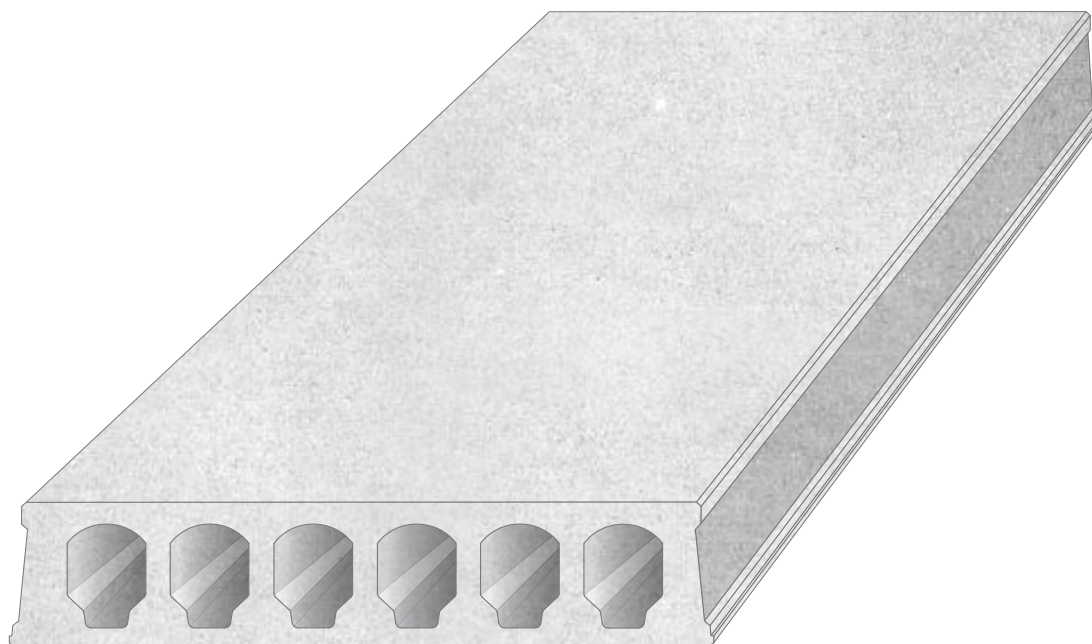
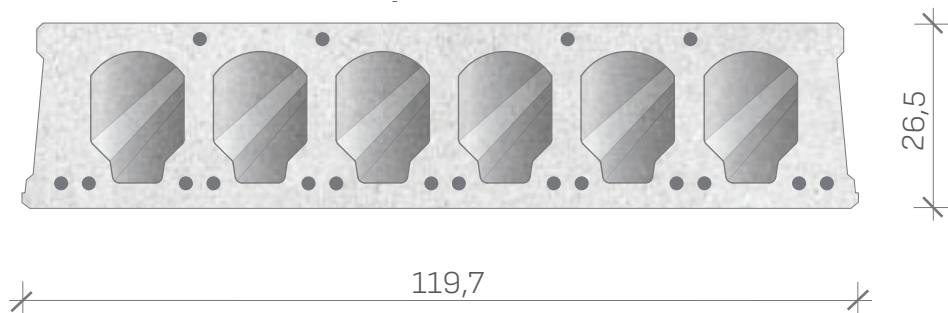
B. Hendrikx - 23-06-04

Кухотел SC 26,5/120 см

МАТЕРИАЛ ХАРАКТЕРИСТИКИ

Бетон C_z50/60

Стомана B500



ECHO ENGINEERING N.V.

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 Tel. +32 11 60 08 00 Fax. +32 11 52 20 93



SC 26,5x120 - 6 cores (drawing nr. 55/11105)

Topping = 0 cm

Reinforcement type	EF6B	GF6B	LF6B	NF6B	PF6B	SF6B	WF6B	XF6B		
Upper reinforcement	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7		
Lower reinforcement	7φ9.3	5φ9.3 + 2φ12.5	2φ9.3 + 5φ12.5	7φ12.5	2φ9.3 + 7φ12.5	5φ9.3 + 7φ12.5	12φ12.5	13φ12.5		
Reinforcement (kg/m²)	3.39	3.93	4.73	5.27	5.95	6.97	8.31	10.13		
Mrd (kNm/m)	98.6	119.2	149.5	169.4	194.6	231.7	276.4	329.1		

perm. load (kN/m ²)	live load (kN/m ²)	CLEAR SPAN ACCORDING TO EUROCODE								
1.00	1.00	9.13	9.48	9.97	10.27	10.67	11.21	11.81	12.52	
1.50	1.00	8.74	9.10	9.56	9.85	10.21	10.72	11.29	11.95	
1.50	1.50	8.49	8.96	9.41	9.69	10.05	10.55	11.10	11.75	
1.50	2.00	8.27	8.83	9.27	9.55	9.89	10.38	10.92	11.56	
1.50	2.50	8.06	8.71	9.14	9.41	9.75	10.22	10.75	11.38	
1.50	3.00	7.86	8.59	9.01	9.28	9.61	10.07	10.59	11.21	
1.50	3.50	7.68	8.48	8.89	9.15	9.48	9.93	10.44	11.04	
1.50	4.00	7.51	8.34	8.78	9.03	9.35	9.80	10.29	10.88	
1.50	4.50	7.35	8.16	8.67	8.92	9.23	9.67	10.16	10.73	
1.50	5.00	7.20	7.96	8.56	8.81	9.12	9.54	10.02	10.59	
1.50	5.50	7.05	7.76	8.46	8.70	9.00	9.43	9.90	10.45	
1.50	6.00	6.88	7.58	8.37	8.60	8.90	9.31	9.77	10.32	
1.50	6.50	6.73	7.41	8.27	8.50	8.80	9.20	9.66	10.20	
1.50	7.00	6.58	7.24	8.13	8.41	8.70	9.10	9.55	10.08	
1.50	8.00	6.31	6.95	7.80	8.23	8.52	8.90	9.33	9.85	
1.50	9.00	6.08	6.69	7.51	8.00	8.34	8.72	9.14	9.64	
1.50	10.00	5.86	6.46	7.24	7.72	8.18	8.55	8.95	9.44	
1.50	12.50	5.42	5.96	6.69	7.13	7.65	8.16	8.55	9.00	
1.50	15.00	5.06	5.57	6.25	6.66	7.14	7.80	8.19	8.62	
1.50	20.00	4.51	4.96	5.57	5.94	6.37	6.96	7.40	7.52	

