



Asian Development Bank

ՀԱՏՈՐ Ա

**ՀՀՇՆ 20.04-2020-ի մեկնաբանություններն
երկաթբետոնե հիմնակմախքով շենքերի համար**

**ՆԱԽԱԳԻԾ: TA-9655 ARM: Սեյսմիկ անվտանգության բարելավման
ծրագրի աջակցություն և վավերացում**

2024

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$T_{\psi 1}$

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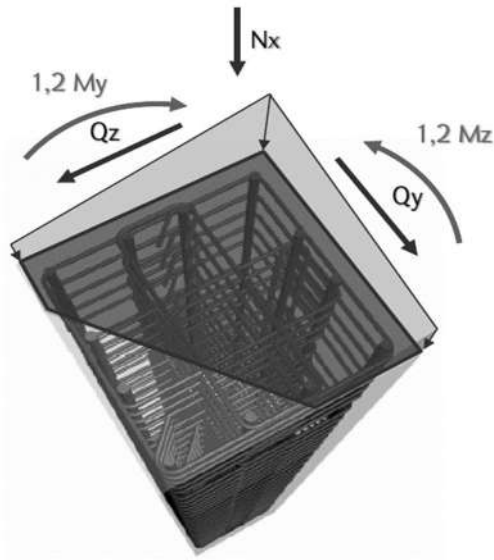
$56 T_{\psi A}$

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$56 T_{\varphi}$



a. 88

a 5x5

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a5>4B

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6. 0 51	4284	6294	424494 u	4279	62=:	42449= u
7. , -	4289	6266	424544 u	4284	6294	424544 u
8. 71 0	4289	6266	424477 u	4284	6294	42447< u
9.	4289	6266	424477 u	4284	6294	42447< u

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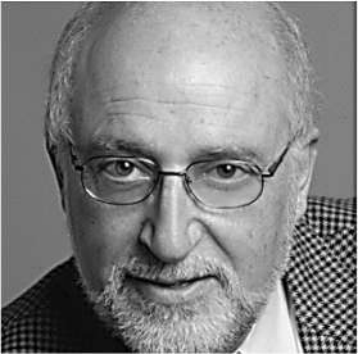
at a ,Vpo cыe п ьадхав Vpo бтаырп-

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5>=5 .1

1

a5A8B

«и» «» 5>95 .	at a 5>=5 .
	 <p style="text-align: center;">1</p>
$V_k \approx \sqrt{\sum_{i=1}^v V_{ki}^2}$	$V_k \approx \sqrt{\sum_{i=1}^v \sum_{j=1}^v \rho_{ij} V_{ki} V_{kj}}$ $\rho_{ij} = \frac{8\sqrt{\zeta_i \zeta_j} (\beta_{ij} \zeta_i + \zeta_j) \beta_{ij}^{3/2}}{(1 - \beta_{ij}^2)^2 + 4\zeta_i \zeta_j \beta_{ij} (1 + \beta_{ij}^2) + 4(\zeta_i^2 + \zeta_j^2) \beta_{ij}^2}$ <p style="text-align: center;">,ѡо сти о аыр-</p> $\rho_{ij} = \frac{8\zeta^2 (1 + \beta_{ij}) \beta_{ij}^{3/2}}{(1 - \beta_{ij}^2)^2 + 4\zeta^2 \beta_{ij} (1 + \beta_{ij}^2)}$ <p style="text-align: right;">$\beta_{ij} = \frac{\omega_i}{\omega_j}$ $(\zeta_i = \zeta_j = \zeta)$</p>

J 295151 V_k U

$0V_{ki} \quad V_{kj} \quad U \quad 0 \quad 0$

$< \eta$

0 ,

$S_{ki}0 \quad S_{ki}^e$

$-0 \quad \nu \quad 0$

$\rho_{ij} \quad 0$

9* -0 J 295161

a 589

$T_{\alpha} T_{\zeta}, T_{\zeta} T_{\tau}$	544	42<	42>9	42>7	42>4	42=9	42=4	42<9	42<4	$\leq 42 <$
$\rho_{\alpha} D \rho_{\alpha}$	52444	42=>:	42<>5	42 =5	42<7	42<7	42< :	424=	424<5	4

a 595

0

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T

>4*1

0

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T

9*1 A

3

T, h рданн ачч 4

$$M_i = \frac{\left(\sum_{k=1}^n Q_k \eta_{ki} \right)^2}{g \sum_{k=1}^n Q_k \eta_{ki}^2} A$$

3

T

, h рдан тахывк аырп аавьрх-

4

$$MPF_i = \frac{\sum_{k=1}^n Q_k \eta_{ki}}{\sum_{k=1}^n Q_k \eta_{ki}^2} A$$

0

$$\frac{g \sum_{i=1}^v M_i}{\sum_{k=1}^n Q_k}$$

544*

>4*

0

0

0

$$\frac{\left(\sum_{k=1}^n Q_k \eta_{ki} \right)^2}{\sum_{k=1}^n Q_k \sum_{k=1}^n Q_k \eta_{ki}^2}$$

544*

9*

:

0

>4*1

>9*1

0

0

wE1 wG1 ,

wE1 wGE1 -

, qхапчавьрпано

, орьавьрпан

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Yщф ,o нъ3

кeвърх aпaнъиnъ

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,J 27-

5241 0

0 U_ε U_η

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J 29715-

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J 29715i

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a 5A>5a 5AA5 a 5AC5

86.6A38686

5- S_{ki}

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6-

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,J 27-

U_ε U_η

J 2= J 2>0

U

d

5241 0

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ZьxрVрдe E 1

U_ε

42 <1

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U_ε U_η

5241

a 5A < 4B

		k Ae		
		k C 94	k 94	
		1	8	E 8
$\frac{M_R}{M_{ov}}$ $M_{ov} = V_0(2h/3 + C)$ $M_R = G B/2$		529	6275	7
$\frac{B-x}{B} 100\%$ $\sigma_{max} \leq 1,2R$ $x = \frac{3B(1 - M_{ov}/M_R)}{2} \quad 0 \quad \frac{B-x}{B} = \frac{3M_{ov}/M_R - 1}{2}$		94*	59*	4
y4	0		0	
j	0			
	/ 429			
	A			

0

A

w_h 429

42< d U₄ U₅t 0 t

1

A

w_h 429 1

429 42< d U₄ U₅t 0 429 1 429

,5 $\frac{0.5}{0.35}$, 429 w_h- 42< d U₄ U₅t

A

A

529 42< d U₄ U₅t

A

a5B5

A

y

t_y

W

0

Ы

$$\psi_U = \frac{\Delta_U \sum_{q_U}^p t_{\eta}}{U_U \sum_{q_U}^p v_{\theta}^U} \leq 40$$

425 C_y 4260

535 y-

A

W

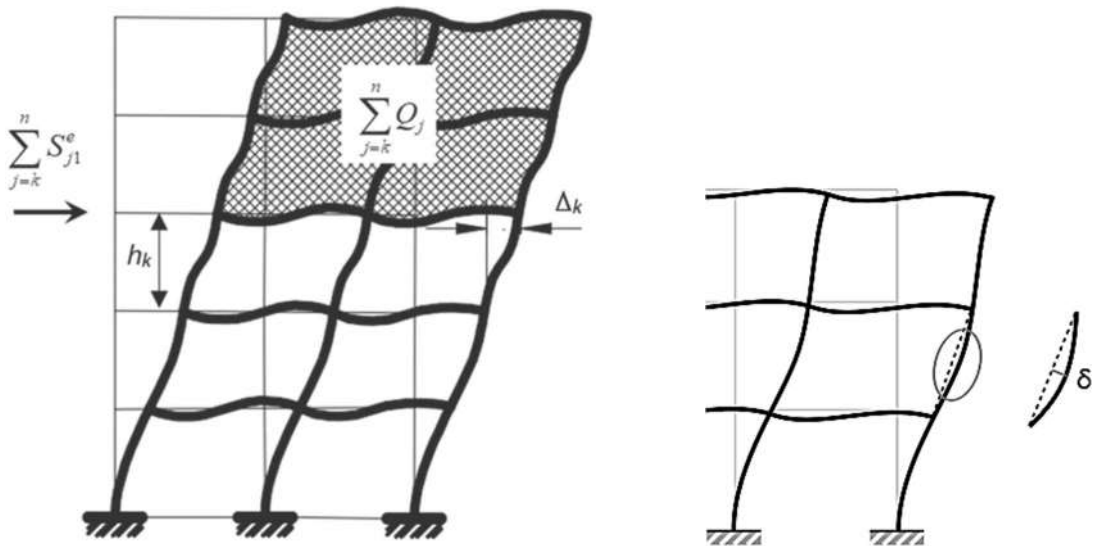
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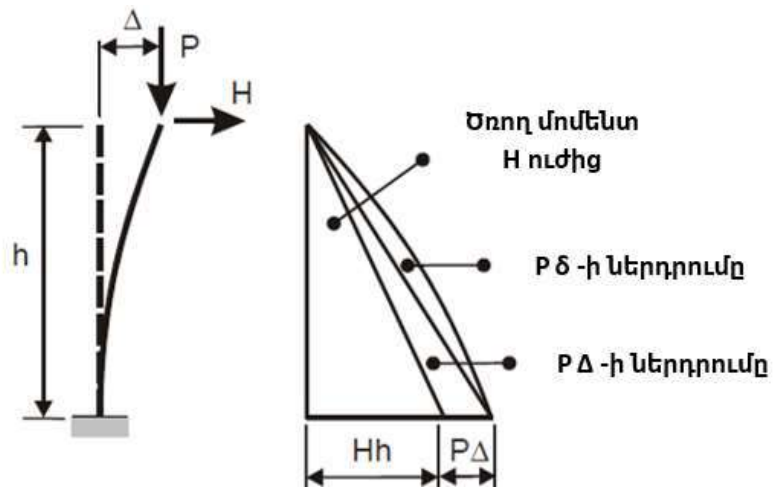
0

$$\eta = 1 / \left(1 - \frac{N}{N_{cr}} \right)$$

, J,5-268= J,5-2694 -:



a.AB4



a.AB4

a 5AD5

a 5AE5

86.6A3686

0

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0

0

,J T-

A

,J Y-

0

Sy

$T_{y^y} D W_{y,s_y} / s_u = 0$

$T_{y^y} D W_{y,s_y} / 424 = H / s_u = 0$

$T_{y^y} D W_{y,s_y} / 424 = H$

$424 = H$

$T_{y^y} D W_{y,s_y} / 424 = H$

$424 = H$

' στ 529 οευ ,

$\Delta_{max,x} \leq 1,15 \Delta_{avg,x}$
 $M_{kx}^{kp} = P_{kx} (e_{ky} + e_{gy})$
 $\Delta_{max,y} \leq 1,15 \Delta_{avg,y}$
 $M_{ky}^{kp} = P_{ky} (e_{kx} + e_{gx})$

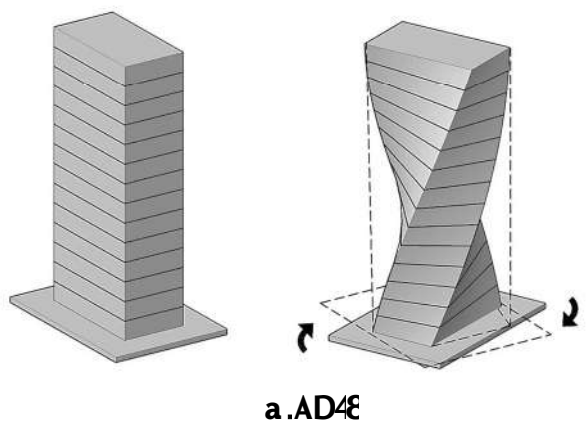
' στ 1

$\Delta_{max,x} > 1,15 \Delta_{avg,x}$
 $M_{kx}^{kp} = P_{kx} ((e_{ky} + 0,08by) + e_{gy})$
 $\Delta_{max,y} > 1,15 \Delta_{avg,y}$
 $M_{ky}^{kp} = P_{ky} ((e_{kx} + 0,08bx) + e_{gx})$

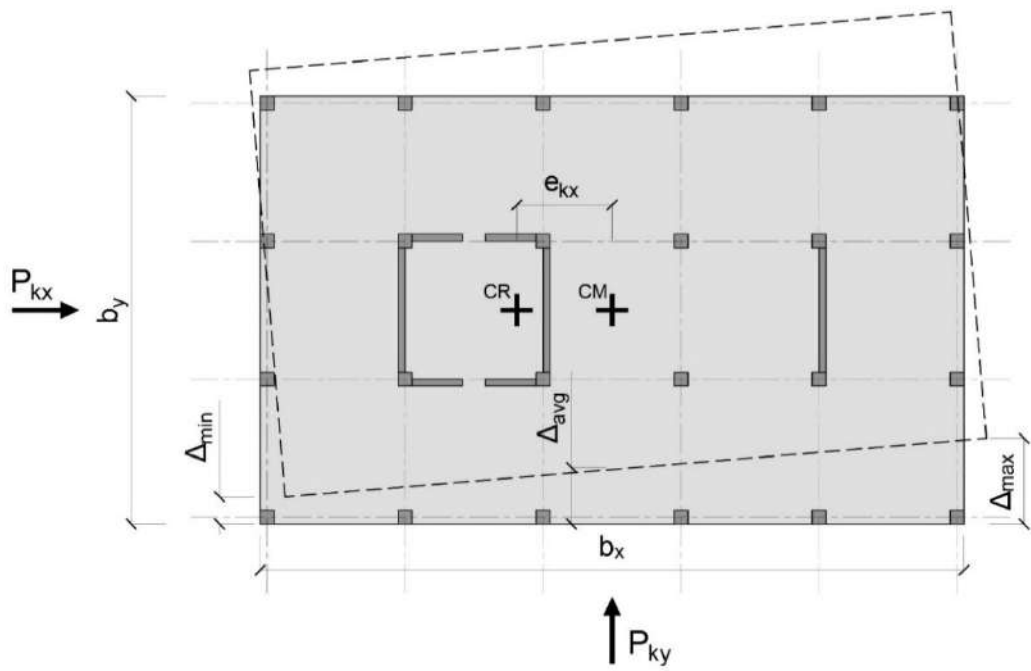
պտտական
 առաջացող
 ստորնության
 աշվարկային
 լեղադրվում է
 ընդհանուր
 է ըստ

a.5D48

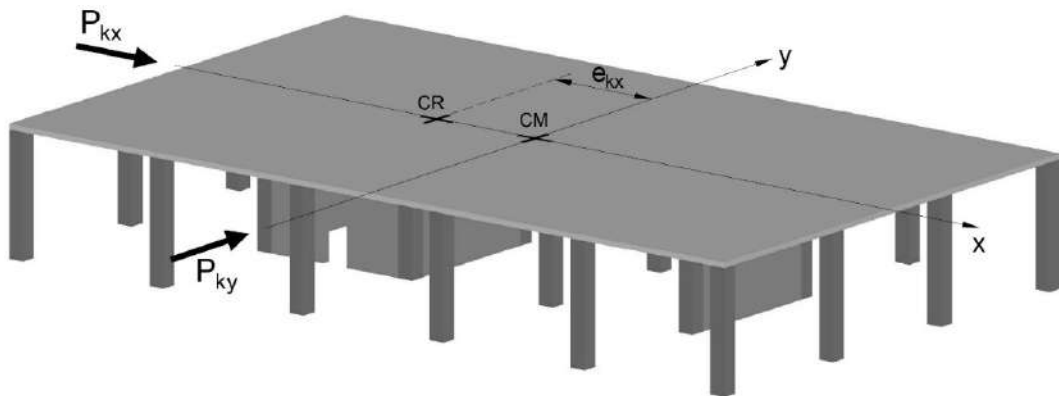
5: ,99



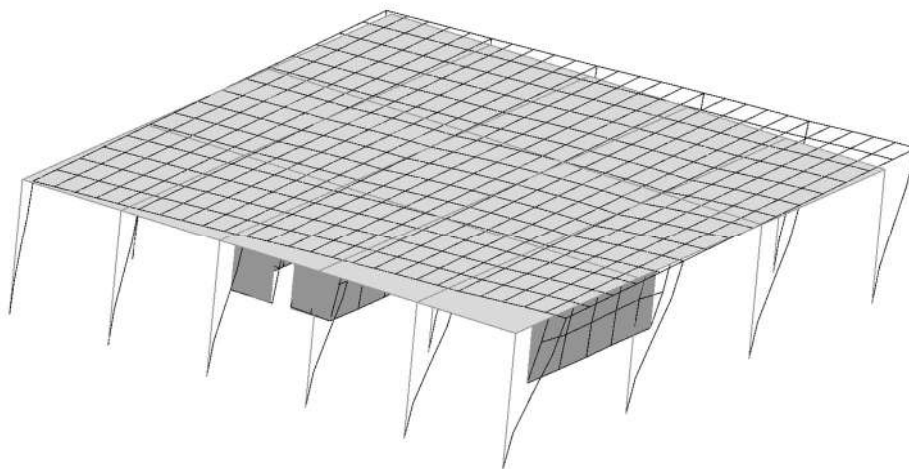
59* 1 A
 J .9=161 J .9=1>1 -0
 0
 0
 H y1
 0 T_{y^y} D W_{y,s_y}
 y1
 J 28-
 s_u1 0
 W_y
 W_y
 S_y
 0
 ' στ 529 οευ