Self weight of hollow core slab + jointfilling : 3.58 + 0.23 = 3.81 kN/m²

Density of concrete : 2500 kg/m³

Exposure class : 1 (dry environment)

Fire resistance : 2 hours

Deflection criteria :

- ♦ Long term deflection under self weight of the slab + total permanent load + 40% of the live load < L / 250
- ♦ Long term deflection under total permanent load + 40% of the live load < L / 500

Acoustic insulation R_w^{*} : 54.4 dB

Thermal resistance R_c : 0.206 m²K/W

Concrete quality : C50/60

Concrete cover on lower reinforcement = 45 mm

Prestressing of upper reinforcement = 40% of f_{pk}

Prestressing of lower reinforcement = 60% of f_{pk}

f_{pk} = 1770 N/mm² for wires φ5

f_{pk} = 1670 N/mm² for wires φ7

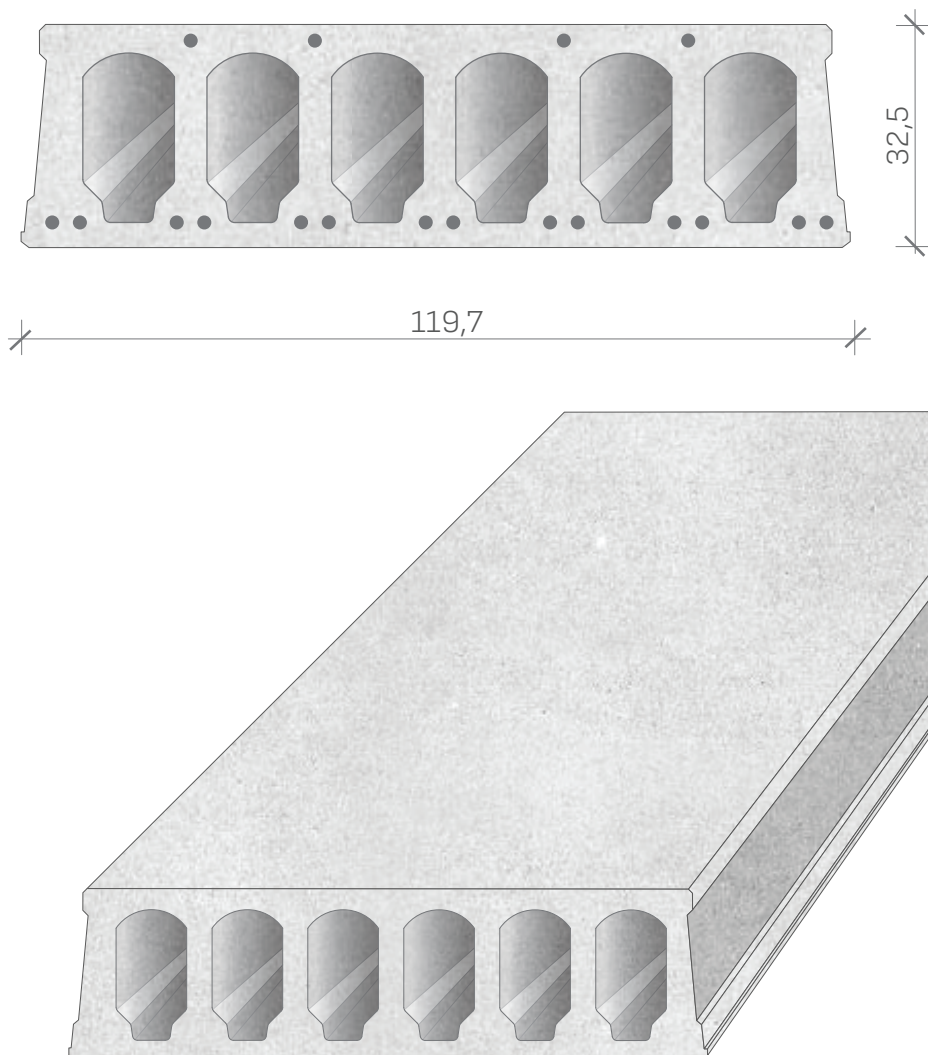
f_{pk} = 1860 N/mm² for strands φ9.3 and φ12.5

Echo Engineering is not responsible for direct or indirect damage as a result of imperfections in these data

B. Hendriks - 23-06-04

Кухотел SC32/120 см

МАТЕРИАЛ	ХАРАКТЕРИСТИКИ
Бетон	C _{≥50/60}
Стомана	B500



ECHO ENGINEERING N.V.

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SC 32x120 - 6 cores (drawing nr. 55/11008)

Topping = 0 cm

Reinforcement type	GF4B	LF4B	PF4B	RF4B	UF4B	WF4B	ZF4B
Upper reinforcement	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7
Lower reinforcement	5φ9.3	2φ9.3	2φ9.3	4φ9.3	7φ9.3	12φ12.5	14φ12.5
Reinforcement (kg/m ²)	+ 2φ12.5	+ 5φ12.5	+ 7φ12.5	+ 7φ12.5	+ 7φ12.5		
Mrd (kNm/m)	3.93	4.73	5.95	6.63	7.65	8.31	9.52
	156.4	197.0	257.9	291.6	341.2	371.3	425.5

perm. load (kN/m ²)	live load (kN/m ²)	CLEAR SPAN ACCORDING TO EUROCODE						
1.00	1.00	11.08	11.67	12.50	12.93	13.52	13.85	14.43
1.50	1.00	10.67	11.23	12.01	12.42	12.98	13.28	13.83
1.50	1.50	10.52	11.07	11.83	12.23	12.78	13.08	13.62
1.50	2.00	10.28	10.91	11.66	12.05	12.59	12.88	13.41
1.50	2.50	10.04	10.77	11.50	11.88	12.41	12.70	13.21
1.50	3.00	9.81	10.63	11.35	11.72	12.24	12.52	13.03
1.50	3.50	9.60	10.49	11.20	11.57	12.07	12.35	12.85
1.50	4.00	9.40	10.37	11.06	11.42	11.92	12.19	12.68
1.50	4.50	9.15	10.25	10.92	11.28	11.77	12.03	12.52
1.50	5.00	8.93	10.03	10.79	11.14	11.62	11.89	12.36
1.50	5.50	8.71	9.79	10.67	11.01	11.48	11.74	12.21
1.50	6.00	8.52	9.57	10.55	10.89	11.35	11.61	12.06
1.50	6.50	8.33	9.36	10.44	10.77	11.22	11.48	11.92
1.50	7.00	8.16	9.17	10.33	10.65	11.10	11.35	11.79
1.50	8.00	7.84	8.81	10.09	10.43	10.87	11.11	11.54
1.50	9.00	7.55	8.49	9.73	10.23	10.65	10.88	11.30
1.50	10.00	7.30	8.20	9.40	10.00	10.45	10.68	11.08
1.50	12.50	6.76	7.60	8.71	9.26	9.95	10.21	10.59
1.50	15.00	6.32	7.10	8.14	8.67	9.32	9.60	10.07
1.50	20.00	5.65	6.35	7.28	7.75	8.36	8.61	9.04

Self weight of hollow core slab + jointfilling : **4.04 + 0.28 = 4.32 kN/m²**

Density of concrete : 2500 kg/m³

Exposure class : 1 (dry environment)

Fire resistance : 1 hour

Deflection criteria :

- Long term deflection under self weight of the slab + total permanent load + 40% of the live load < L / 250
- Long term deflection under total permanent load + 40% of the live load < L / 500

Acoustic insulation R_w' : 56.1 dB

Thermal resistance R_c : 0.216 m²K/W

Concrete quality : C50/60

Concrete cover on lower reinforcement = 35mm

Prestressing of upper reinforcement = 40% of f_{pk}

Prestressing of lower reinforcement = 60% of f_{pk}

f_{pk} = 1770 N/mm² for wires φ5

f_{pk} = 1670 N/mm² for wires φ7

f_{pk} = 1860 N/mm² for strands φ9.3 and φ12.5

Echo Engineering is not responsible for direct or indirect damage as a result of imperfections in these data