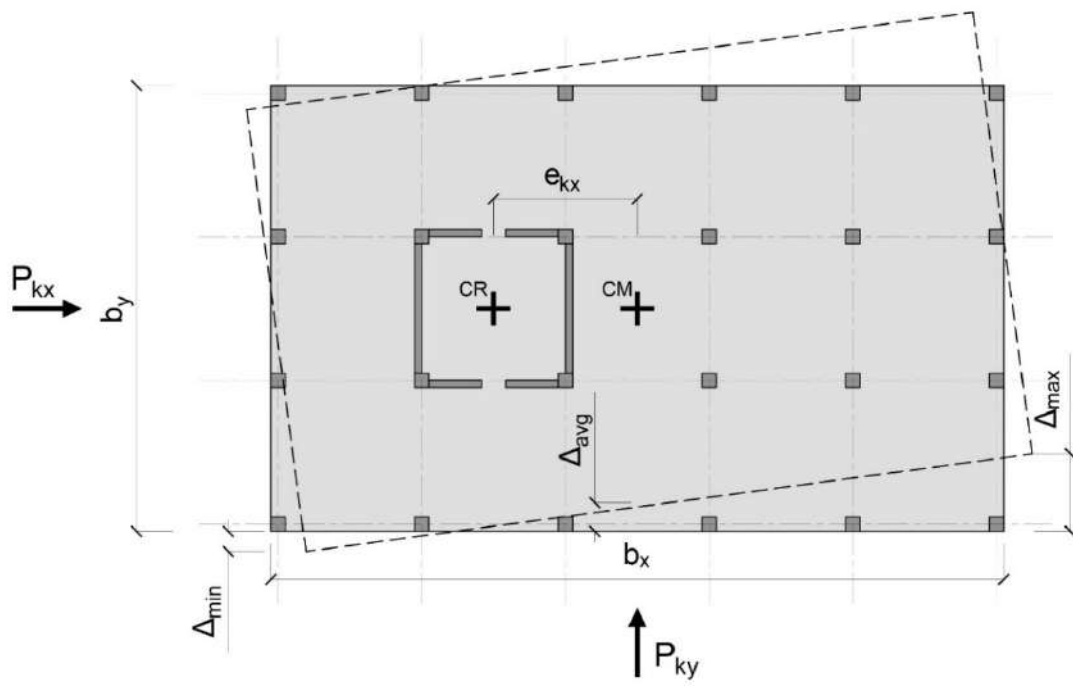
a.ADØ



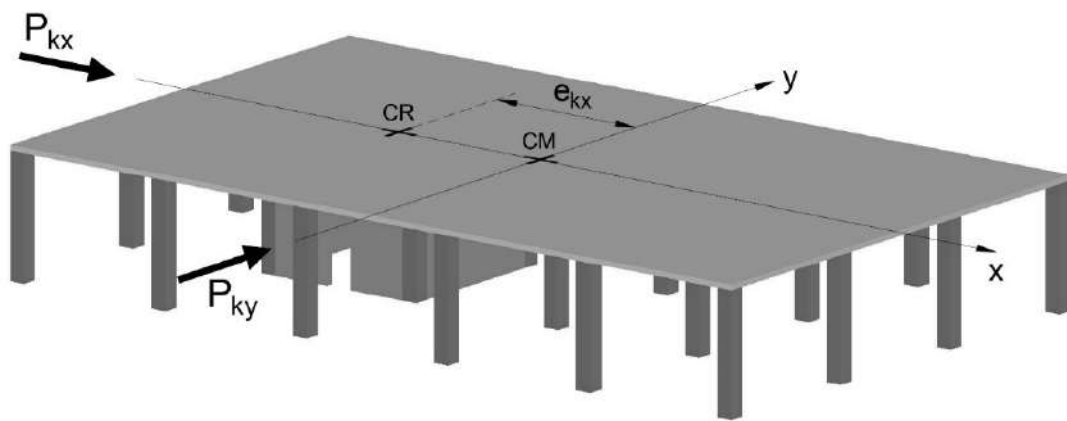
a.AD4



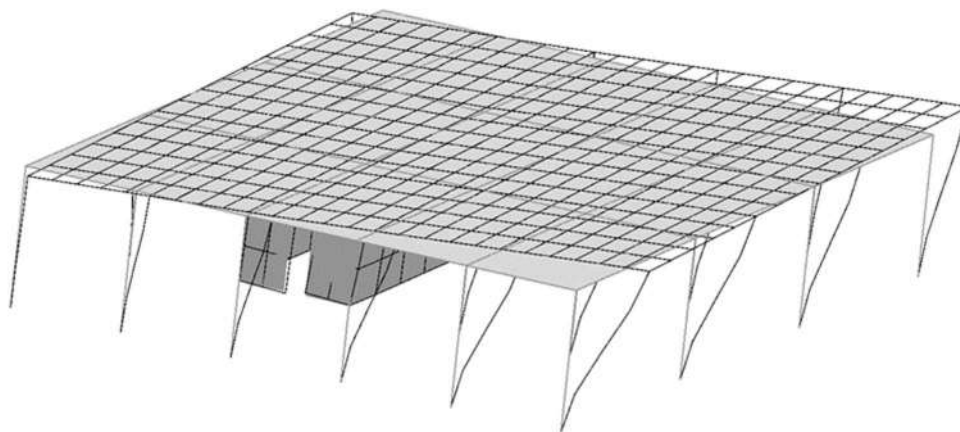
a.AD4



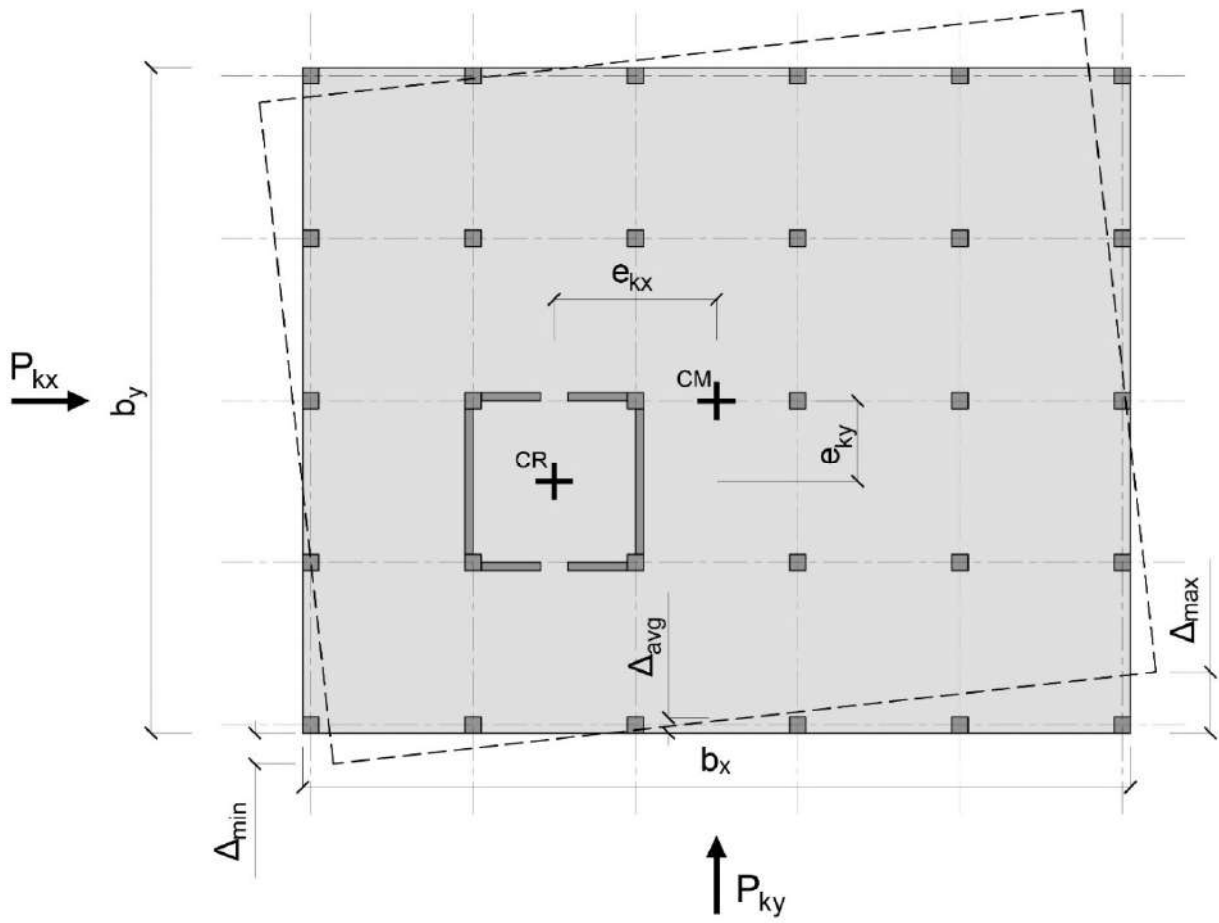
a.AD4A



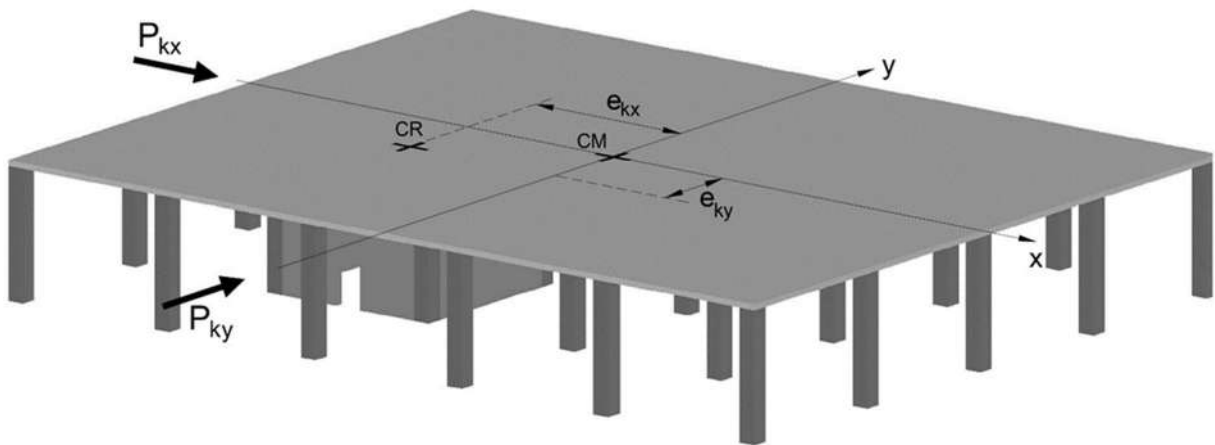
a.AD4B



a.AD4C



a.AD4



a.AD5

a 5AD4B

	S_u	
	$b_5 \ 429$	$b_{5E} \ 429$
P	$427 \ p$	$406 \ p$
PP	$424: \ p$	$428 \ p$
PPP R	$424= \ p$	$429 \ p$
p y1	W	

a 5B<5

0 ,J Y-
A

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, **ZьxpVpде E1** -
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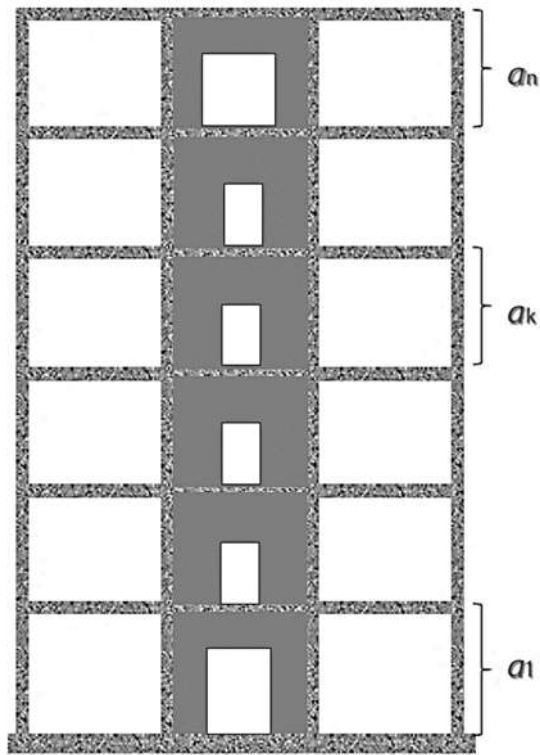
a 5BA5

0

$69^* \ 0 \ a_k$

5- $1.25a_{k+1} \geq a_k \geq 0.75a_{k+1}$ $k = 1, 2 \dots (n - 1)0$

6- $a_k \geq 0.75 \frac{a_{k+1} + a_{k+2} + a_{k+3}}{3}$ $k = 1, 2 \dots (n - 3-A)$



a.BA4B

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y_5

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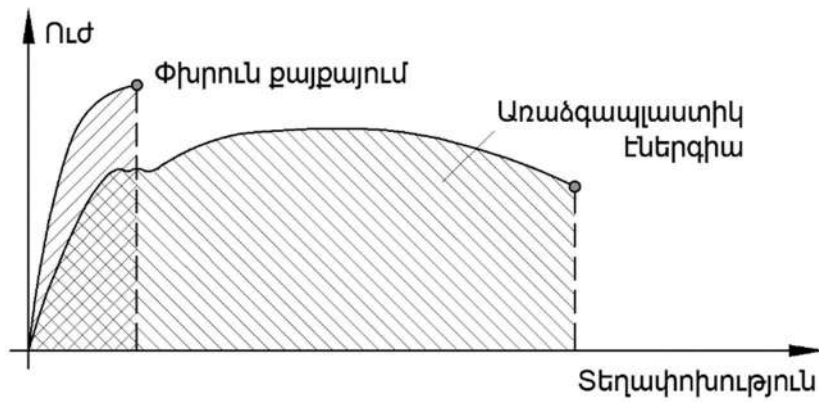
A

a.5BC5

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A



a 5BC9

a /809 < A1

$\xi_u < 1$

$$\xi_u = \frac{h_u}{\gamma_4} = \frac{40}{5 + \frac{E_d}{H_6}} < 1$$

,J ,5-276-

a /809 < B5

,J ,5-276-

$\xi_u < 1$

25

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429

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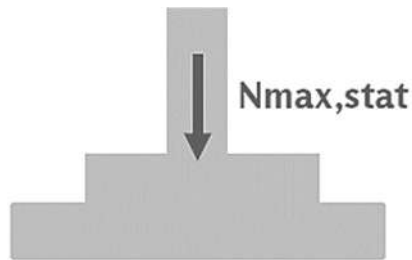
-A

a 5BC48

0*	$\xi_u < 1$	I 640I 690I 740I 79 I 84 H944	
		5	6 7
E < 9	4296 <	426 > :	4268 <
84 I < 9	42995		
C84	429 < :		
883673868A			
A			

a 5BD5

U' στΔγ
 0
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 U_γ
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 U' στΔγ
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 0
 8638368A



a 5BC95

U' στΔγ 4.> U_γ D4.> p₇ u_p p v ,5l -
 U' στΔγ 4.= U_γ D4.= p₇ u_p p v ,6l -
 U' στΔγ 4.< U_γ D4.< p₇ u_p p v ,7l -

59

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H

ZьxpVpде E

0 ZьxpVpде1
 : 9*1 0 0

86.6A3686

U' στ

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0 Z̄xpVpde1
0



a5C9

a5E5

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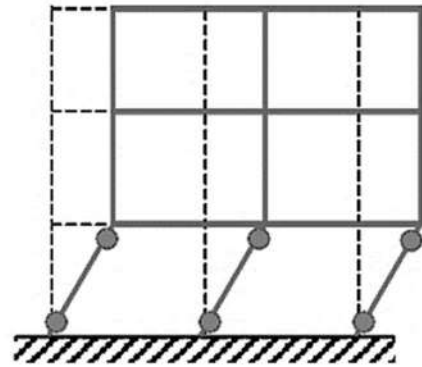
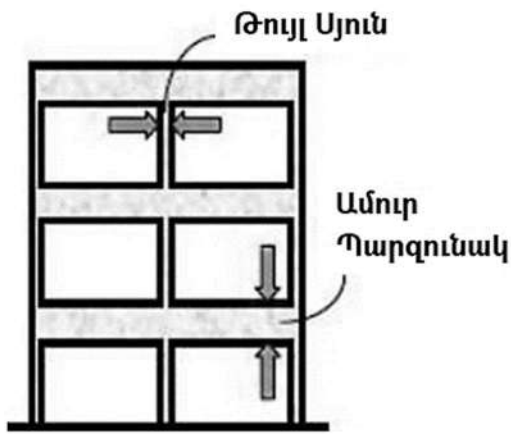
2

$$p_{q1} / p_{a1} = 5.7, p_{H1} / p_{H10}$$

$$p_{q1} / p_{a1} = 5.7 p_{H0}$$

3

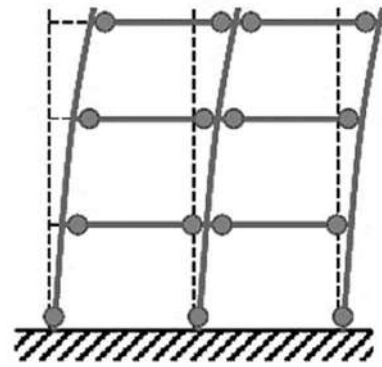
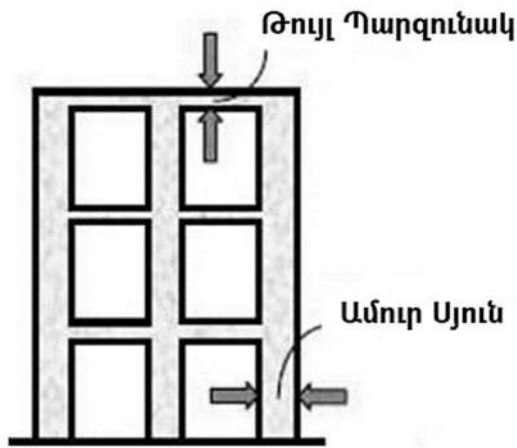
τ1



a ՅԵԳ

3

τ1



a ՅԵԹ

$\rho_Q \quad \rho_H$

$0 \quad \rho_{Hq} \quad \rho_H$

A

A

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0

$p_{q1} p_{\alpha} p_H p_{H\tau}$

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A

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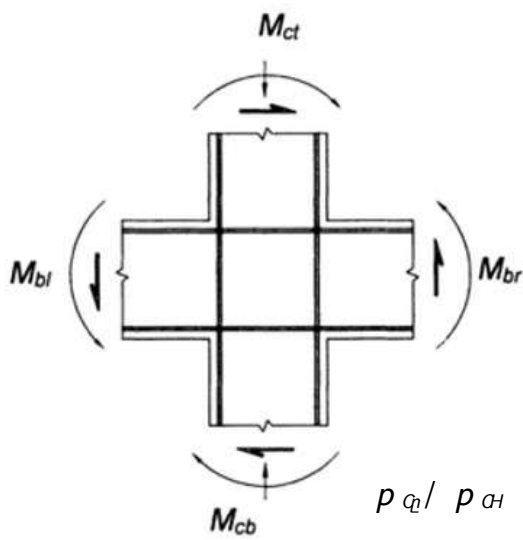
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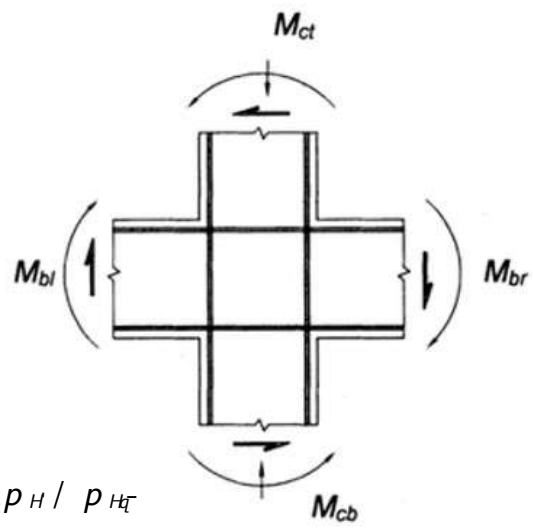
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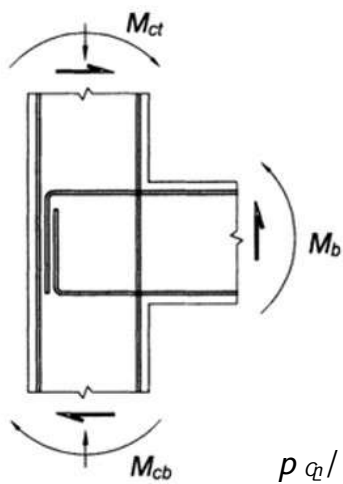
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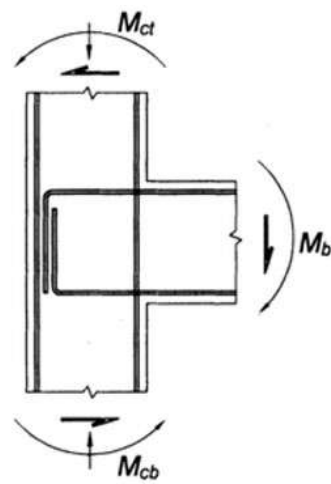
$p_{q1} / p_{\alpha} 57, p_H / p_{H\tau}$



a5BE4-5



$p_{q1} / p_{\alpha} 57 p_H$



a5BE4-5

0

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$L\delta' \cdot q \cdot rs =$

57

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$L\delta' \cdot q \cdot rs =$

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$\xi_u 1$

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0J ,5-279

d_{a5}

0

d_{a6}

0

d_{a7}

0

d_{a8}

0

d_{a9}

0

$d_a:$

2

L

0

$hD \frac{R_S \cdot A_S - R_{SC} \cdot A'_S}{R_b \cdot b} C 40$

0

$d_{a7} E d_{a8} \quad d_{a9} E d_a: 0$

0hC 40 0

p_{H1}

$R_{SC} \cdot A_{S5} (h - a - a')$

$R_S \cdot A_{S6} (h - a - a')$

$$hD \frac{R_s \cdot A_{S3} - R_{sc} \cdot A_{S4}}{R_b \cdot b} 0$$

0

$$0 \quad \mu \quad hD \xi_u \quad \zeta_4$$

$$hD \xi_u \quad \zeta_4$$

0 p H 1

$$\alpha_m \cdot R_b \cdot b \cdot h_0^2 + R_{sc} \cdot A_{S4} (h_0 - a) A$$

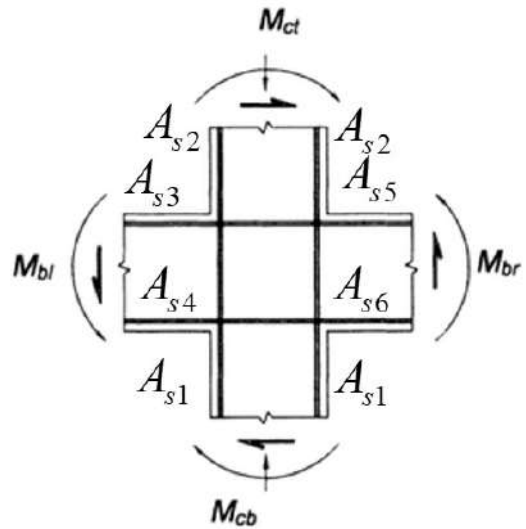
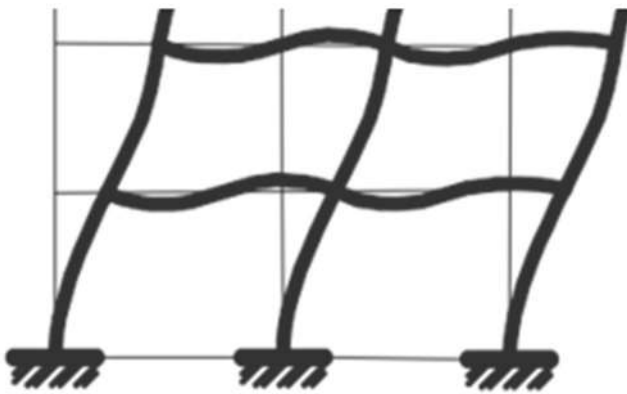
H

0 \zeta_1

0 \zeta_1

0

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a 5E4

ρ_{q} ρ_{a}

0

0

0

$$hD \frac{N_1 + R_s \cdot A_{S1} - R_{sc} \cdot A_{S1}}{R_b \cdot b_1}$$

$hD \xi_u \quad \zeta_5$

0

$$hD \frac{N_1 + R_s \cdot A_{S1} \frac{1+\xi_R}{1-\xi_R} - R_{sc} \cdot A_{S1}}{R_b \cdot b_1 + \frac{2 R_s \cdot A_{S1}}{h_{0,1}(1-\xi_R)}}$$

0

$\zeta_5 1$

$\xi D \quad h_3 4$

$$\alpha_m 1 \quad \alpha_m D \xi, 5 4 \text{ } \xi - A \quad \rho_{\text{a}}$$

$$\alpha_m \cdot R_b \cdot b \cdot h_{0,1}^2 + R_{sc} \cdot A_{S1} (h_{0,1} - a) - N_1 (0.5 h_{0,1} - a)$$

H₁
0 4₀₁

0 4₁

0

B836738687

$$\alpha_m \cdot R_b \cdot b_2 \cdot h_{0,2}^2 + R_{sc} \cdot A_{s2} (h_{0,2} - a) - N_2 (0.5 h_{0,2} - a)$$

3

T

0
, q₆ 0

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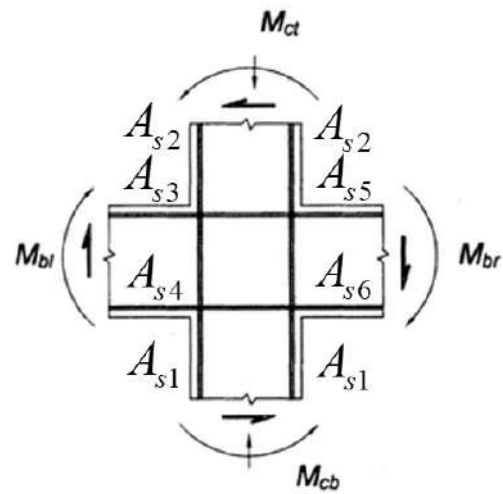
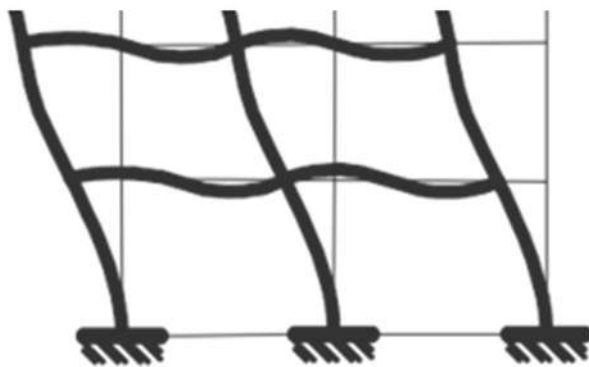
q₅

0

0

2

L



a 5BE4A

0

p H₁

$$\alpha_m \cdot R_b \cdot b \cdot h_0^2 + R_{sc} \cdot A_{s5} (h_0 - a') - N_1 (0.5 h_0 - a')$$

$$R_{sc} \cdot A_{s3} (h - a - a') \quad R_s \cdot A_{s4} (h - a - a')$$

p q₁ p H

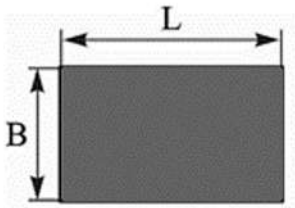
p H₁

a 5CB5

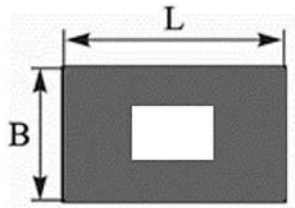
A

e o3'