B. Hendrikx - 23-06-04

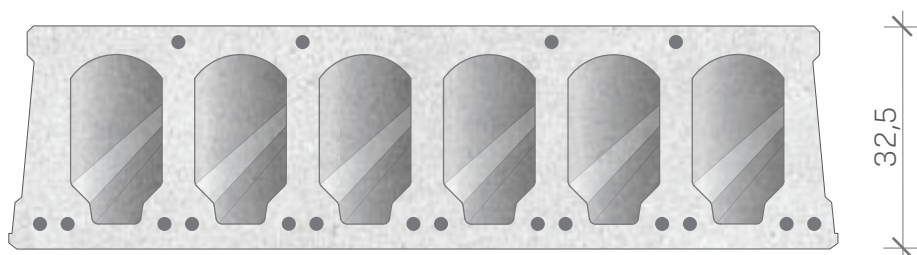
Кухотел SC32/120 см

МАТЕРИАЛ

ХАРАКТЕРИСТИКИ

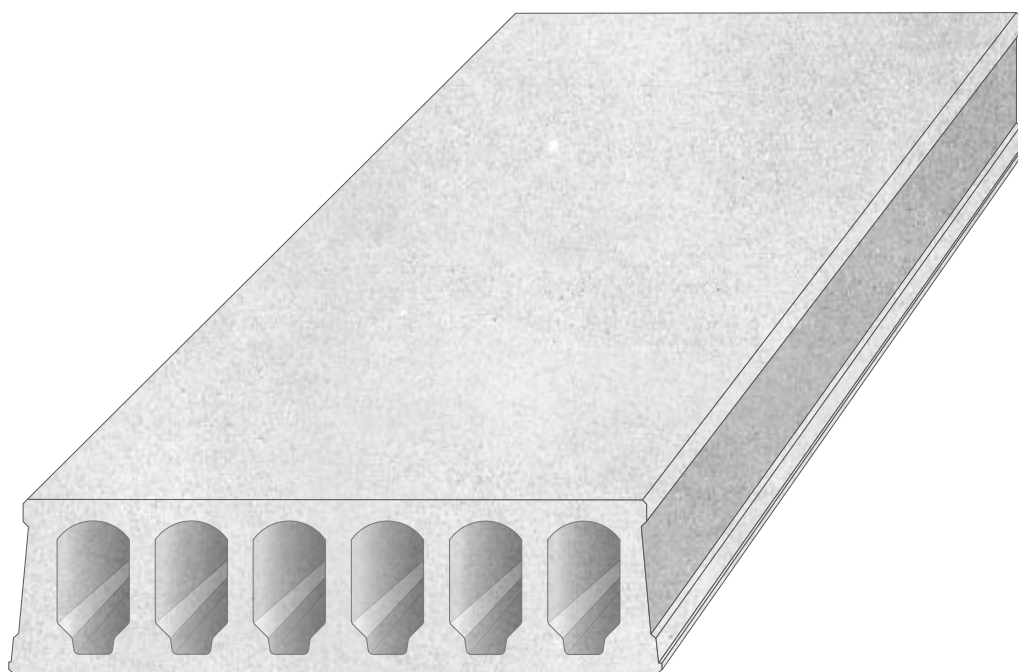
Бетон C_≥50/60

Стомана B500



119,7

32,5



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SC 32x120 - 6 cores

(drawing nr. 55/11008)

Topping = 0 cm

Reinforcement type	GF6B	LF6B	PF6B	RF6B	UF6B	WF6B	ZF6B			
Upper reinforcement	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7			
Lower reinforcement	5φ9.3 + 2φ12.5	2φ9.3 + 5φ12.5	2φ9.3 + 7φ12.5	4φ9.3 + 7φ12.5	7φ9.3 + 7φ12.5	12φ12.5	14φ12.5			
Reinforcement (kg/m ²)	3.93	4.73	5.95	6.63	7.65	8.31	9.52			
Mrd (kNm/m)	150.7	189.7	248.2	280.6	328.1	356.9	408.1			

perm. load (kN/m ²)	live load (kN/m ²)	CLEAR SPAN ACCORDING TO EUROCODE								
1.00	1.00	10.87	11.42	12.20	12.60	13.17	13.48	14.04		
1.50	1.00	10.45	10.99	11.72	12.11	12.64	12.93	13.47		
1.50	1.50	10.18	10.83	11.55	11.93	12.45	12.74	13.26		
1.50	2.00	9.93	10.68	11.38	11.75	12.27	12.55	13.06		
1.50	2.50	9.69	10.54	11.23	11.59	12.09	12.37	12.87		
1.50	3.00	9.48	10.41	11.08	11.43	11.93	12.20	12.69		
1.50	3.50	9.27	10.28	10.94	11.28	11.77	12.03	12.52		
1.50	4.00	9.08	10.15	10.80	11.14	11.62	11.88	12.35		
1.50	4.50	8.90	10.04	10.67	11.01	11.47	11.73	12.19		
1.50	5.00	8.73	9.84	10.55	10.87	11.33	11.59	12.04		
1.50	5.50	8.55	9.61	10.43	10.75	11.20	11.45	11.90		
1.50	6.00	8.36	9.39	10.31	10.63	11.07	11.32	11.76		
1.50	6.50	8.17	9.18	10.20	10.51	10.95	11.19	11.63		
1.50	7.00	8.00	8.99	10.09	10.40	10.83	11.07	11.50		
1.50	8.00	7.69	8.64	9.89	10.19	10.61	10.83	11.25		
1.50	9.00	7.41	8.33	9.54	9.99	10.40	10.62	11.02		
1.50	10.00	7.16	8.05	9.22	9.80	10.20	10.42	10.81		
1.50	12.50	6.63	7.45	8.54	9.08	9.76	9.96	10.33		
1.50	15.00	6.20	6.97	7.99	8.50	9.15	9.41	9.88		
1.50	20.00	5.54	6.23	7.14	7.60	8.20	8.44	8.86		

Self weight of hollow core slab + jointfilling : 4.04 + 0.28 = 4.32 kN/m²Density of concrete : 2500 kg/m³

Exposure class : 1 (dry environment)

Fire resistance : 2 hours

Deflection criteria :

- Long term deflection under self weight of the slab + total permanent load + 40% of the live load < L / 250
- Long term deflection under total permanent load + 40% of the live load < L / 500

Acoustic insulation R_w' : 56.1 dBThermal resistance R_c : 0.216 m²K/W

Concrete quality : C50/60

Concrete cover on lower reinforcement = 45 mm

Prestressing of upper reinforcement = 40% of f_{pk}Prestressing of lower reinforcement = 60% of f_{pk}f_{pk} = 1770 N/mm² for wires φ5f_{pk} = 1670 N/mm² for wires φ7f_{pk} = 1860 N/mm² for strands φ9.3 and φ12.5

Echo Engineering is not responsible for direct or indirect damage as a result of imperfections in these data

B. Hendrixx - 23-06-04

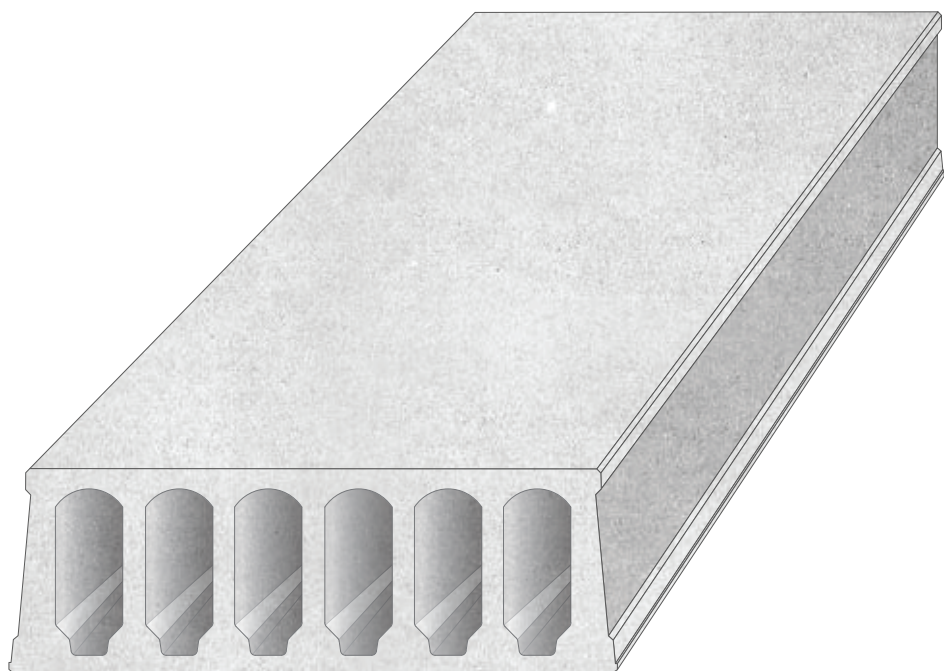
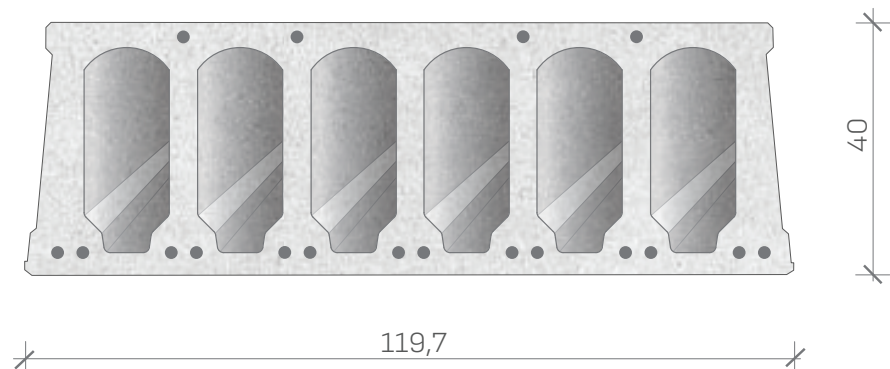
Кухотел SC40/120 см

МАТЕРИАЛ

ХАРАКТЕРИСТИКИ

Бетон C_≥50/60

Стомана B500



ECHO ENGINEERING N.V.

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SC 40x120 - 6 cores

(drawing nr. 55/11009)

Topping = 0 cm

Reinforcement type	GF4B	LF4B	PF4B	RF4B	UF4B	WF4B	ZF4B			
Upper reinforcement	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7	4φ7			
Lower reinforcement	5φ9.3 + 2φ12.5	2φ9.3 + 5φ12.5	2φ9.3 + 7φ12.5	4φ9.3 + 7φ12.5	7φ9.3 + 7φ12.5	12φ12.5	14φ12.5			
Reinforcement (kg/m ²)	3.93	4.73	5.95	6.63	7.65	8.31	9.52			
Mrd (kNm/m)	202.4	255.6	335.8	380.4	446.4	487.0	561.9			

perm. load (kN/m ²)	live load (kN/m ²)	CLEAR SPAN ACCORDING TO EUROCODE								
1.00	1.00	12.17	13.45	14.35	14.82	15.47	15.84	16.49		
1.50	1.00	11.73	12.99	13.85	14.29	14.91	15.26	15.88		
1.50	1.50	11.45	12.82	13.66	14.10	14.70	15.05	15.65		
1.50	2.00	11.19	12.66	13.48	13.91	14.51	14.84	15.44		
1.50	2.50	10.95	12.41	13.31	13.73	14.32	14.65	15.23		
1.50	3.00	10.72	12.15	13.15	13.56	14.14	14.46	15.04		
1.50	3.50	10.51	11.91	13.00	13.40	13.96	14.28	14.85		
1.50	4.00	10.30	11.64	12.85	13.24	13.80	14.11	14.67		
1.50	4.50	10.09	11.36	12.70	13.09	13.64	13.95	14.49		
1.50	5.00	9.85	11.09	12.56	12.95	13.49	13.79	14.33		
1.50	5.50	9.63	10.84	12.43	12.81	13.34	13.64	14.17		
1.50	6.00	9.42	10.60	12.17	12.68	13.19	13.49	14.01		
1.50	6.50	9.23	10.38	11.92	12.55	13.06	13.35	13.86		
1.50	7.00	9.04	10.18	11.68	12.42	12.93	13.21	13.72		
1.50	8.00	8.70	9.80	11.25	11.98	12.67	12.95	13.45		
1.50	9.00	8.40	9.46	10.86	11.57	12.27	12.65	13.19		
1.50	10.00	8.13	9.15	10.51	11.19	11.89	12.26	12.90		
1.50	12.50	7.54	8.49	9.75	10.39	11.07	11.41	12.01		
1.50	15.00	7.07	7.96	9.14	9.74	10.40	10.72	11.29		
1.50	20.00	6.33	7.13	8.20	8.73	9.35	9.64	10.15		