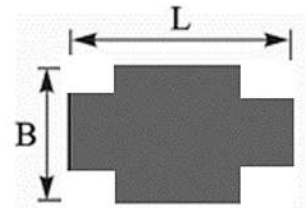
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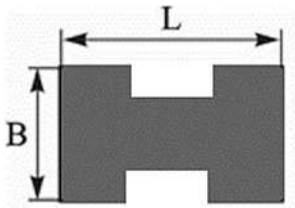
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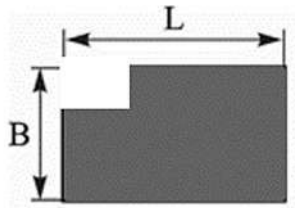
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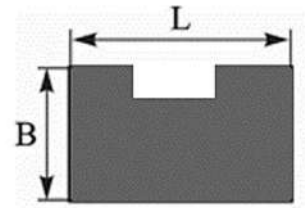
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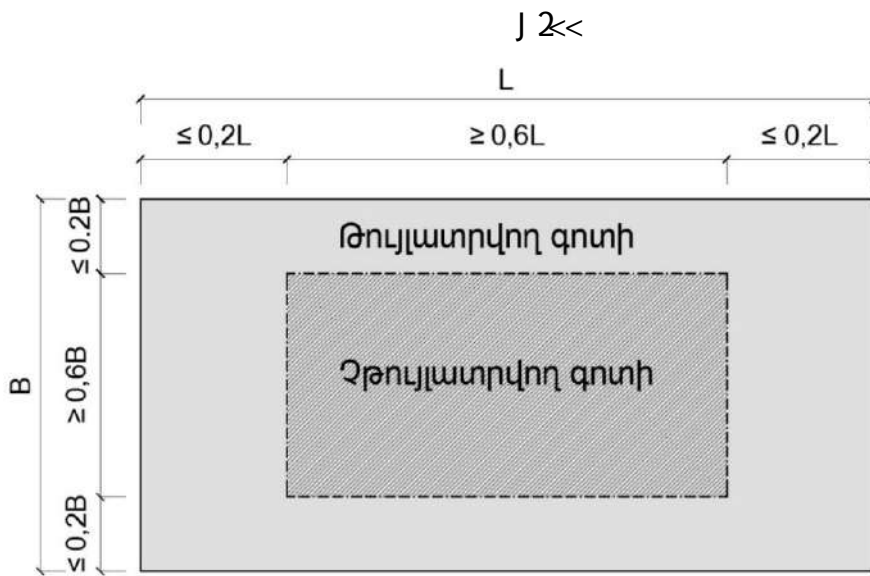
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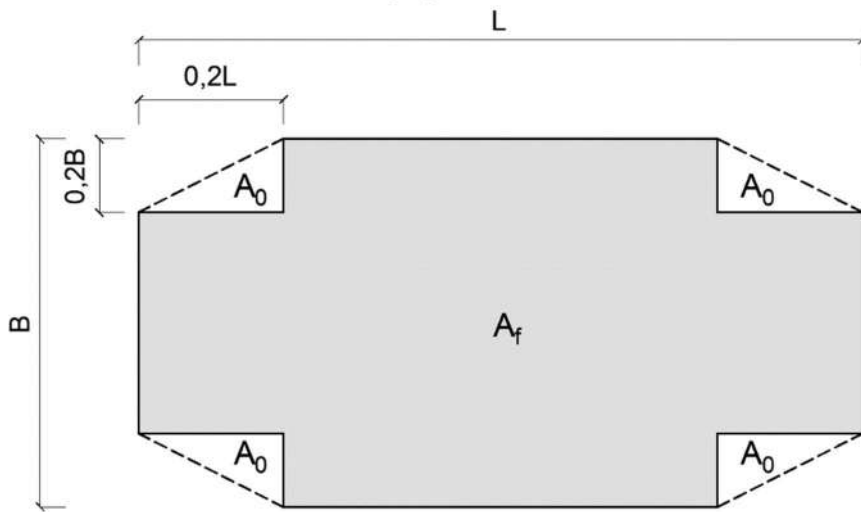
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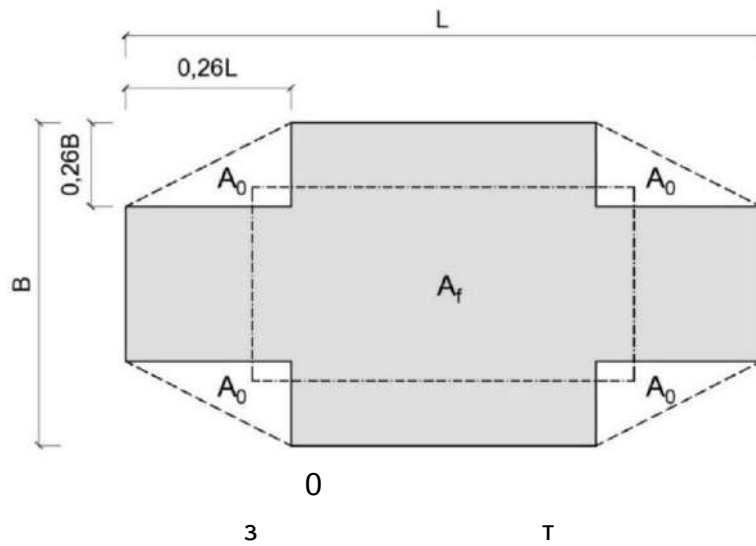
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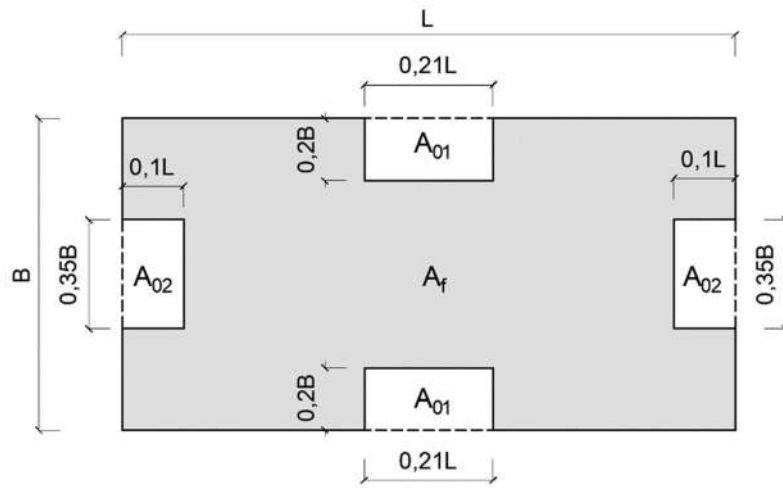
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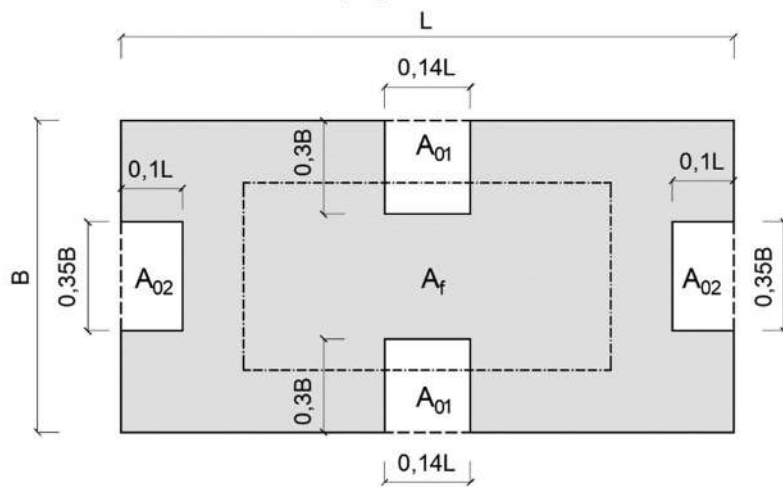


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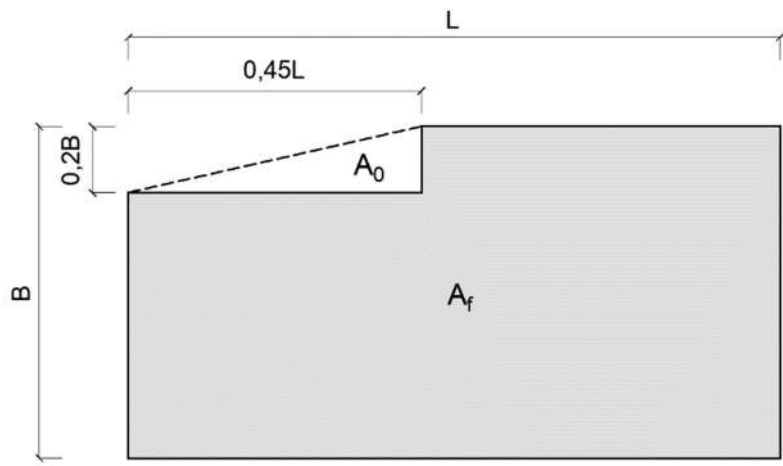


H₄₅3H₁D 82: * C9* H₄₆3H₁D 8258* C9*

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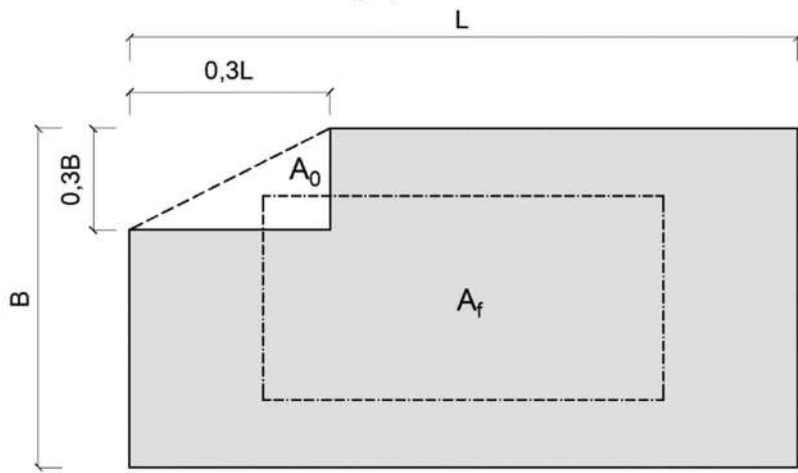
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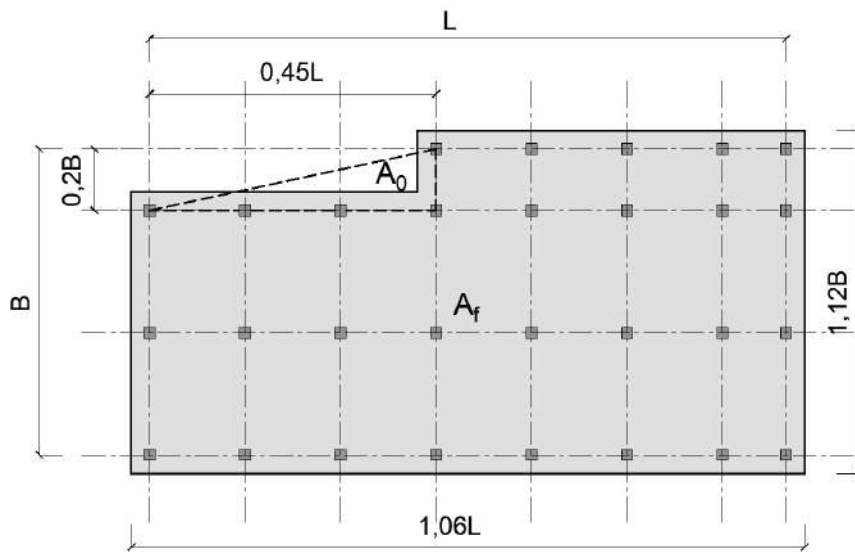


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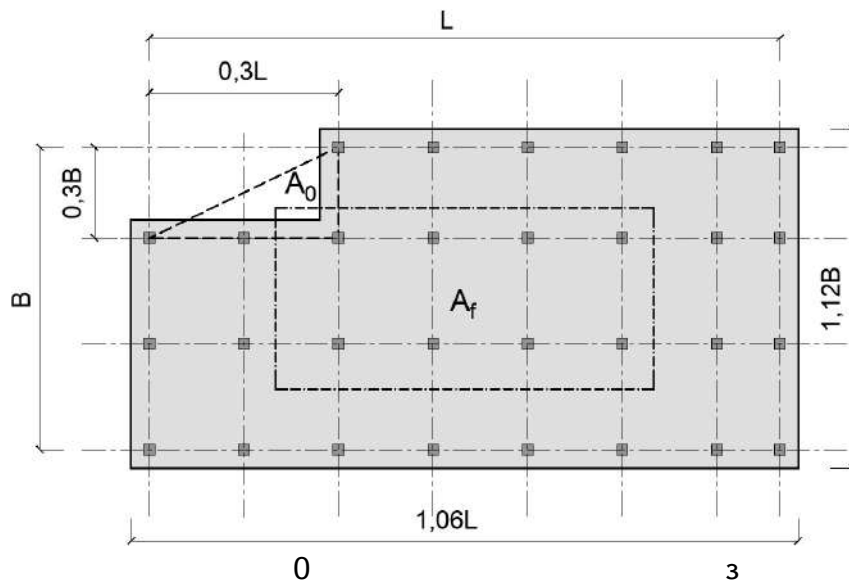
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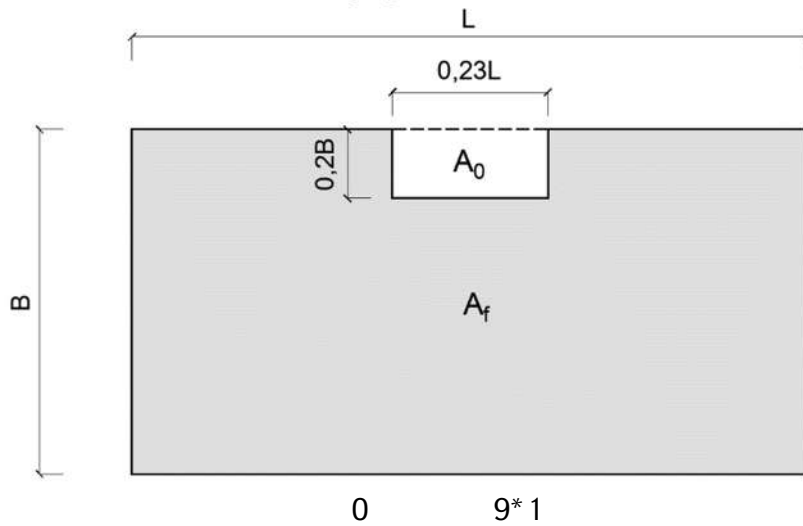
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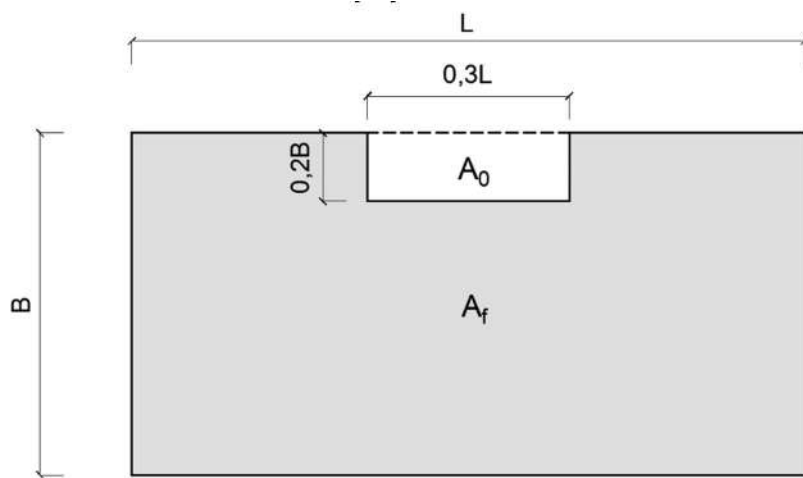


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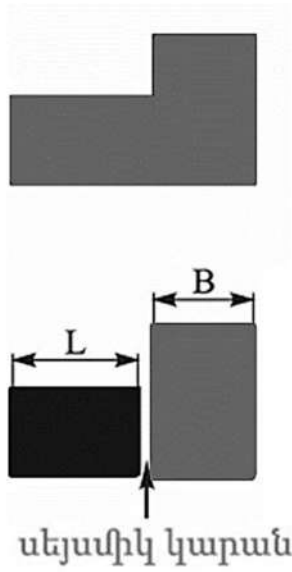
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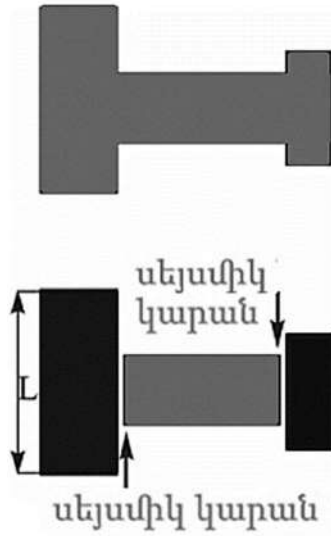
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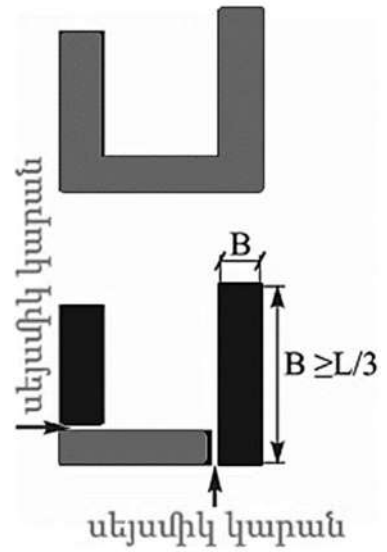
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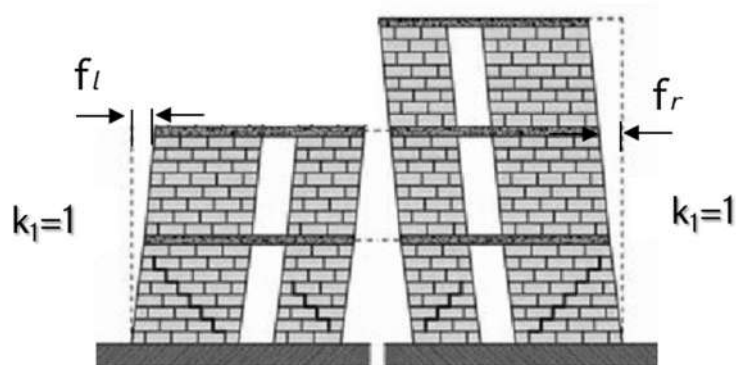
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$$f_{left,ki} = A \cdot g \cdot k_{o,left} \cdot \beta_{i,left} \cdot \left(\frac{T_{i,left}}{2\pi} \right) \quad f_{l,k} = \sqrt{\sum_{i=1}^v \sum_{j=1}^v \rho_{ij} f_{left,ki} f_{left,kj}}$$

$$f_{right,ki} = A \cdot g \cdot k_{o,right} \cdot \beta_{i,right} \cdot \left(\frac{T_{i,right}}{2\pi} \right) \quad f_{r,k} = \sqrt{\sum_{i=1}^v \sum_{j=1}^v \rho_{ij} f_{right,ki} f_{right,kj}}$$

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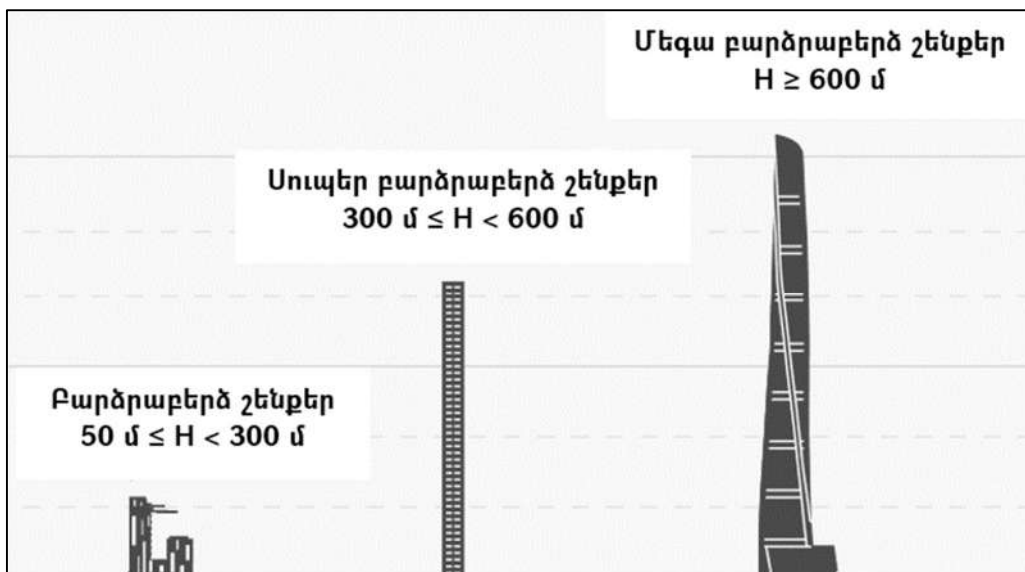
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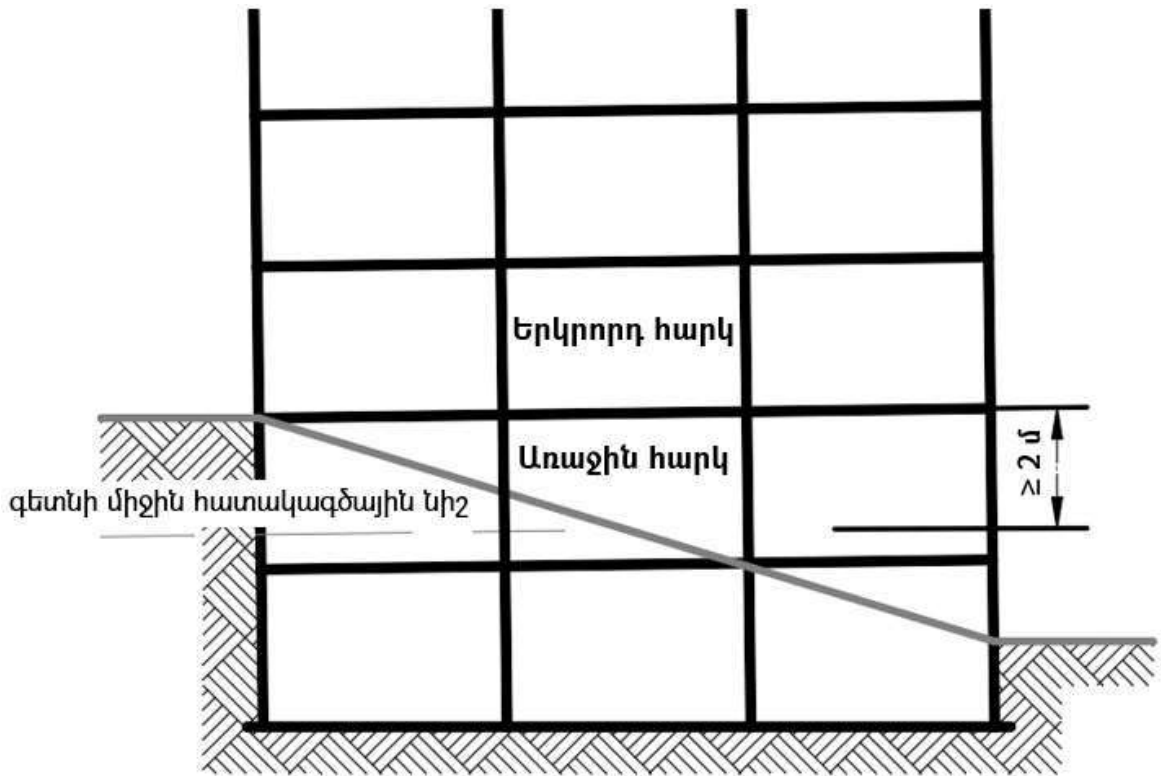
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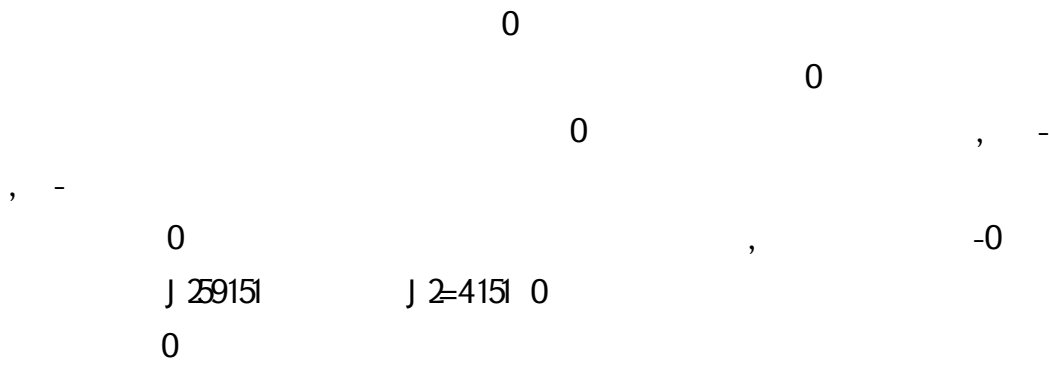
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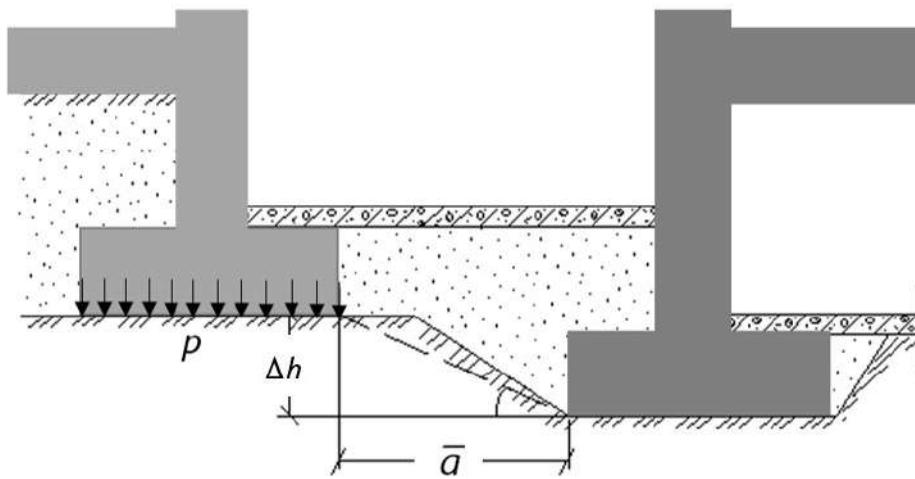
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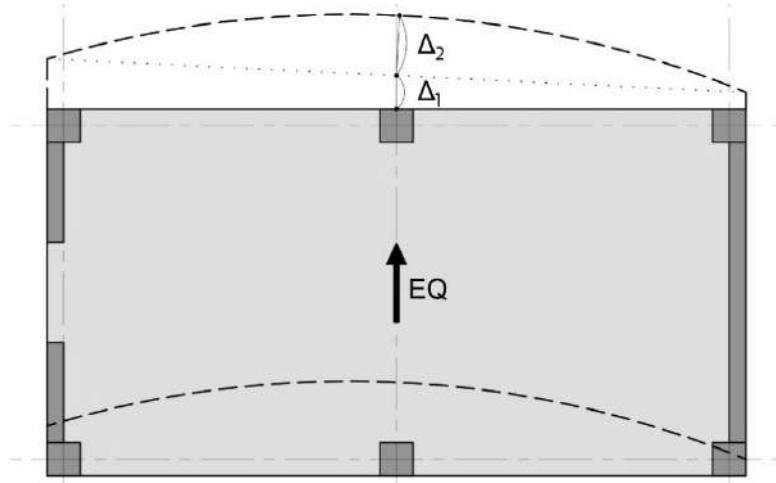
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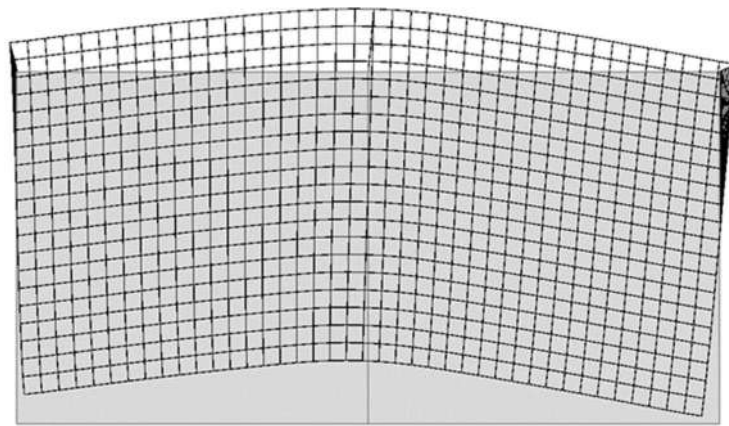
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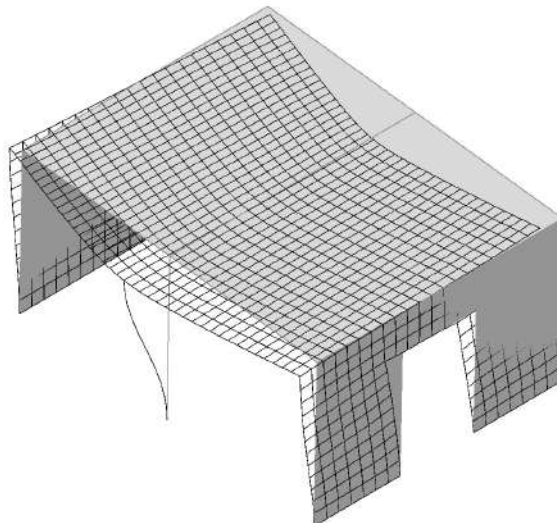
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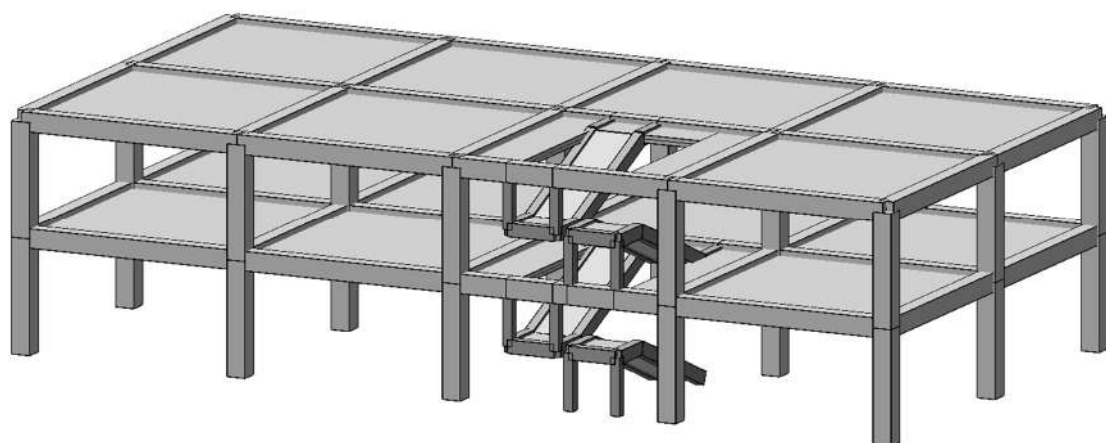
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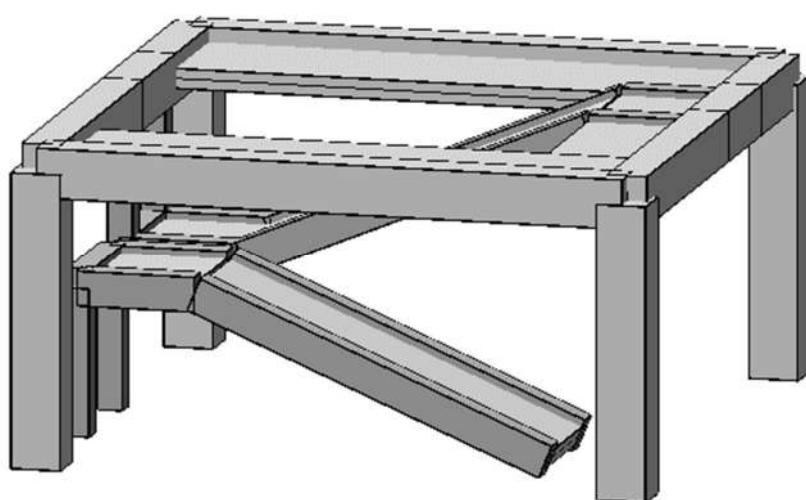
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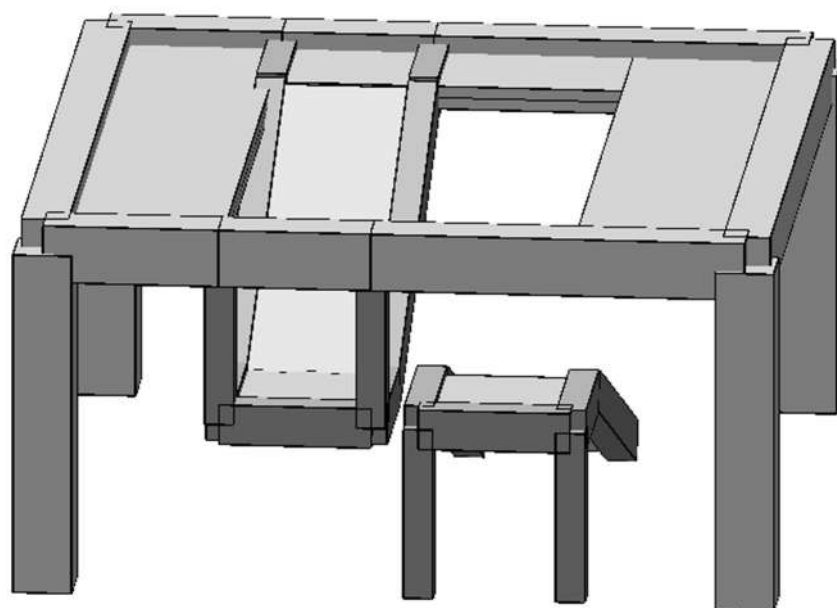
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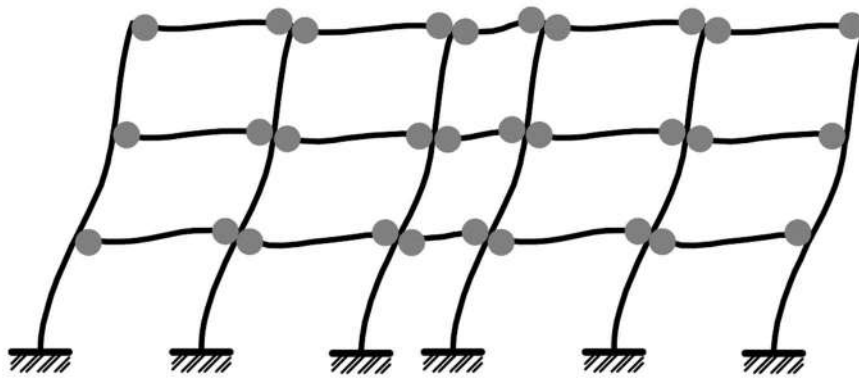
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$$l_{dh} = 4.25 \frac{R_s}{\sqrt{R_b}} d_s$$