Self weight of hollow core slab + jointfilling : 4.61 + 0.36 = 4.98 kN/m²Density of concrete : 2500 kg/m³

Exposure class : 1 (dry environment)

Fire resistance : 1 hour

Deflection criteria :

- Long term deflection under self weight of the slab + total permanent load + 40% of the live load < L / 250
- Long term deflection under total permanent load + 40% of the live load < L / 500

Acoustic insulation R_w' : 57.9 dBThermal resistance R_c : 0.232 m²K/W

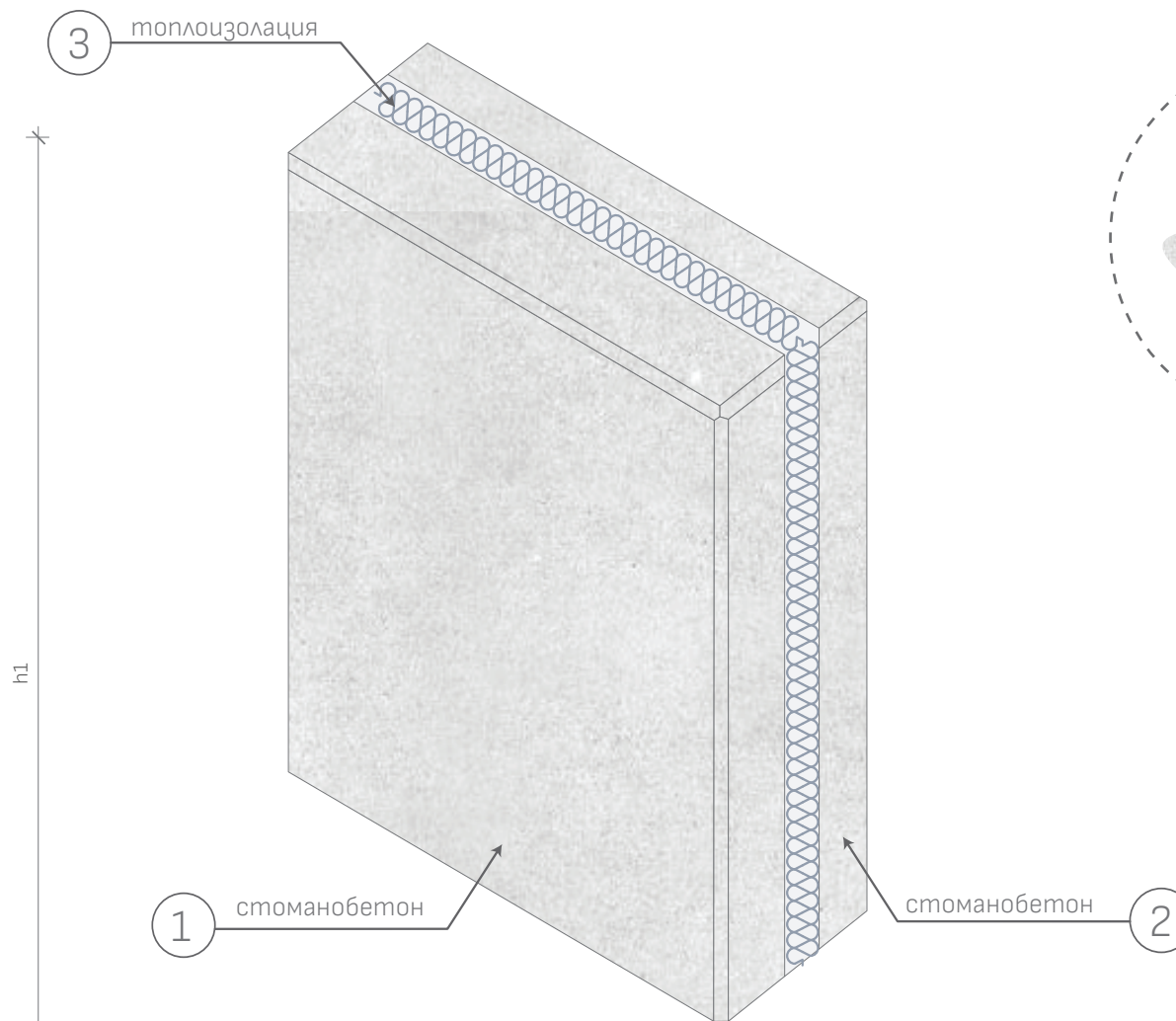
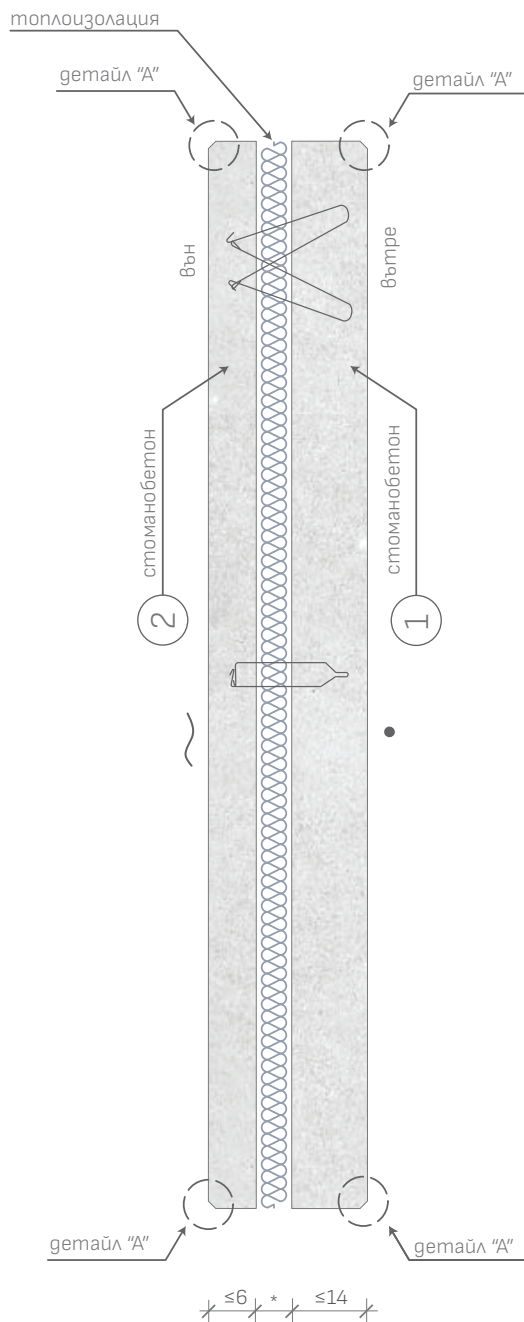
Concrete quality : C50/60