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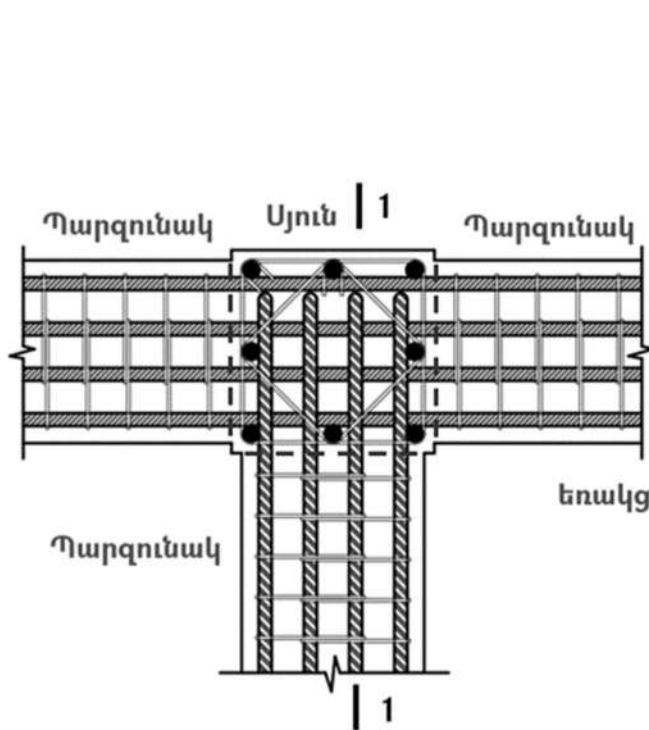
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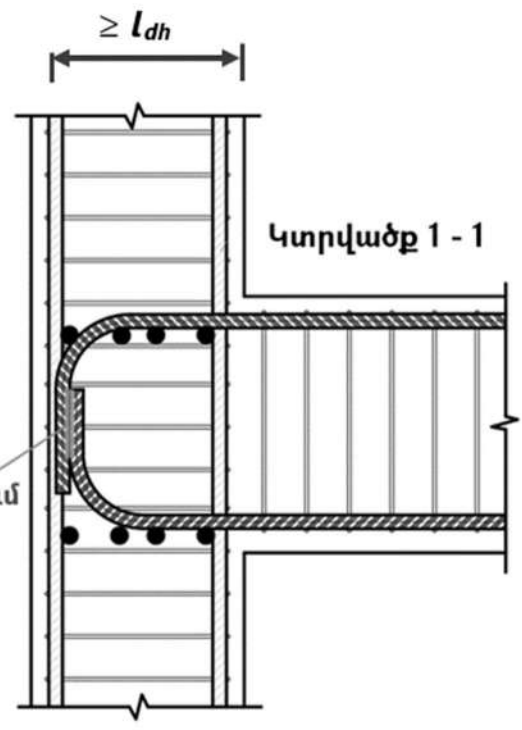
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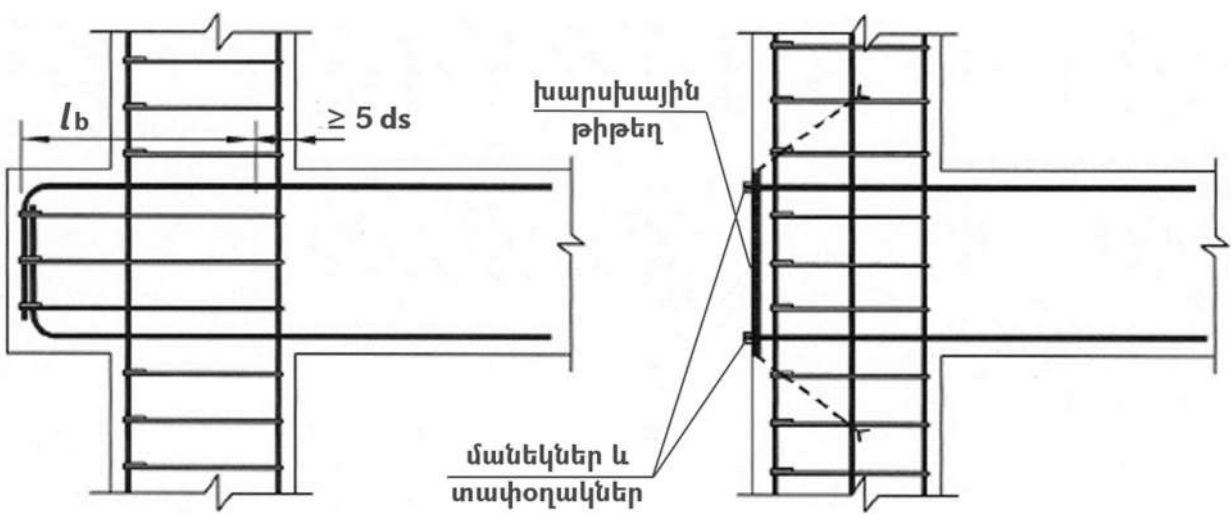
հանգույցի հատակագիծ

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$$V_{col} = (M_{pr,A}^- + M_{pr,B}^+) / l_c A$$

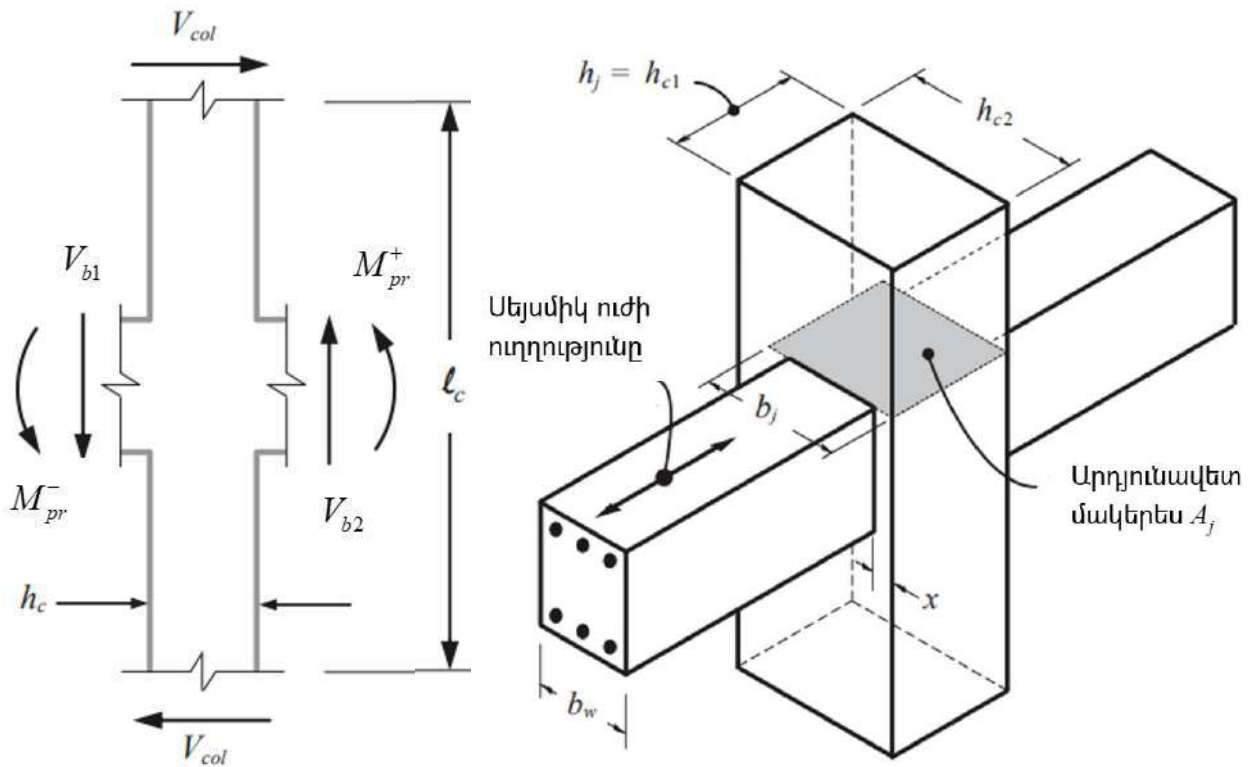
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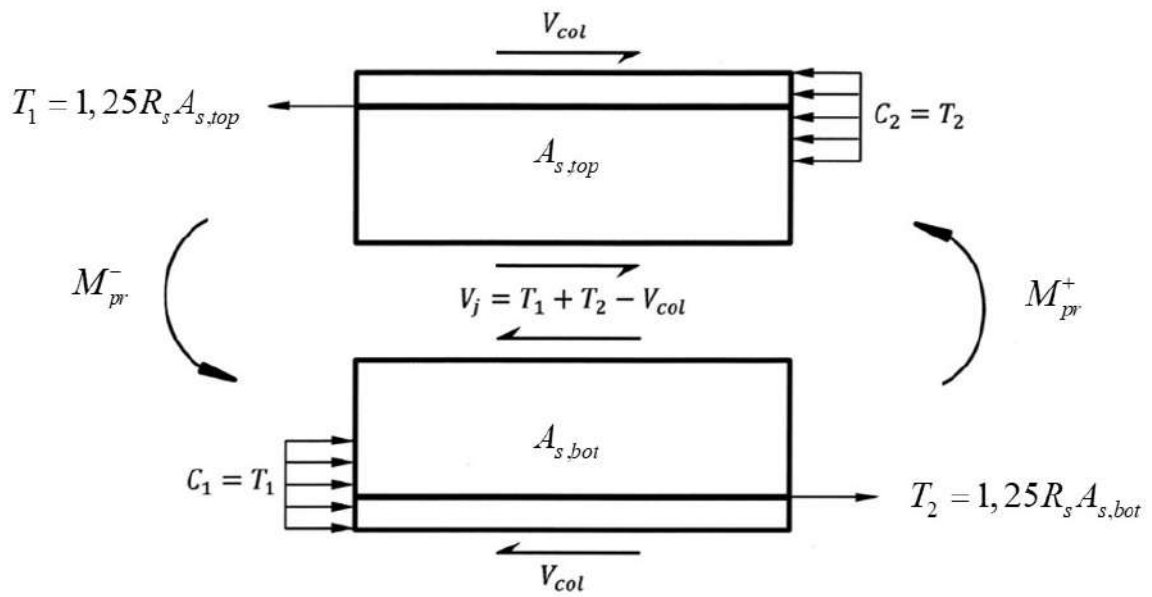
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$$V_u = V_j = T_1 + T_2 - V_{col} 0$$



$$b_j = \min[(h_{c2}), (b_w + h_{c1}), (b_w + 2x)]$$

$$A_j = b_j h_j$$



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$$\tau = V_u/A_j \leq \sqrt{R_b}$$

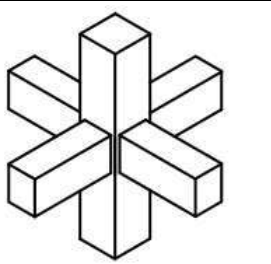
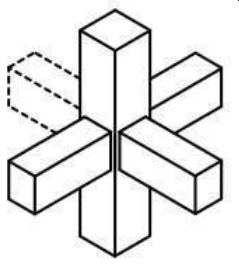
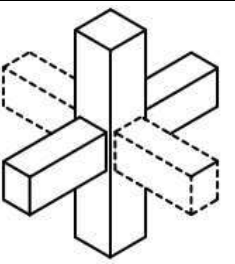
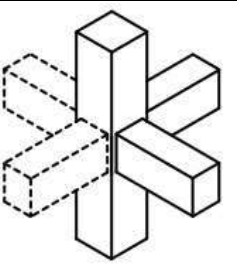
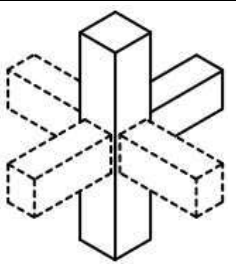
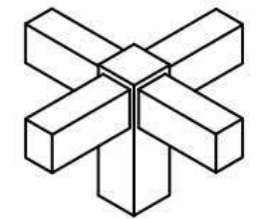
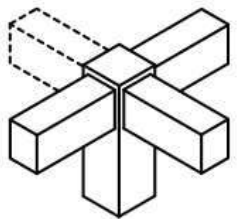
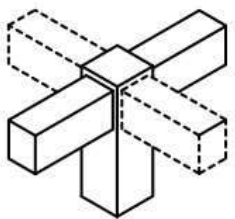
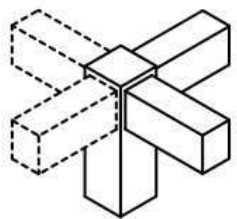
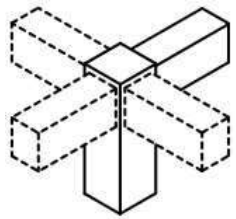
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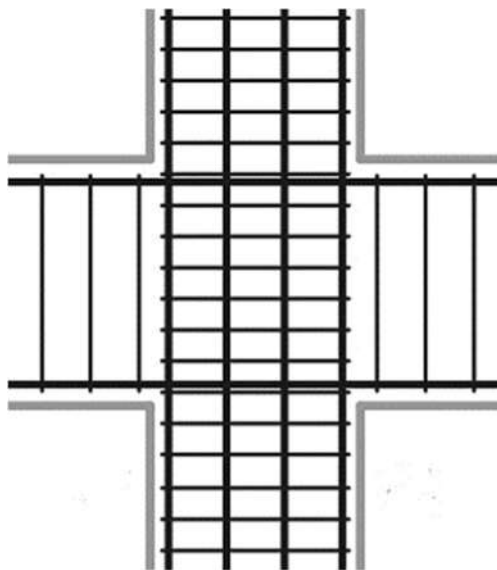
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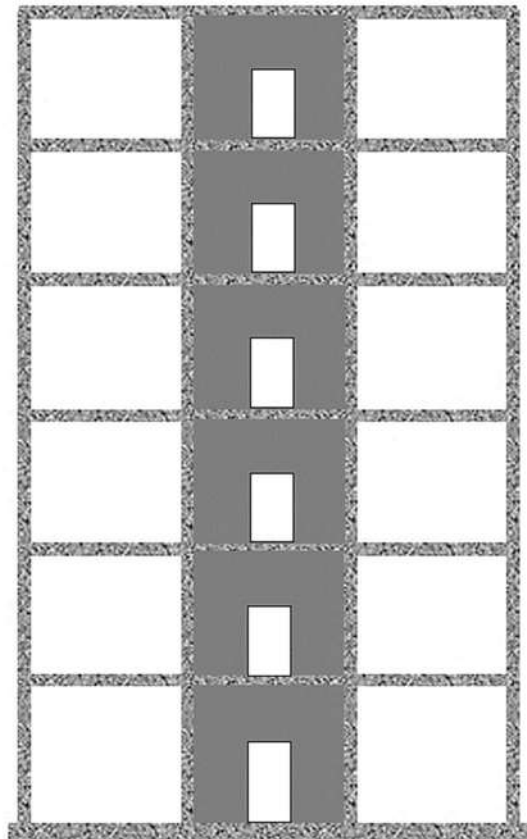
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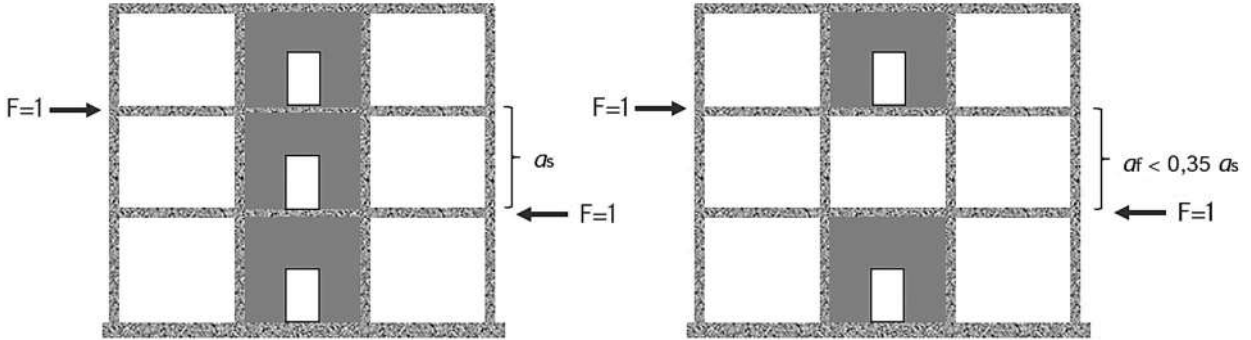
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F = 1 տեղադրվում է հարկի կոշտության կենտրոնում



a_s - շրջանակակապային համակարգով շենքի դիտարկվող հարկի կոշտությունն է

a_f - շրջանակային համակարգով շենքի դիտարկվող հարկի կոշտությունն է

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SpVZ D388

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SpVZ D388

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SVd97E 3F

$$\tau_m \leq 0.85\alpha_c\sqrt{R_b} + \mu_s \cdot R_{sw}$$

0

429: $\sqrt{R_b}$

$$\tau_m \leq \begin{cases} 0.85\alpha_c\sqrt{R_b} + \mu_s \cdot R_{sw} \\ 0.56\sqrt{R_b} \end{cases}$$

$$\tau_m = P_d / A_d$$

P_d

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A_d

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R_b

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R_{sw}

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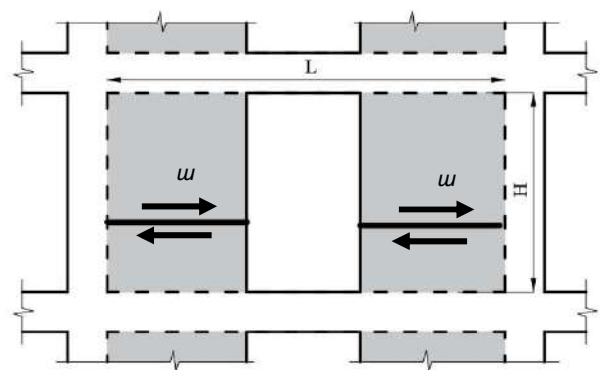
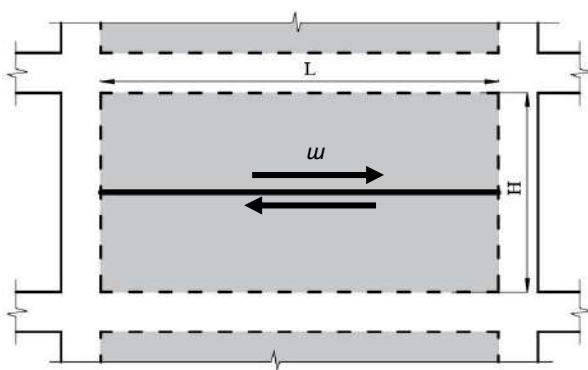
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τ_m

$$0.85\alpha_c\sqrt{R_b} + \mu_s \cdot R_{sw} \quad 429: \sqrt{R_b}$$



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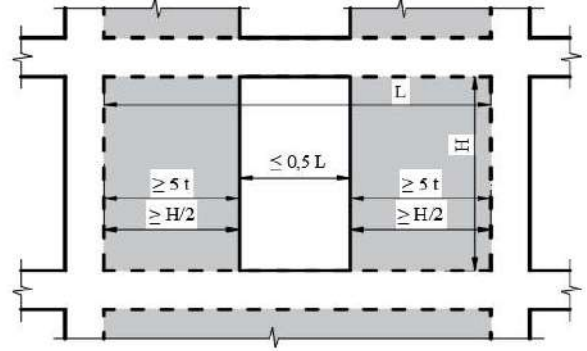
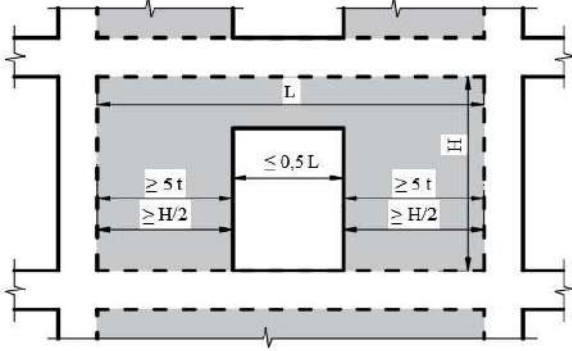
9 ρ1

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a 5AB4B

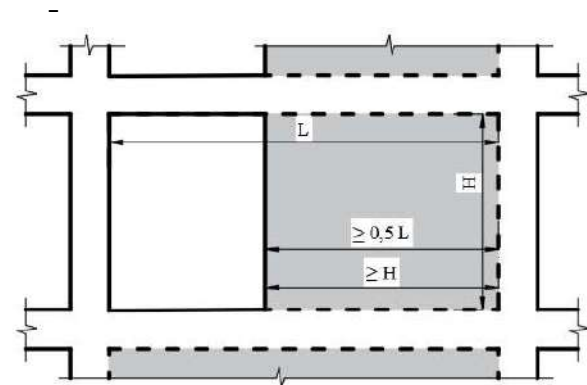
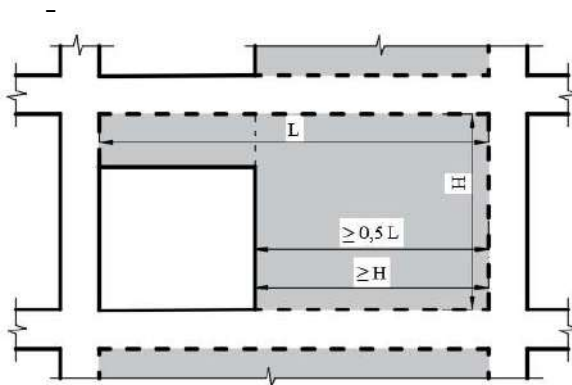
J 29: 16-0

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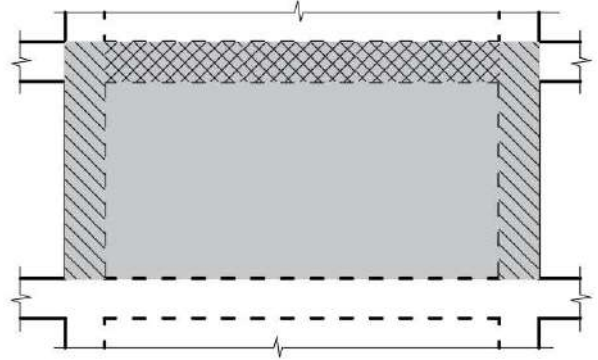
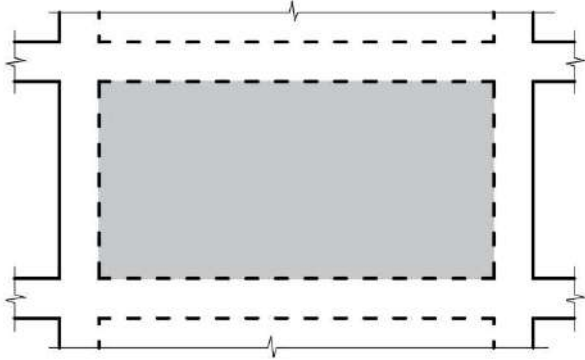
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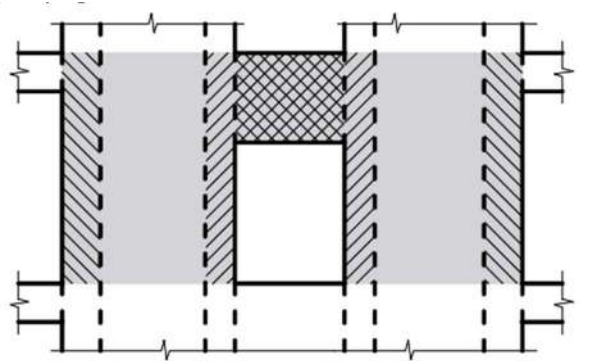
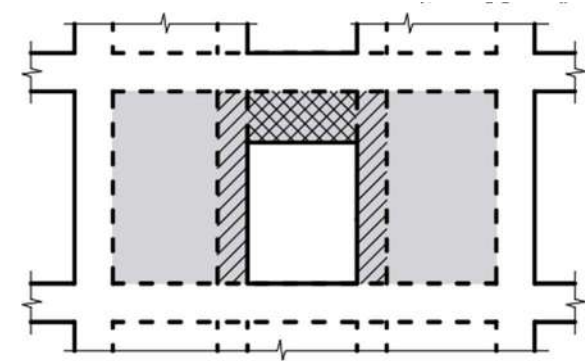
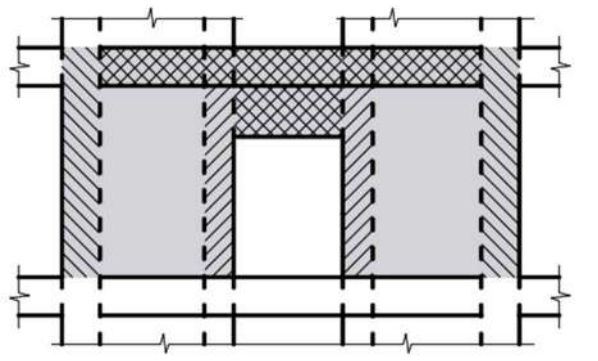
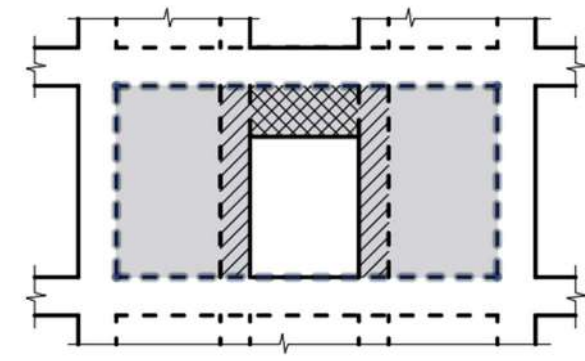
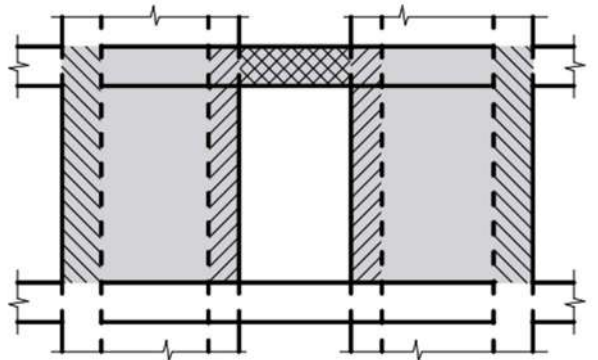
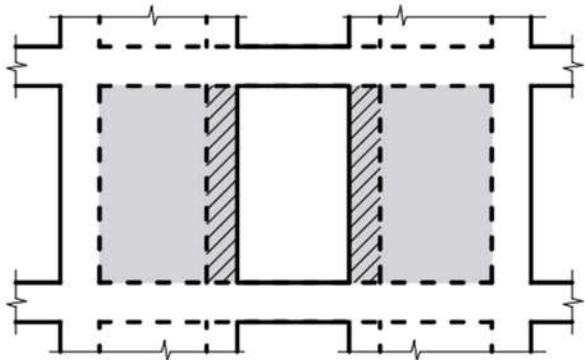
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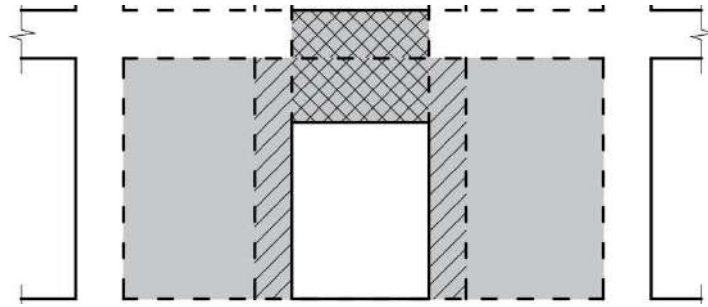
E2



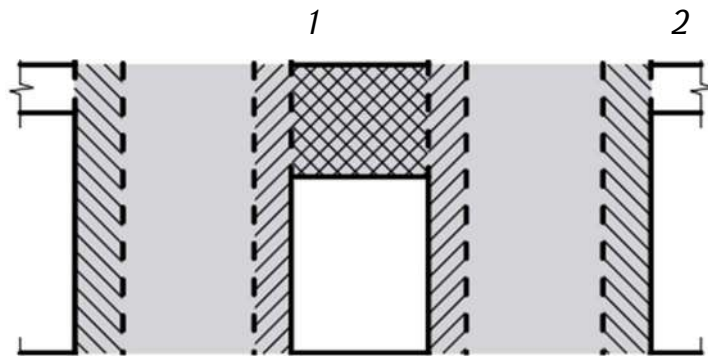
Q2



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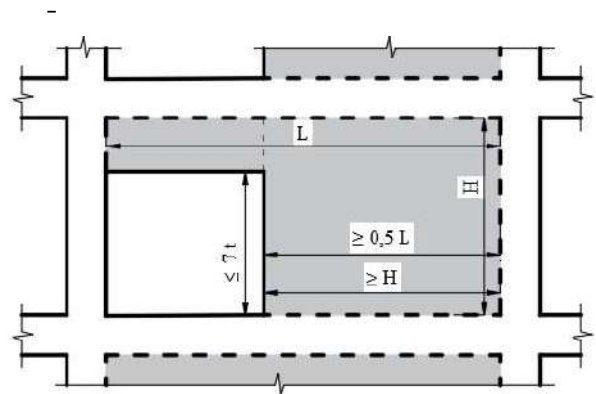
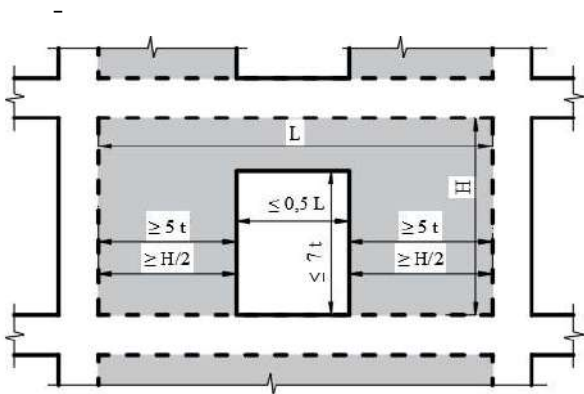


a 5B4B4.



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a 5B4B

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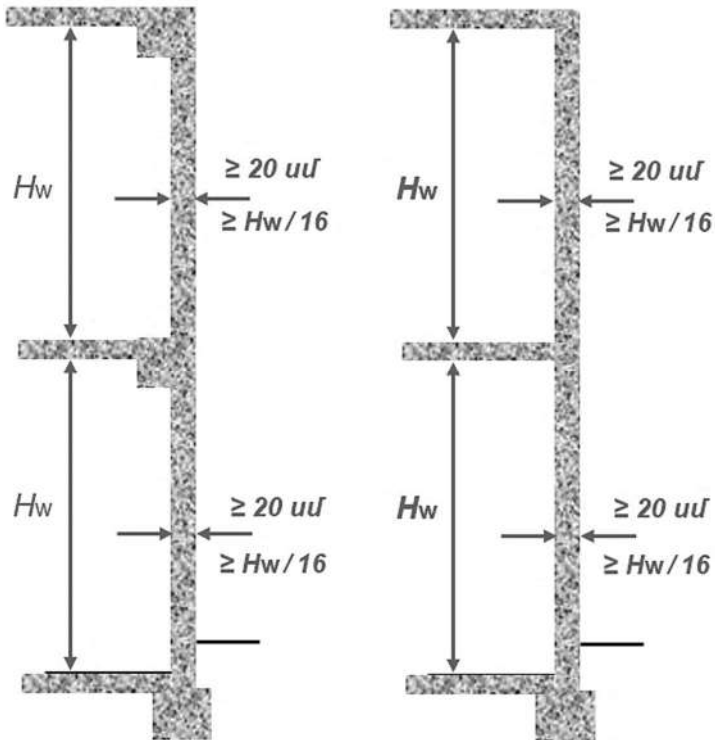
a 5BAC5

64 1

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k, 3: 1

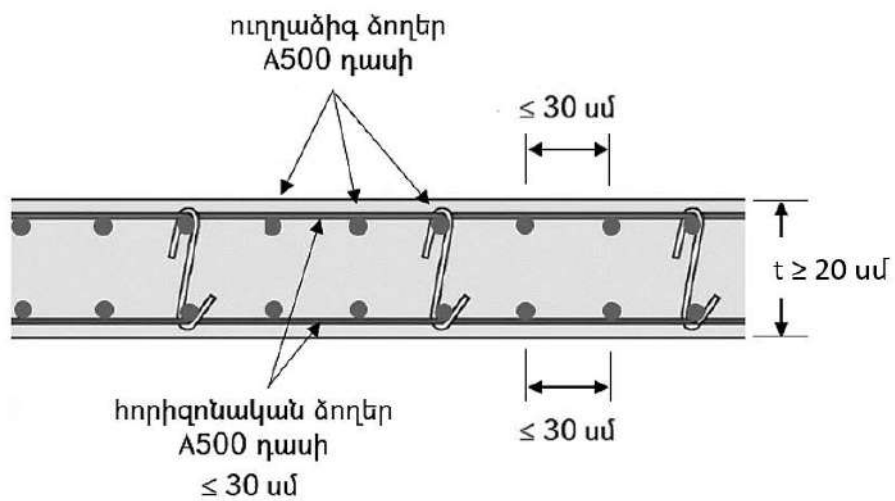


a 5BAC8

H844

H944

A



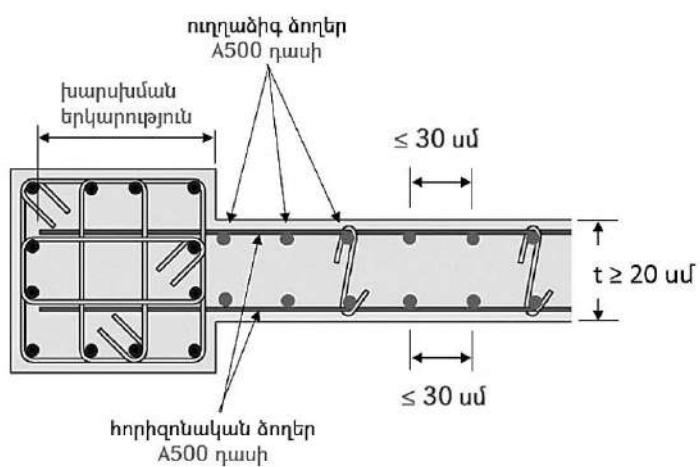
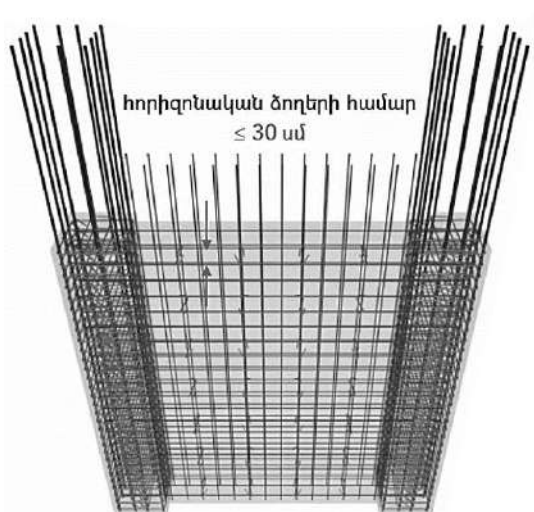
a 5BAC9

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a 3AC4

H944

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≥ 5: 1 A

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J 259<18-

J 259<19-

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J 259<19

J 259<1: -

594 : ≥Δ0 w H844

H944 = ≥Δ0 w H684

A

≥Δ0 որ 3 1

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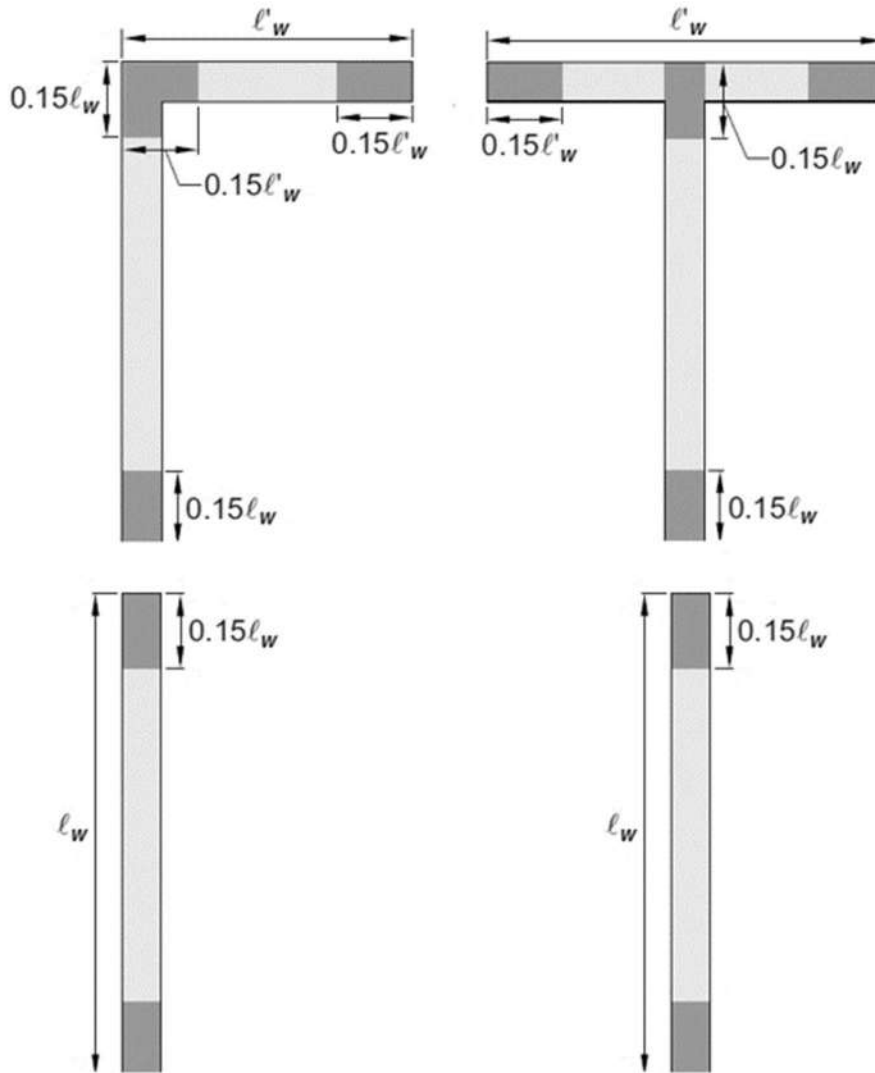
$\geq \Delta 0 \sigma 1$

$\geq \Delta 0 w 1$

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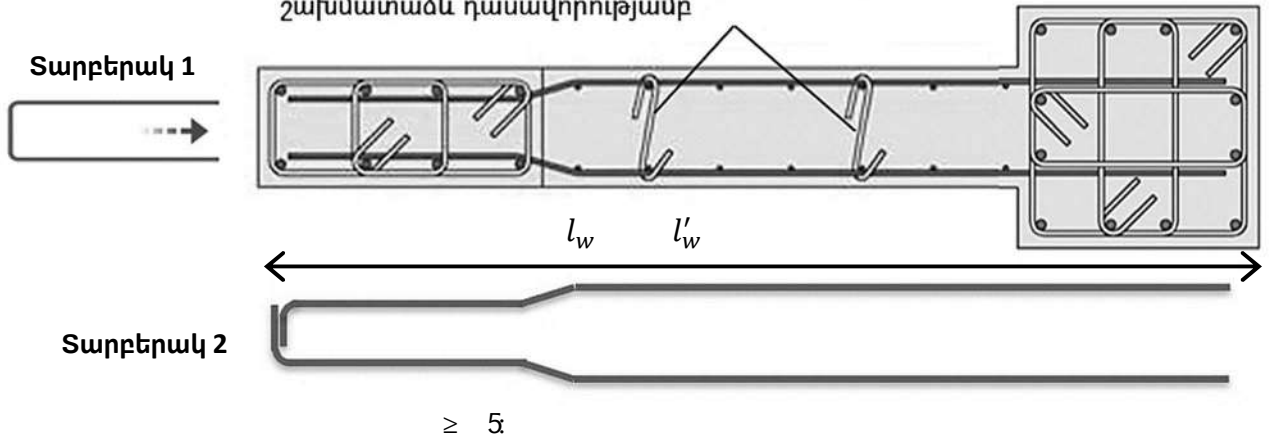
l'_w