Concrete cover on lower reinforcement = 35mm

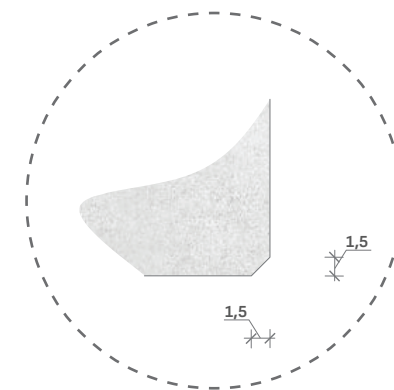
Prestressing of upper reinforcement = 40% of f_{pk}Prestressing of lower reinforcement = 60% of f_{pk}f_{pk} = 1770 N/mm² for wires φ5f_{pk} = 1670 N/mm² for wires φ7f_{pk} = 1860 N/mm² for strands φ9.3 and φ12.5

Echo Engineering is not responsible for direct or indirect damage as a result of imperfections in these data

B. Hendrikx - 23-06-04

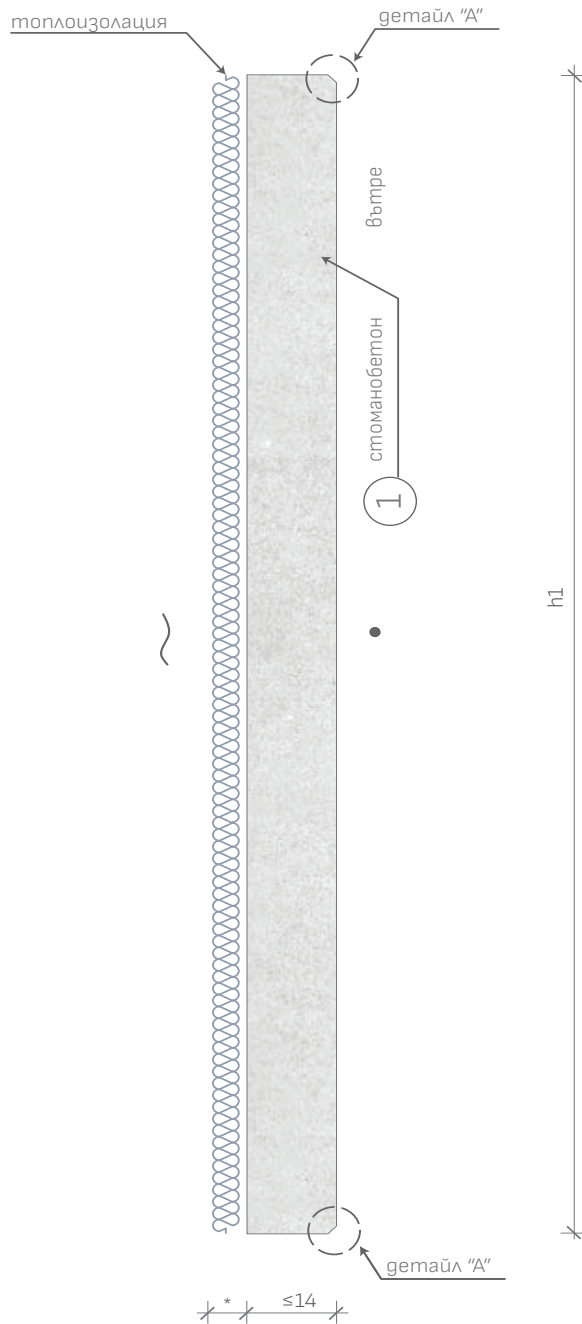


Детайл "А"

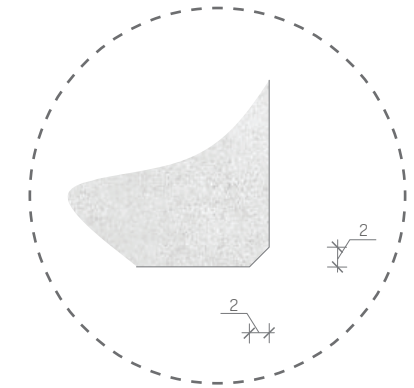


МАТЕРИАЛ	ХАРАКТЕРИСТИКИ
Бетон	C \geq 30/37
Стомана	B500

- a** - пълно стъпване
- б** - понижено стъпване
- *** - по изчисление
- - кофраж
- ~** - свободна повърхност