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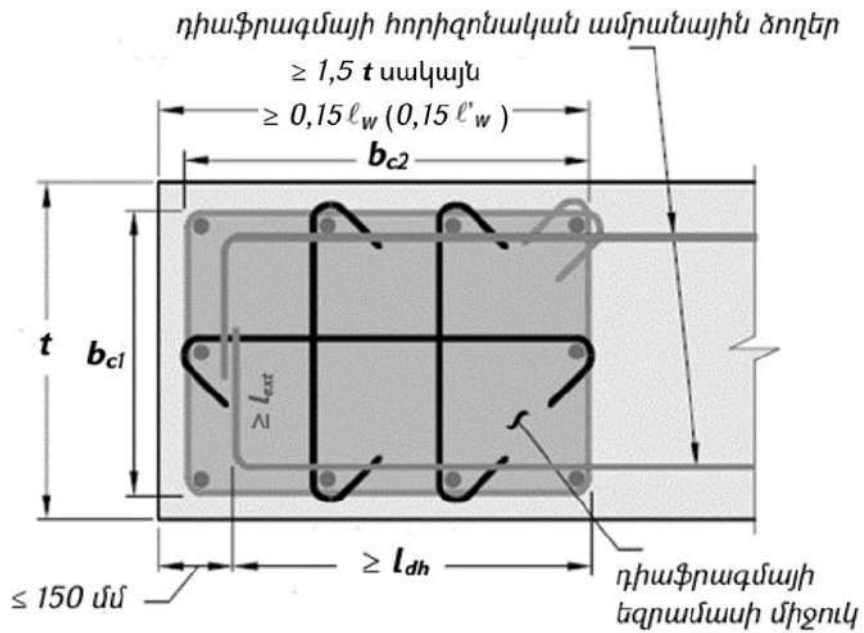
J 259<400

J 259<4 0J 259<4 J 259<4-

կապերի տրամագիծն ընդունվում է ուղղաձիգ ամրանի տրամագծի 0,25-ից և 6 մմ-ից ոչ պակաս (1 մ² մակերեսում առնվազն 4 կապ շախմատաձև դասավորությամբ



a ՖԱԿԱ



ԲԻԿ 6

a ՖԱԿԲ5

$$j_{\Sigma 9 < 4} \quad j_{\Sigma 9 < 4 - 0} \quad , \quad j_{\Sigma 9 < 4 - 0} \quad , \quad j_{\Sigma 9 < 4 - 0} > 4 \cdot 1 \quad ,$$

$$j_{\Sigma 9 < 4} \quad j_{\Sigma 9 < 4 - 0} \quad 0$$

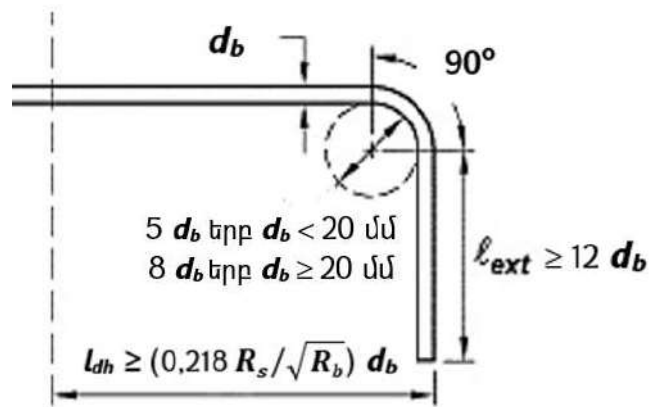
$$j_{\Sigma 9 < 4} \quad , 4 \cdot 265 = R_s / \sqrt{R_b} - \geq_H 0$$

$$R_b \quad 3 \cdot 61 \cdot 0$$

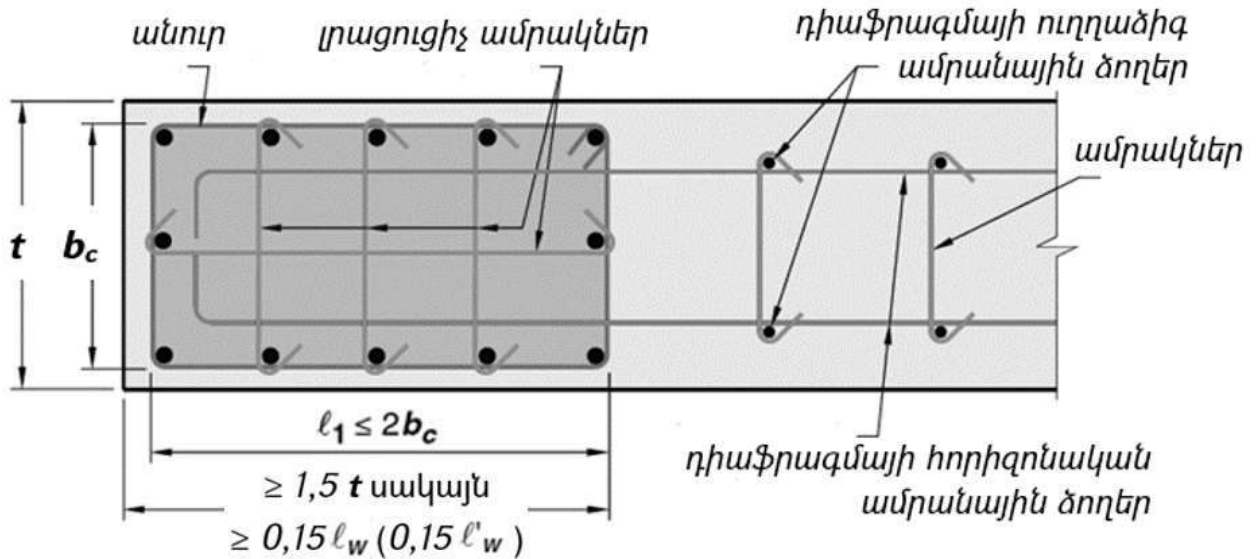
$$R_s \quad 3 \cdot 61 \cdot 0$$

$$\geq_H \quad A$$

$6 H_c$
 , J 2594-0
 , J 2594-A
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 , J 2594 J 2594-A



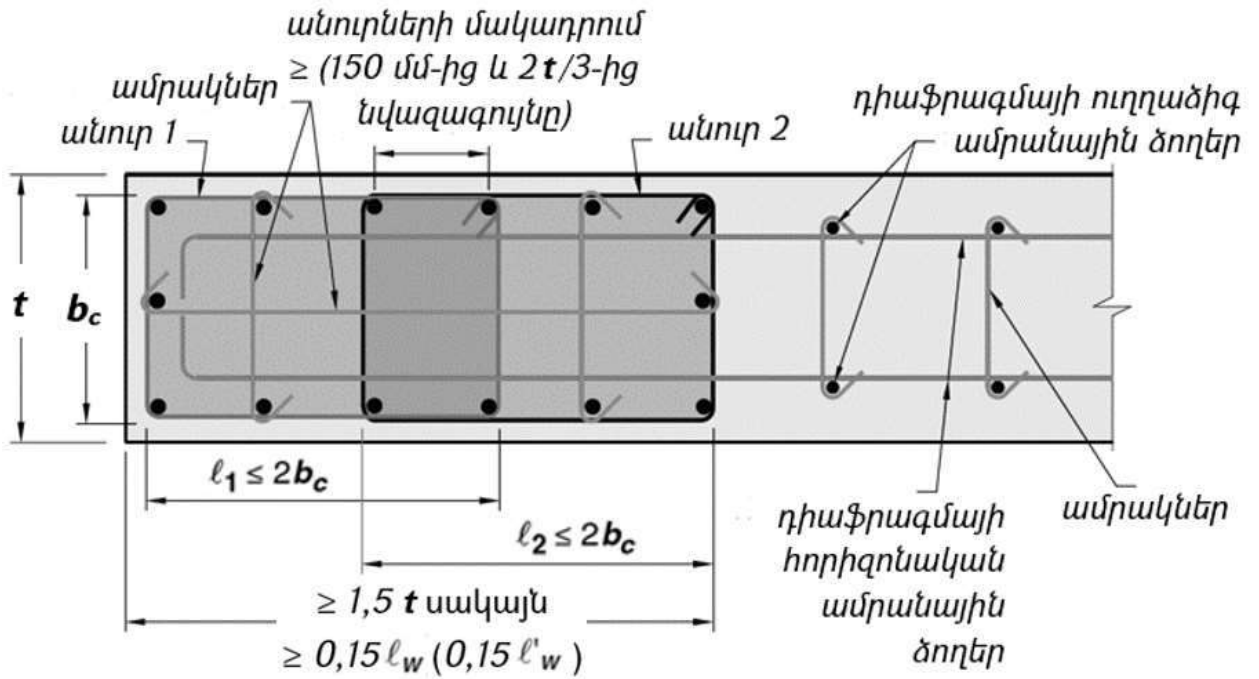
a 5BAC4C5



ԵԻԿ: 6

a 5BAC4D5

8-A^{ա4}

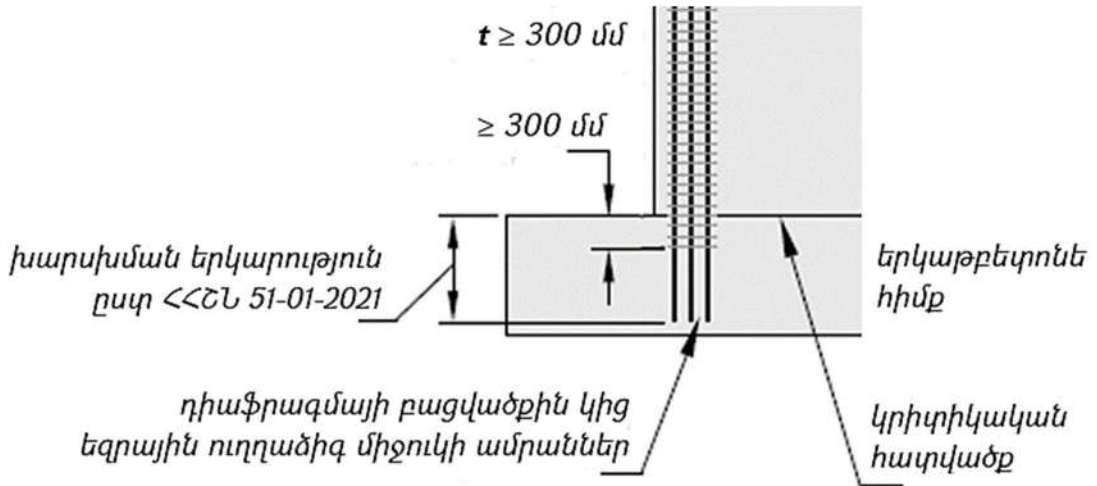


ԵԻԿ 6

a ՖԱԿԷ5

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ՅՅԳ1541 A



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ՅՅԳ1550 -

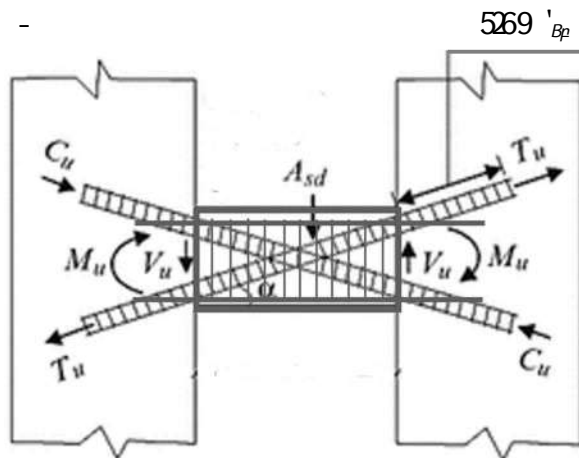
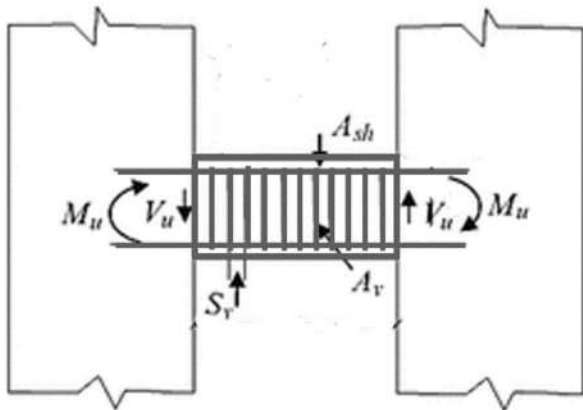
ՅՅԳ1550 -A

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59 0 h_o3 6 d_{b,min}0 d_{b,min}1

A



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a 5AC485

J 29: 1: 0 -

0

, 'n 840

$$Q \leq 42 H_1 \psi_q \sqrt{R_b} 0$$

t

1 0

b_w h_o

0 1 A

R_b

3 61 0

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J 29: 1: 0 - 0

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-0 A_s H₁ ψ_q

0

$$Q \leq ,4289 \dots 42 H_1 \psi_q \sqrt{R_b}$$

0 'n 840

J 29 < 1561 0

9 A

0

$$Q \geq 4 \sum A_{cw} \sqrt{R_b}$$

, A_{cw}

0

$$A_{cw} D H 40 61 -0$$

0

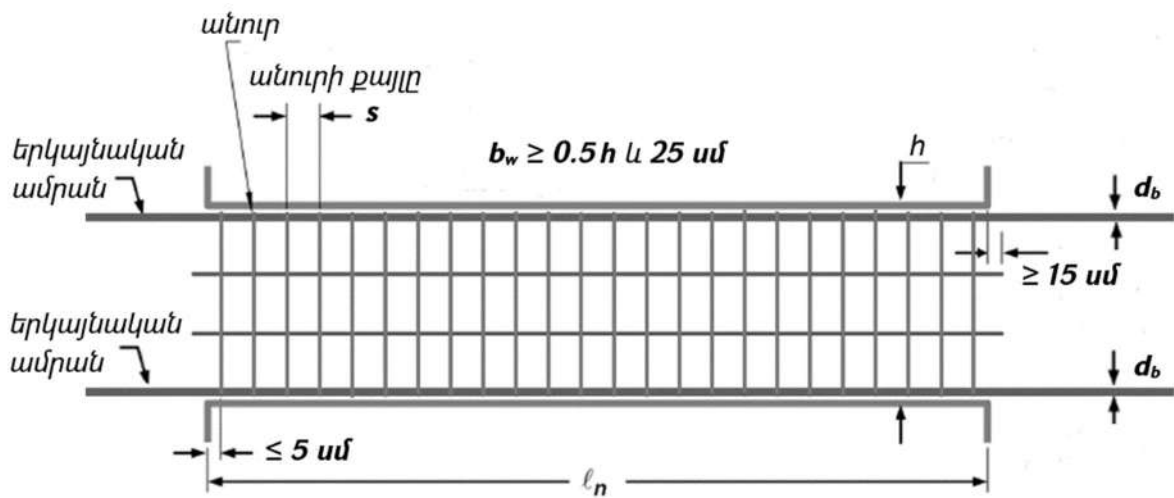
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a 5BAC489. $h > \bar{u}$

0

$$Q = 2 A_{vd} \cdot R_y \cdot \sin \alpha \leq 0.8 A_{cw} \sqrt{R_b}$$

$$Q = 2 A_{vd} \cdot R_y \cdot \sin \alpha \leq 0.8 A_{cw} \sqrt{R_b}$$

Ե՛Ա

0 A_{vd}

յ 29<157 յ 29<158-0 61 A

A

0

H

H 360

H 390

H

A

d_{t4} 424 > t Hc uH3u_{tl} d_{t4} 427 t Hc, d_{lv}3d_{cy} 5- uH3u_{tl} 0

d_{t4} 0 0⁶¹ 0 d_{lv} 0

t Hc

0 0⁶¹ 0 d_{lv}

0 0⁶¹ 0

d_{cy}

0

0 0⁶¹ 0 Hc

0

0 1 Ad_{lv}

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≥Hcyφ

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794 1 A

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744

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Ad_{t4}

d_{t4} 424 > t Hc uH3u_{tl} d_{t4} 427 t Hc, d_{lv}3d_{cy} 5- uH3u_{tl} 0

d_{t4} 0 0⁶¹ 0 d_{lv} 0

t Hc

0 0⁶¹ 0 d_{lv}

0

⁶¹ 0 d_{cy}

0

0 0⁶¹ 0 Hc

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0 1 A

: $\geq h_{ef} \phi$ 0

$\geq h_{ef} \phi$

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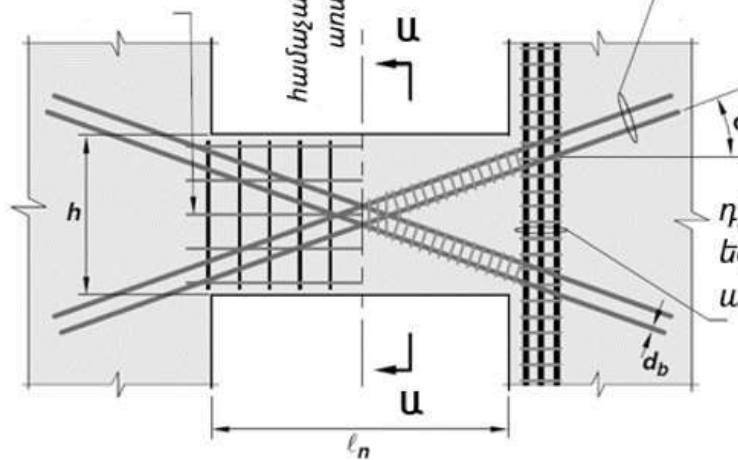
, J 259<158-A

հեծանի հորիզոնական ձողեր որոնց լարումները չեն հասնում R_y

A_{vd} = անկյունագծային ձողերի յուրաքանչյուր խմբի ամրանավորման ընդհանուր մակերեսն է

Ծանոթություն

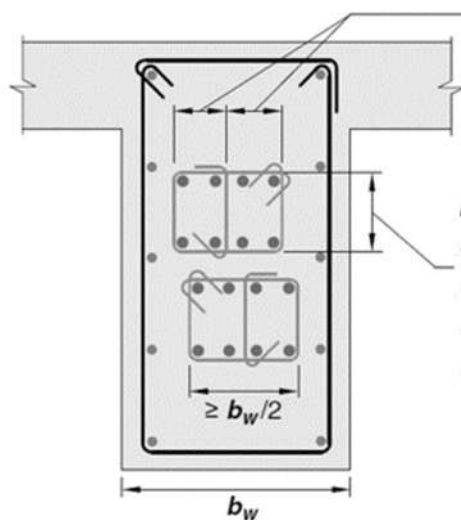
Պարզության համար պահանջվող ամրանների միայն մի մասն է ցուցադրված համաչափության առանցքի յուրաքանչյուր կողմում



դիաֆրագմայի եզրային մասի ամրանավորումը

Կտրվածք Ա-Ա

լայնական ամրանների հեռավորությունը չափվում է անկյունագծային ձողերի առանցքին ուղղահայաց, այն պետք է լինի ≤ 350 մմ



լայնական ամրանների հեռավորությունը չափվում է անկյունագծային ձողերի առանցքին ուղղահայաց, այն պետք է լինի ≤ 350 մմ

GK- 6

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a 5BAC4B<5

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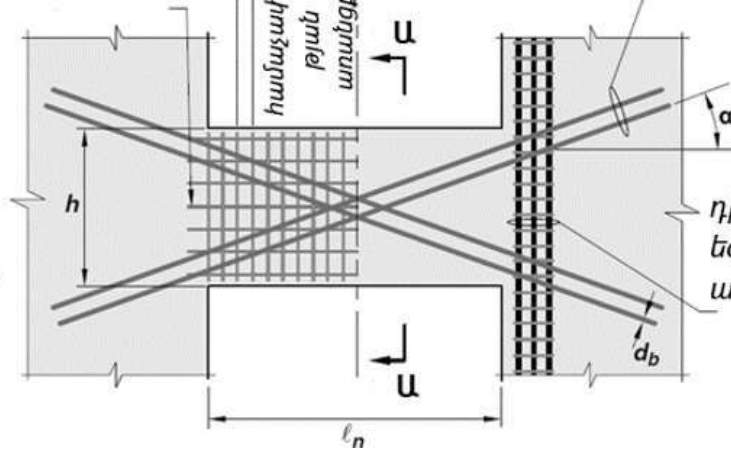
հեծանի հորիզոնական ձողեր որոնց լարումները չեն հասնում R_y

$s \leq 150$ մմ
 $s \leq 6 d_{b,min}$

A_{vd} = անկյունագծային ձողերի յուրաքանչյուր խմբի ամրանավորման ընդհանուր մակերեսն է

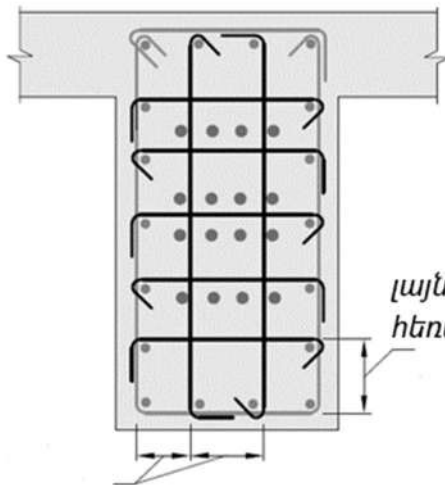
Ծանոթություն

Պարզության համար պահանջվող ամրանների միայն մի մասն է ցուցադրված համաչափության առանցքի յուրաքանչյուր կողմում



դիաֆրագմայի եզրային մասի ամրանավորումը

Կտրվածք Ա-Ա



Ծանոթություն

Ամրակները, որոնք կապում են հեծանի հակառակ կողմում գտնվող համապատասխան երկայնական ձողերը մեկ կողմում ունեն 135 իսկ մյուս կողմում 90 աստիճանի կետեր

լայնական ամրանների հեռավորությունը պետք է լինի ≤ 200 մմ

լայնական ամրանների հեռավորությունը պետք է լինի ≤ 200 մմ

GK- 6

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a 5BAC4B5

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a 5BAD5

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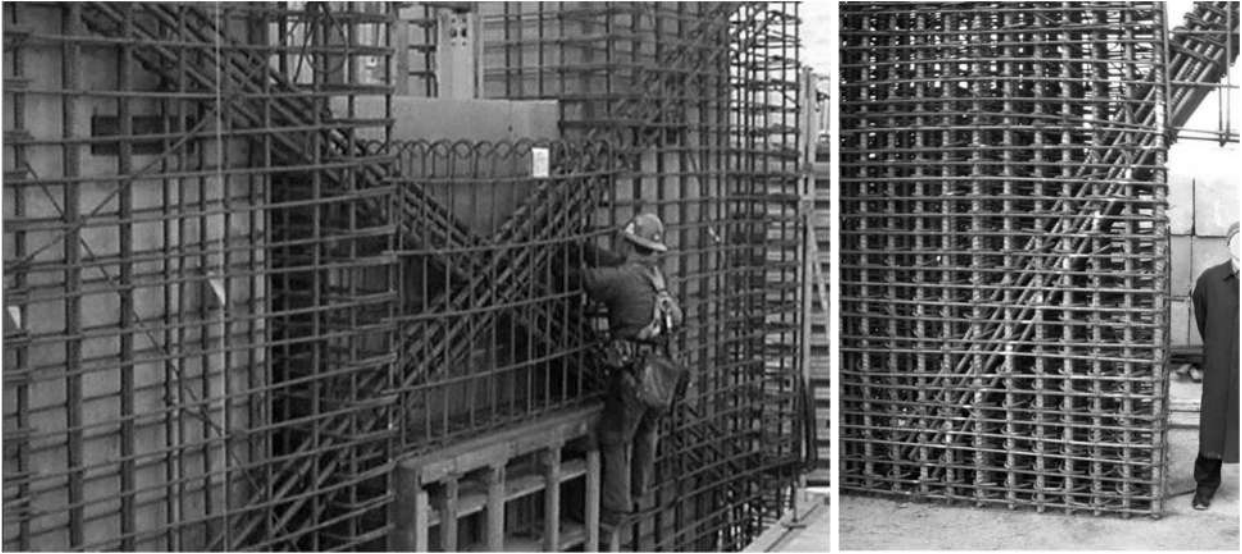
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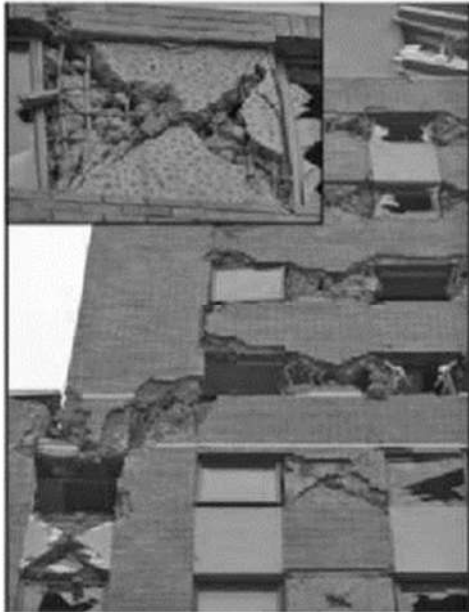
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a 5BAC4B5



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a 5BAC4B5

a 5BAE5

-0

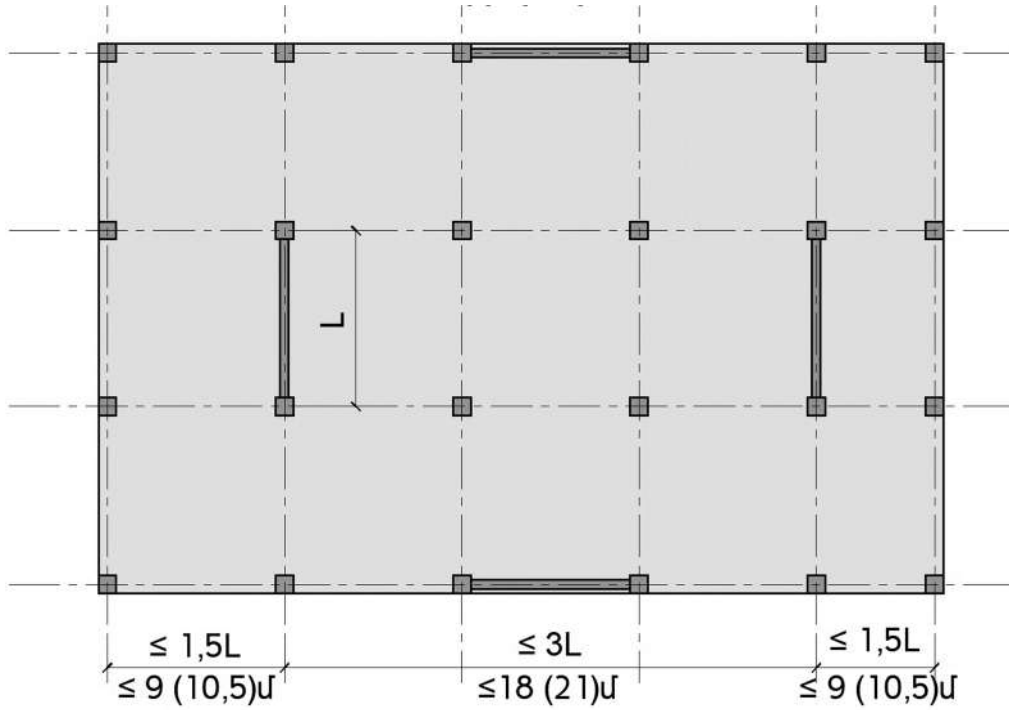
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5= P P Rl

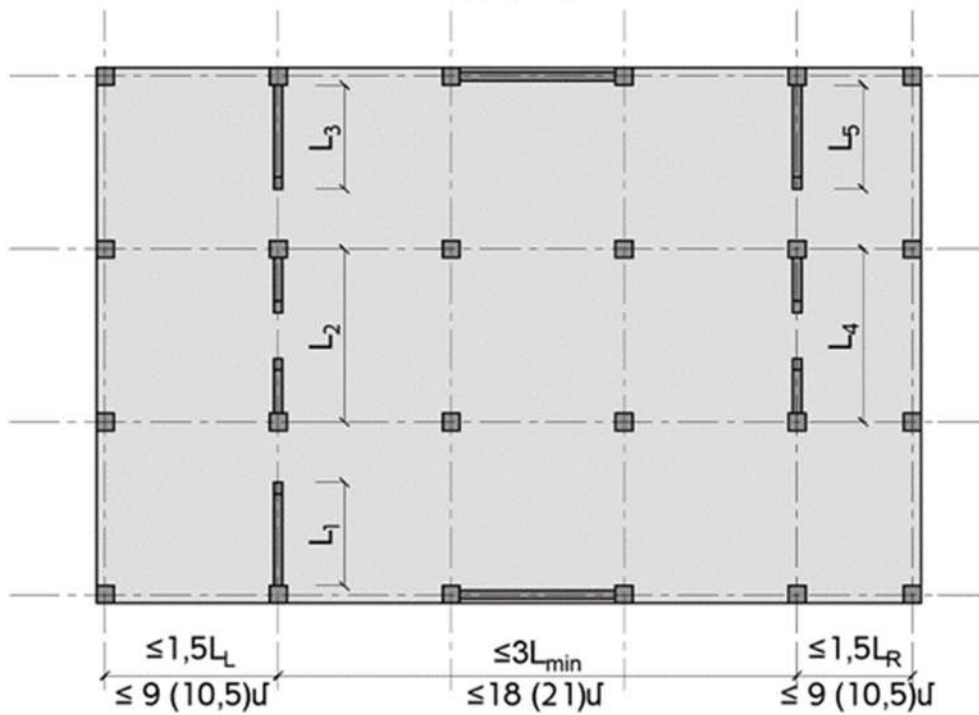
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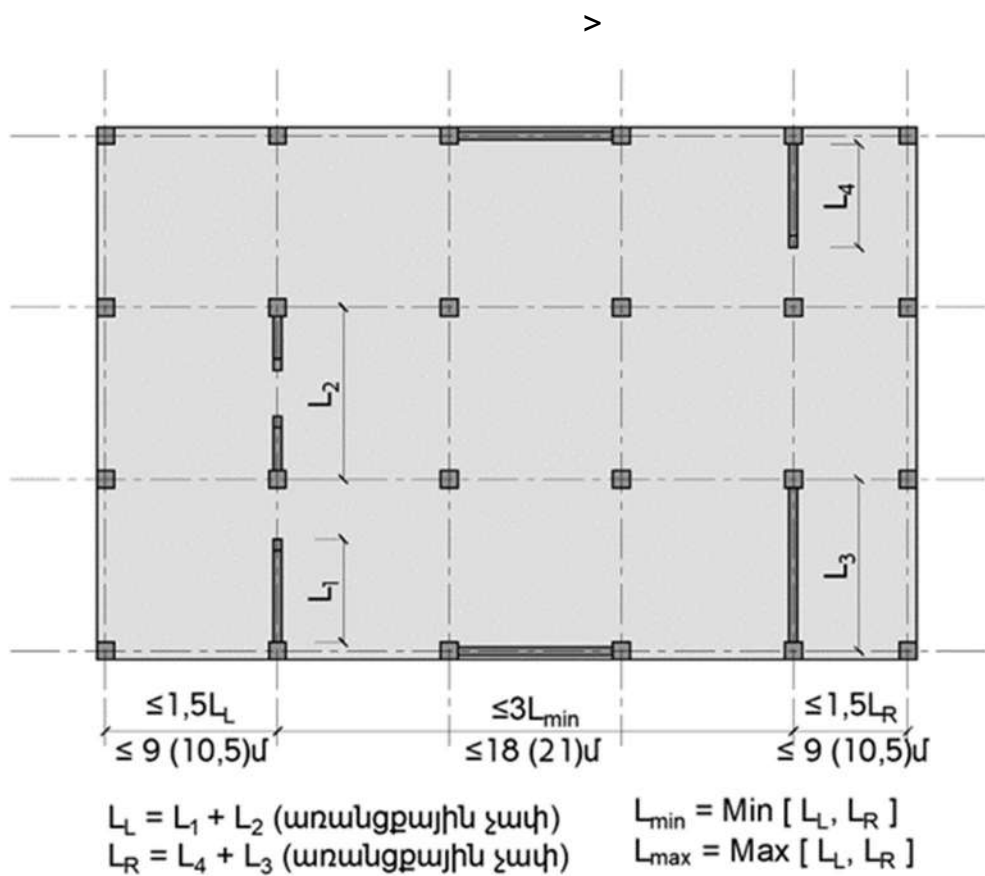
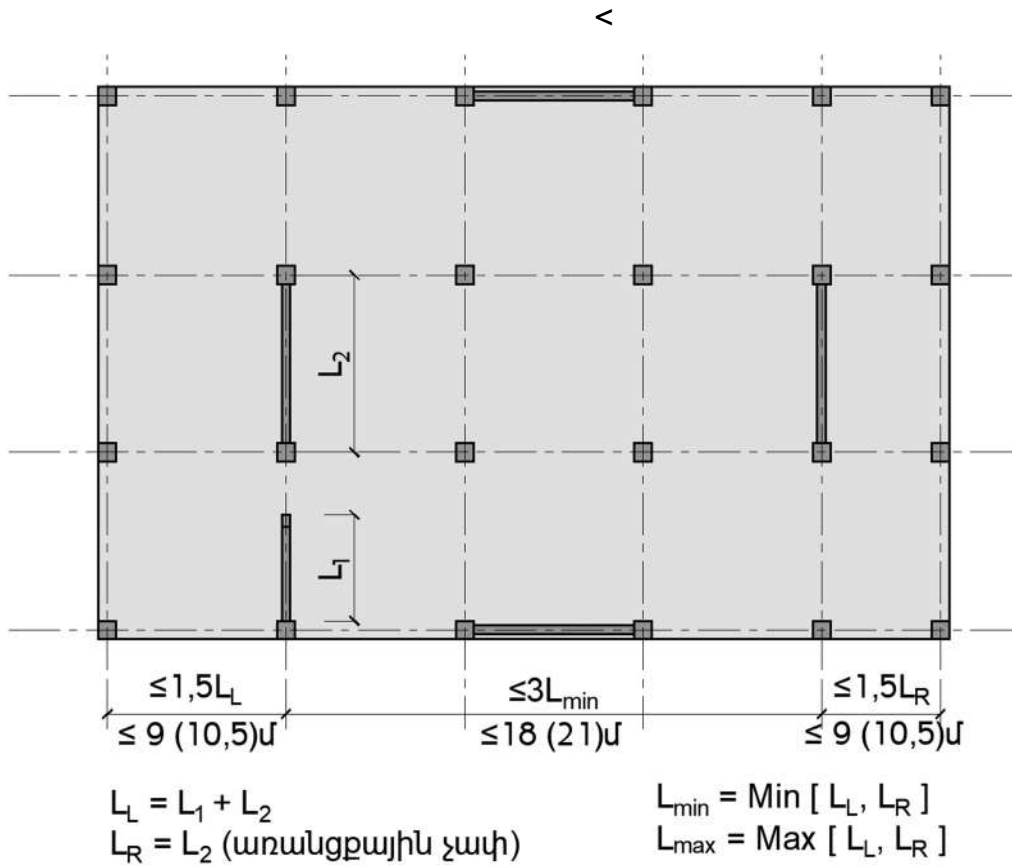
L - առանցքային չափն է

9

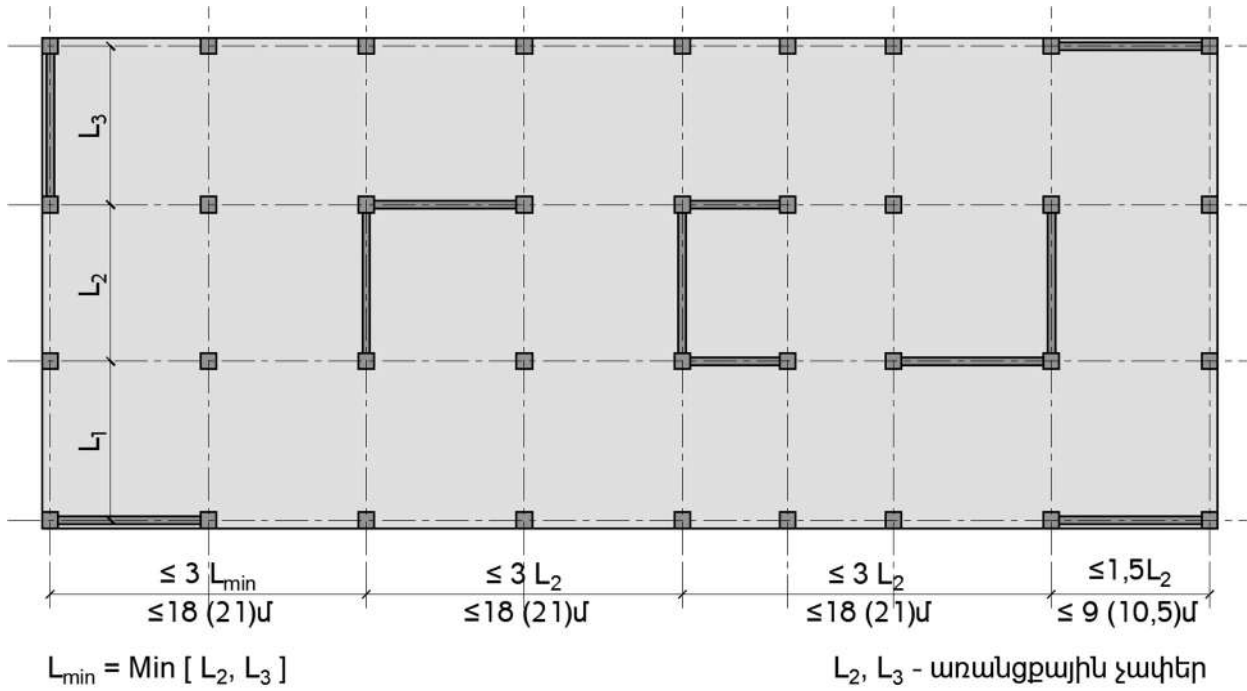


$L_L = L_1 + L_3 + L_2$ (առանցքային չափ)
 $L_R = L_5 + L_4$ (առանցքային չափ)

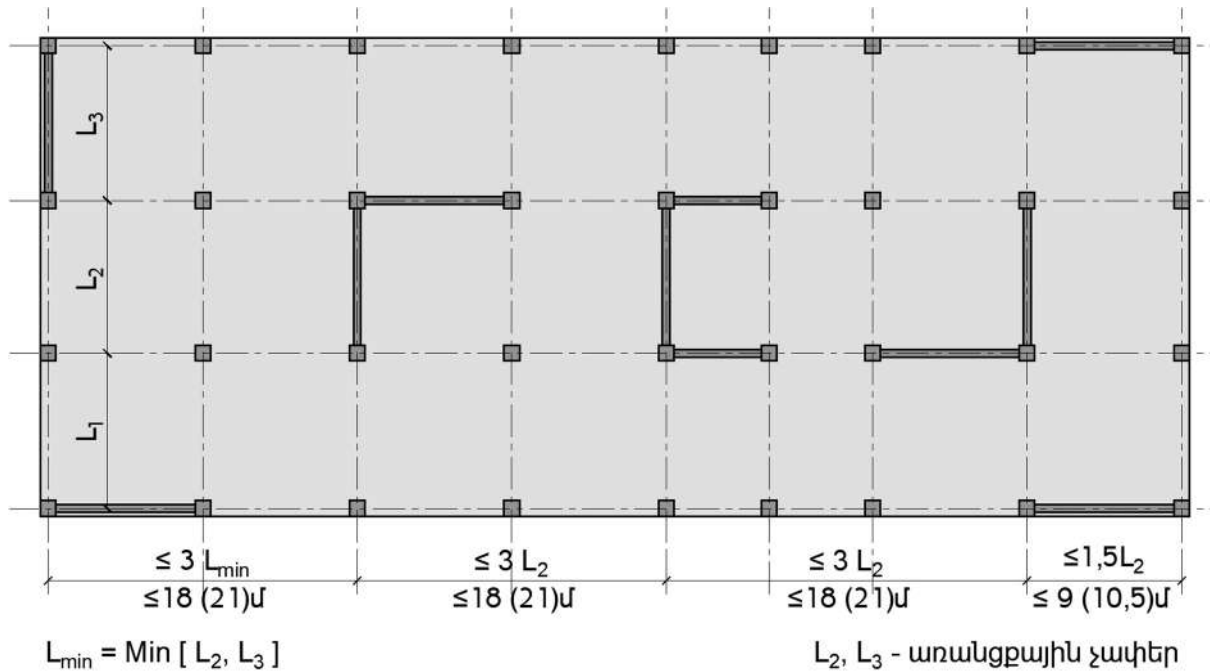
$L_{min} = \text{Min} [L_L, L_R]$
 $L_{max} = \text{Max} [L_L, L_R]$

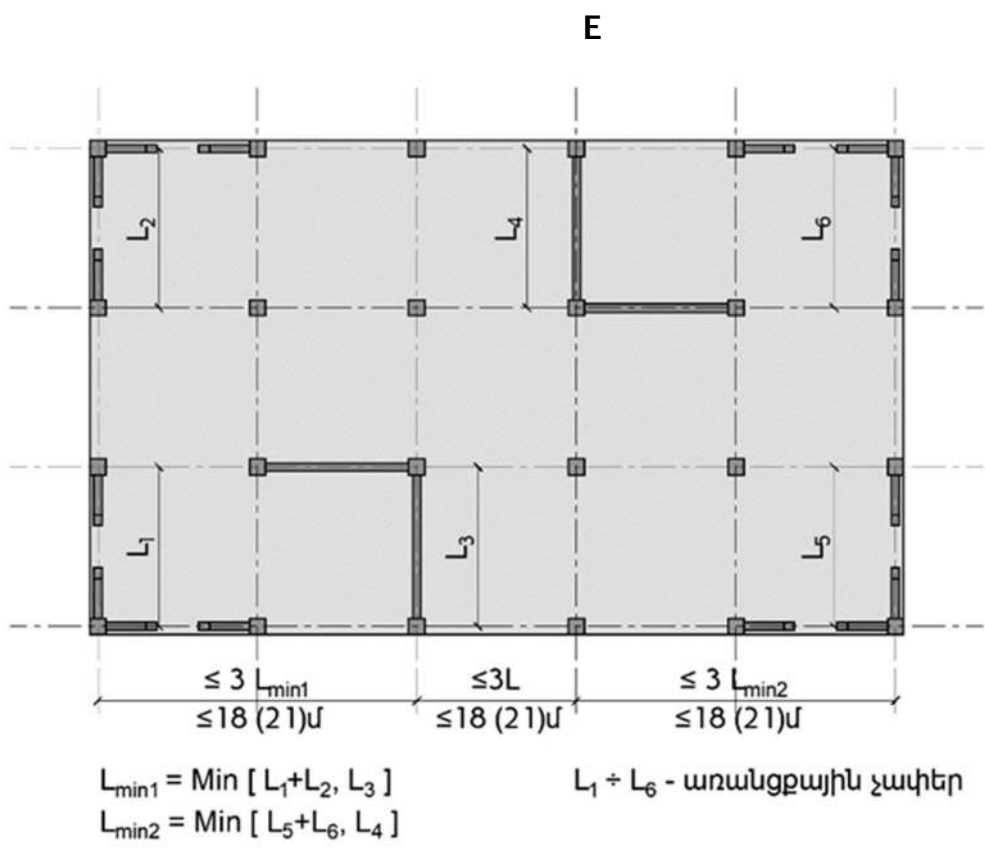
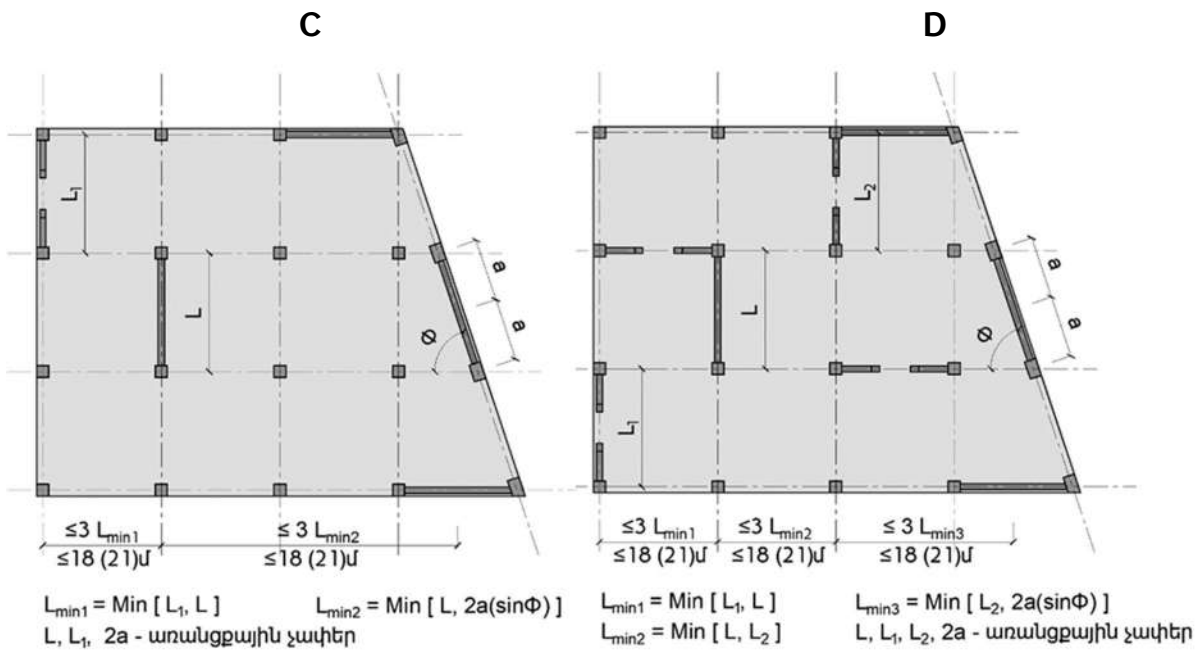