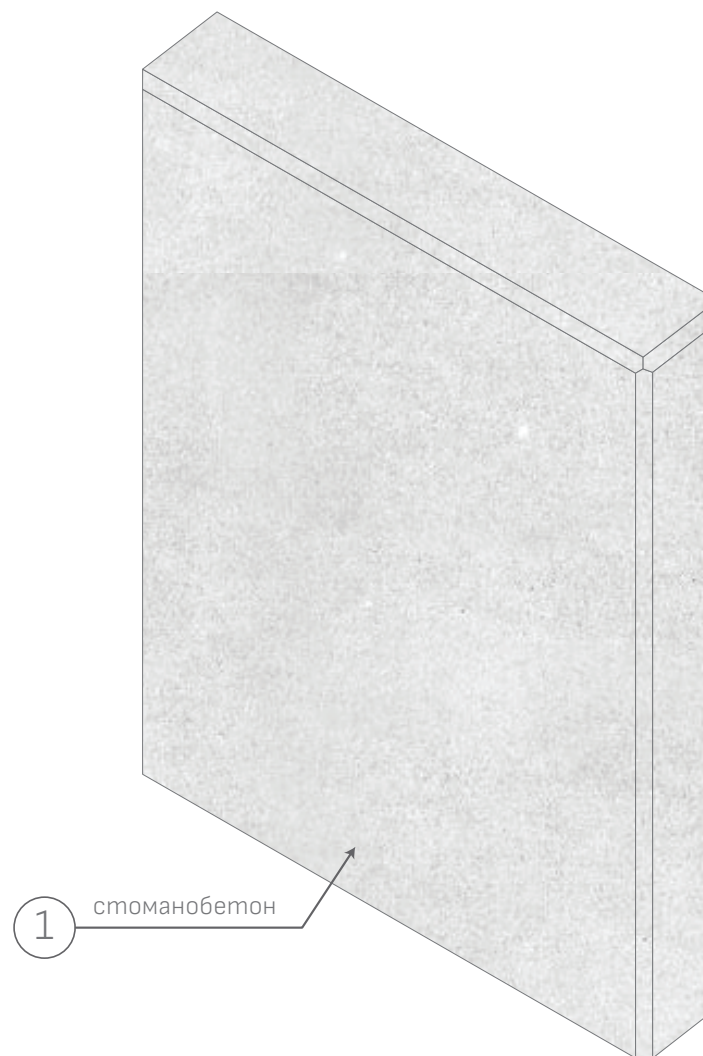
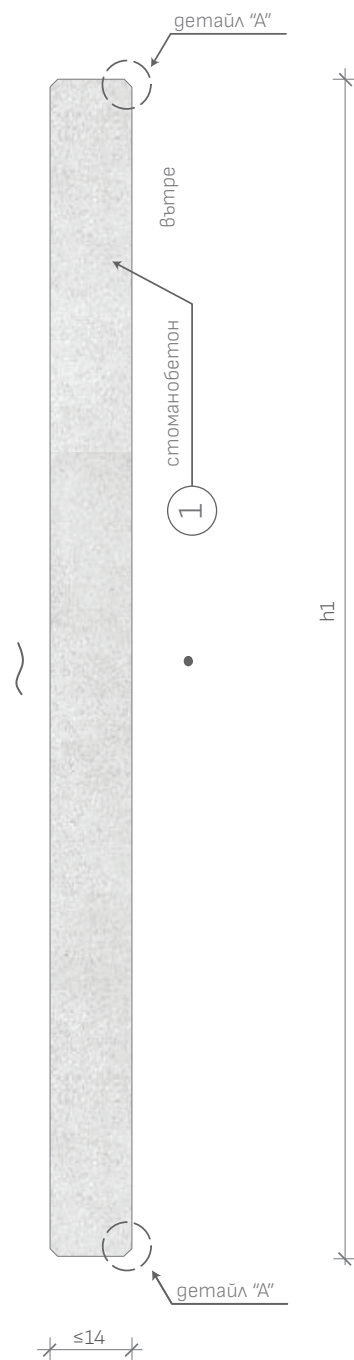


Детайл "А"

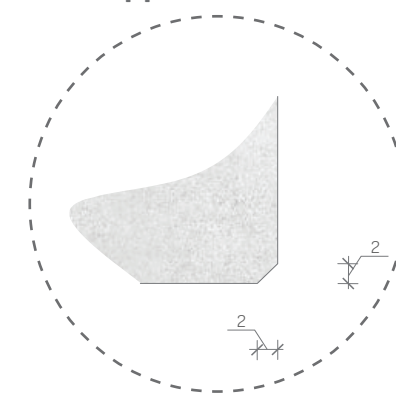


МАТЕРИАЛ	ХАРАКТЕРИСТИКИ
Бетон	C≥30/37
Стомана	B500

- а** - пълно стъпване
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Детайл "А"



МАТЕРИАЛ	ХАРАКТЕРИСТИКИ
Бетон	C _{≥30/37}
Стомана	B500

- а** - пълно стъпване
- б** - понижено стъпване
- *** - по изчисление
- - кофраж
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