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B

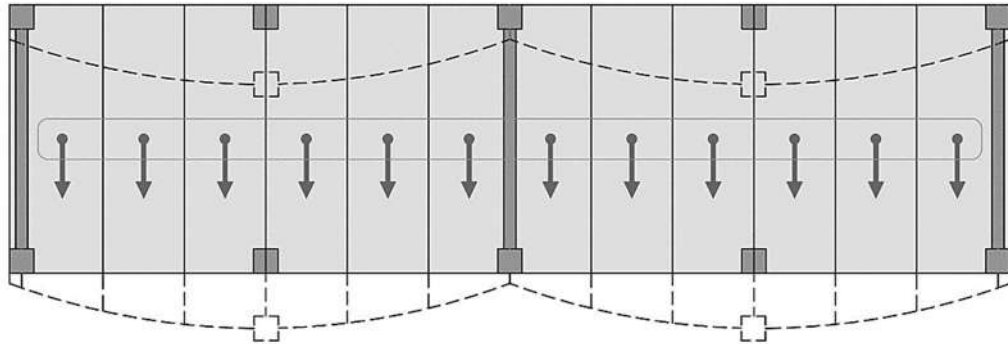




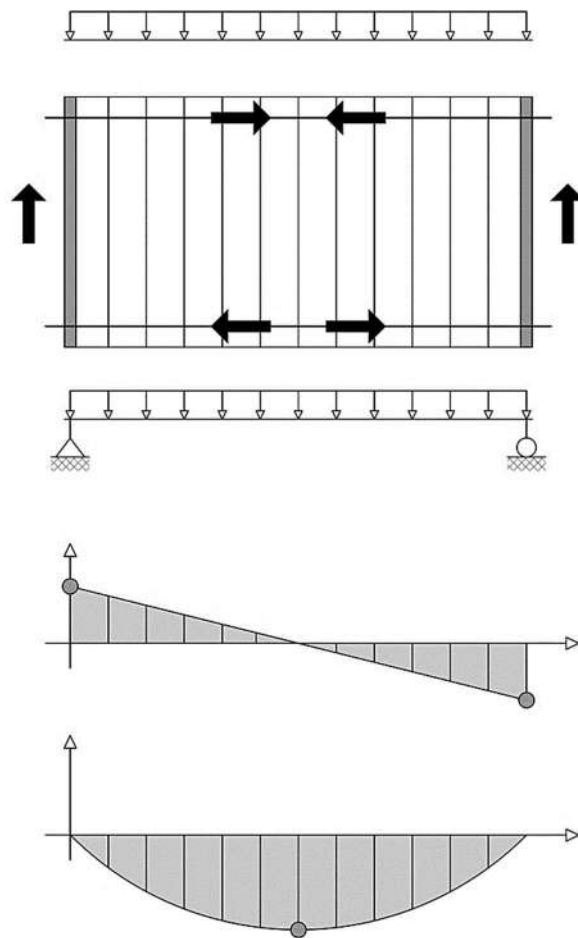
56 1 0

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a 3AE4B



a 3AE49

C 6

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I 691

A

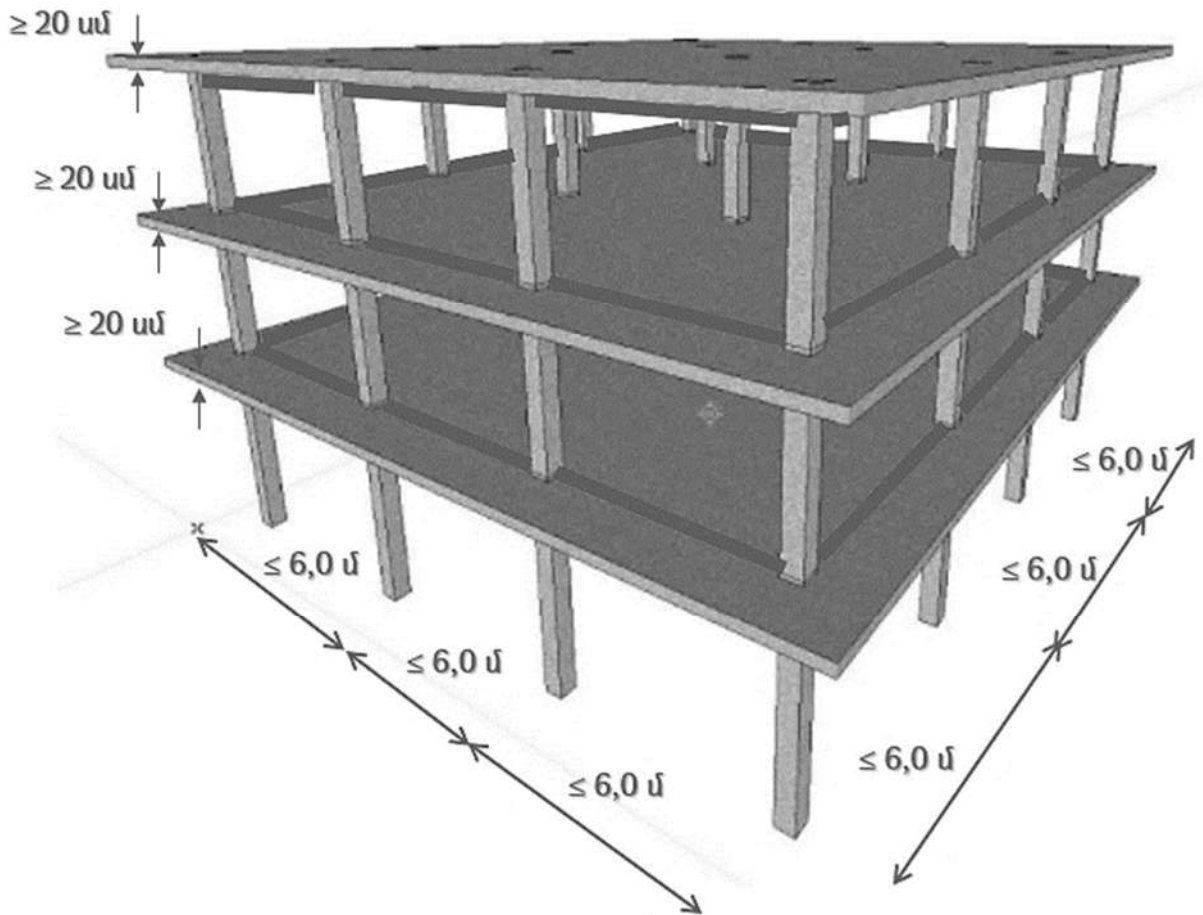
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644 1

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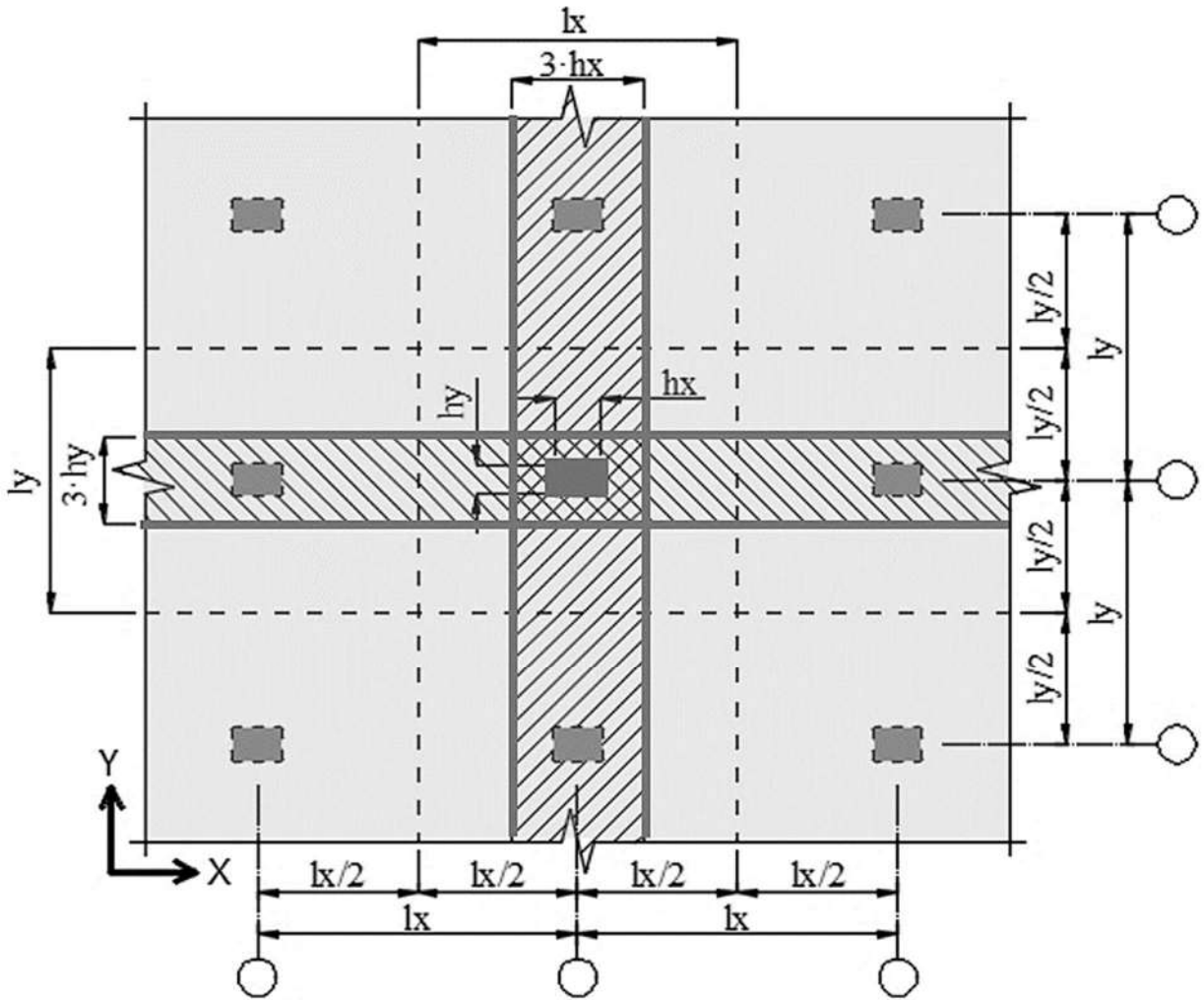
71

42-3128 D 52-9A

a $h_x < 5$

0

A



a $h_x > 5$

$3 h_x(3 h_y)$

J 25 616 J 25 617-

94*1

0

0

$3 h_x(3 h_y)$

69*1

A

a $h_x > 5$

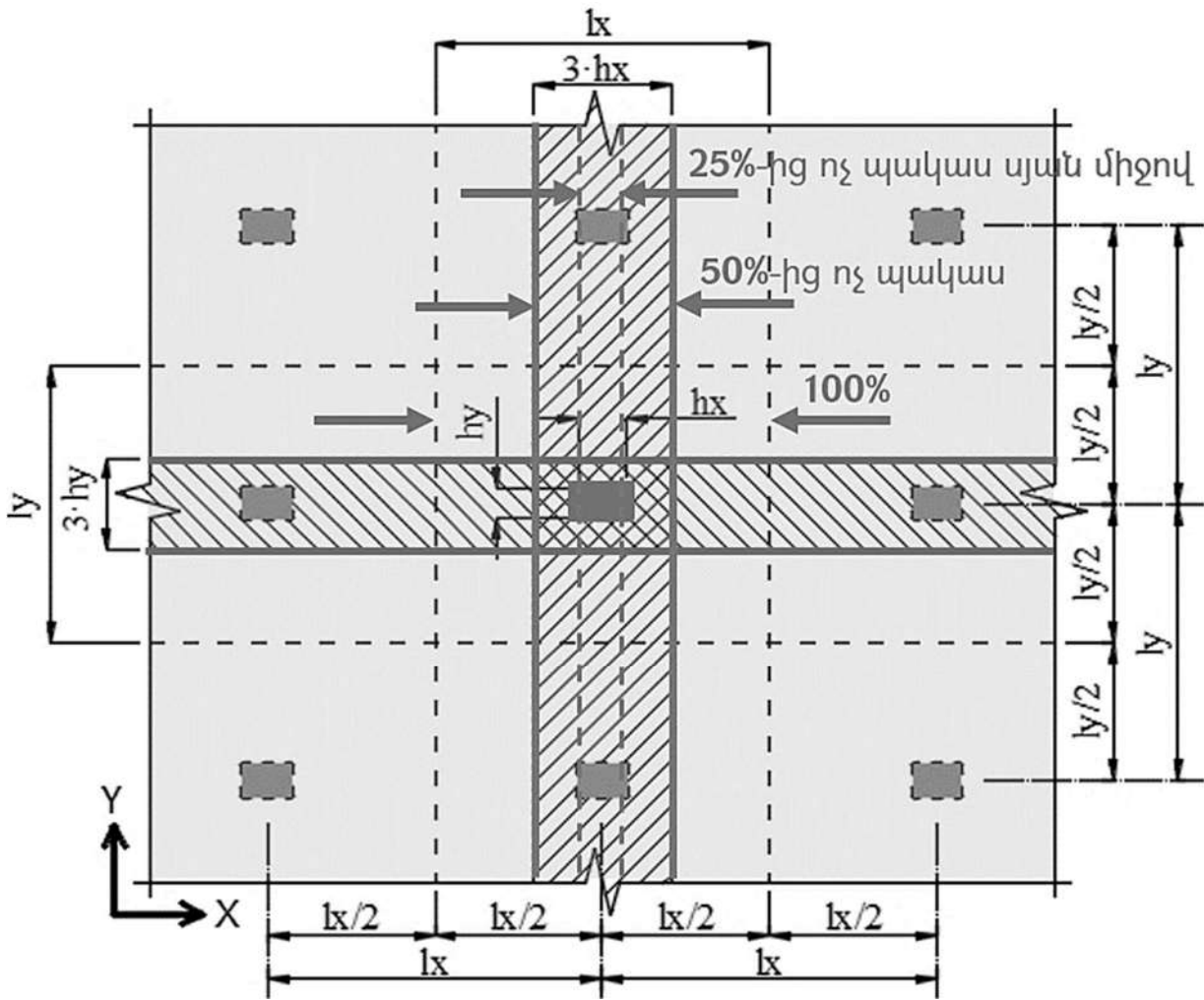
0

74*1

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-0

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a 5894

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$3 h_x(3 h_y)$

Յ 616

0

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A

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a 5BA5

0

J 5: 6161

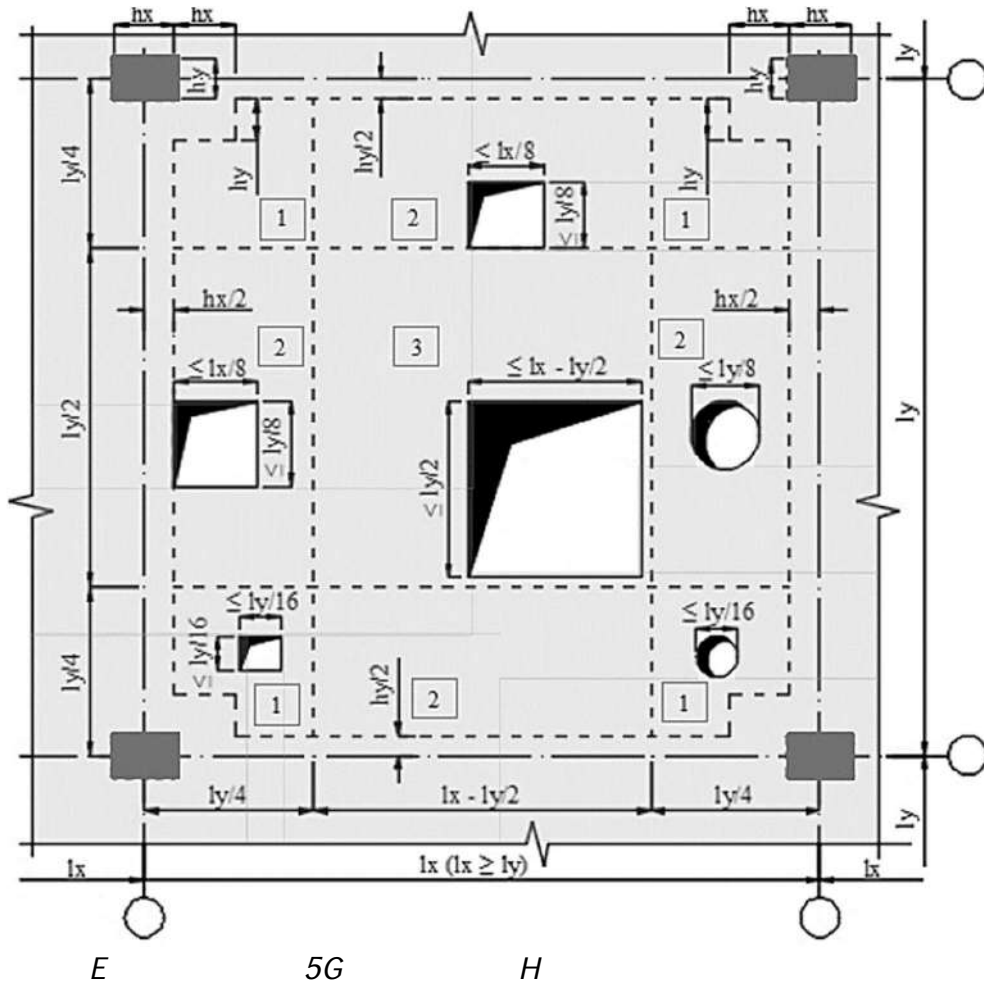
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J 5: 618-A



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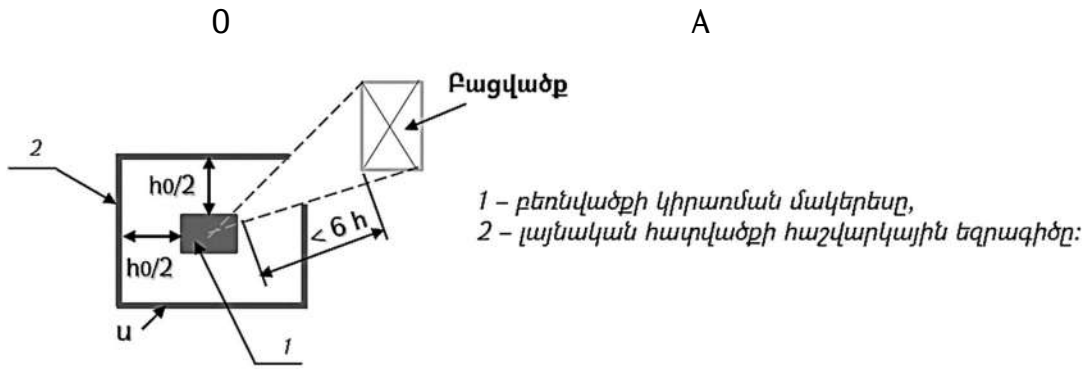
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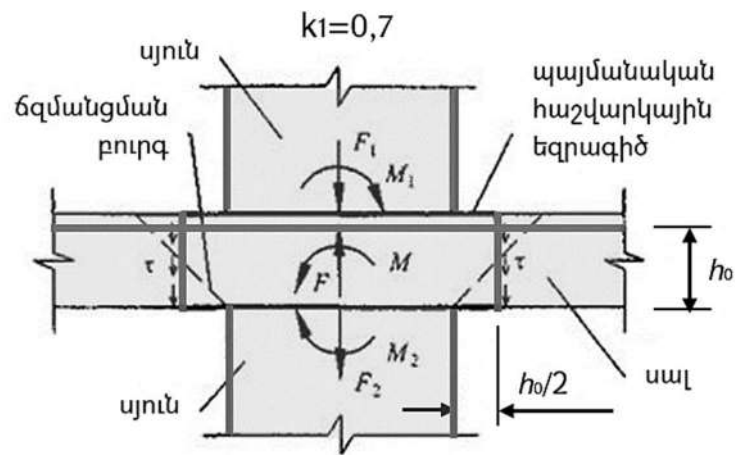
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a 5B94B



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R_{bt}

R_{sw}

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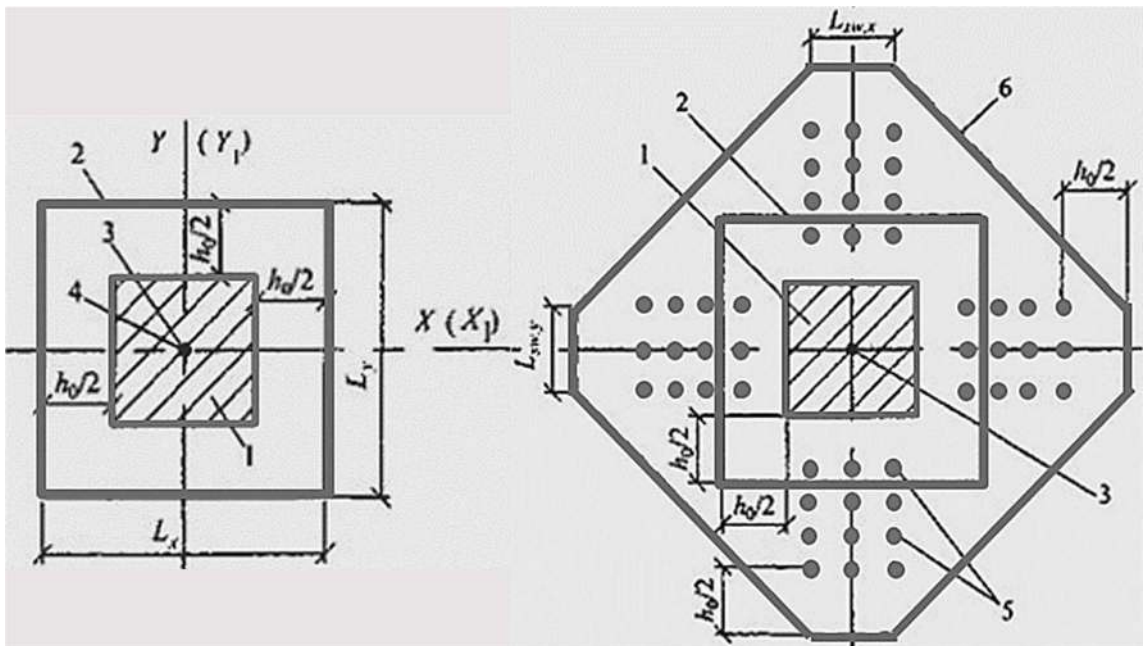
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E

5G

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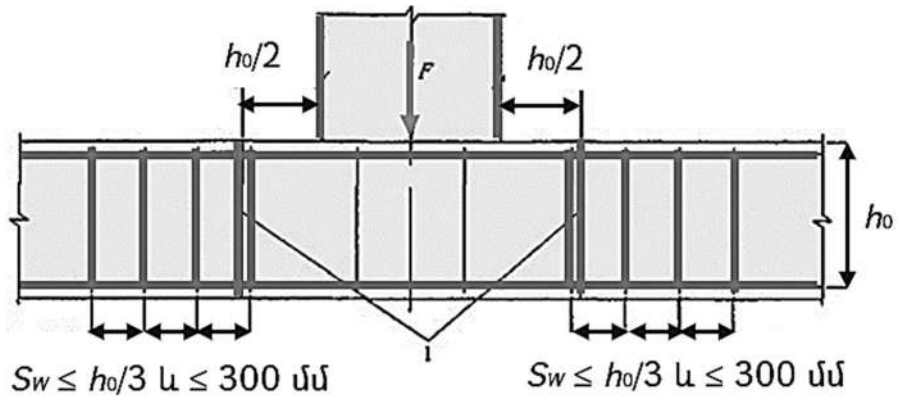
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a **5B9D**

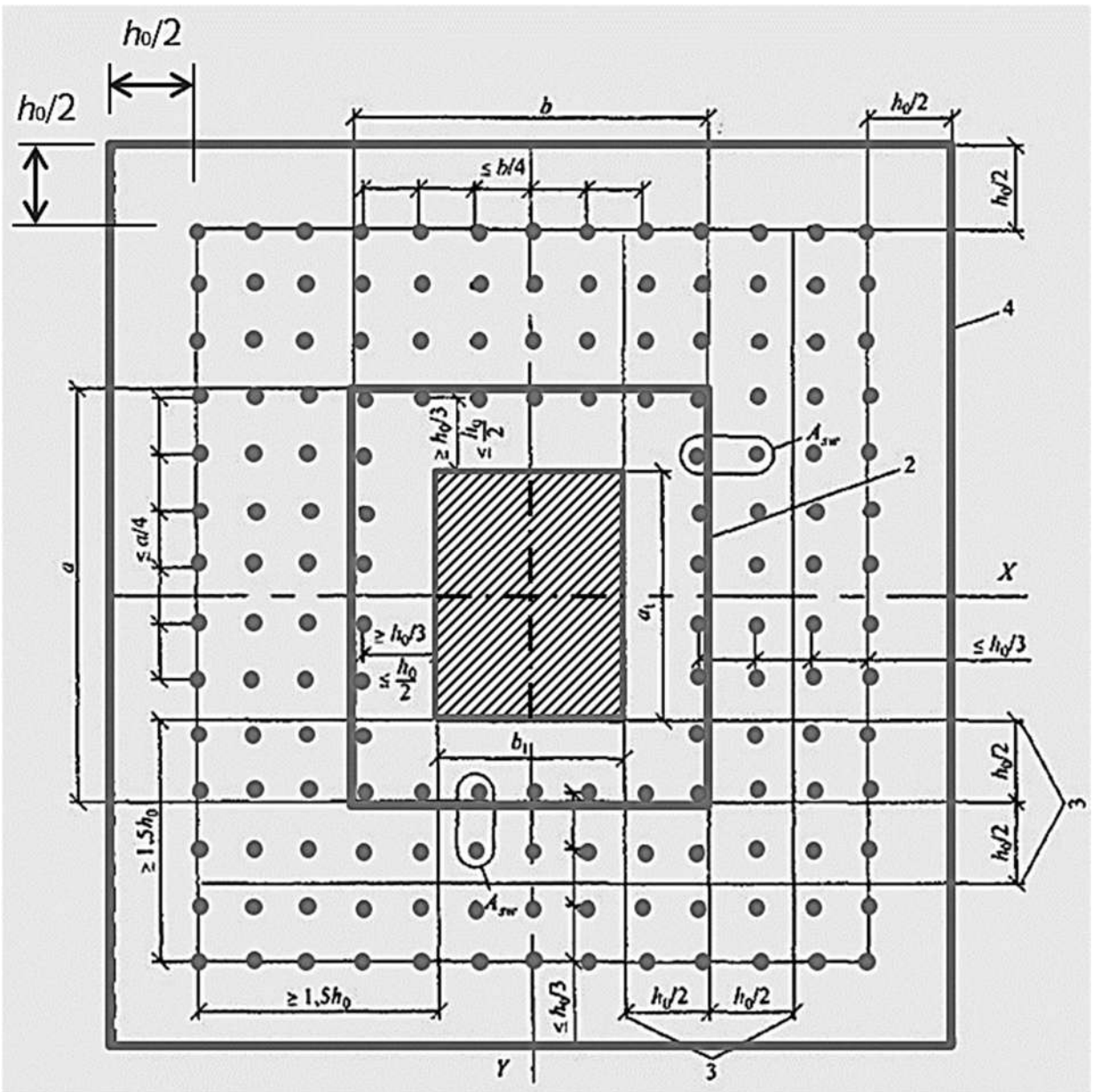
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S_w

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a 5B94E



E 5H 5I 5G R

a 5B94F

0 43 0 436A

0 6 4A

436A

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A

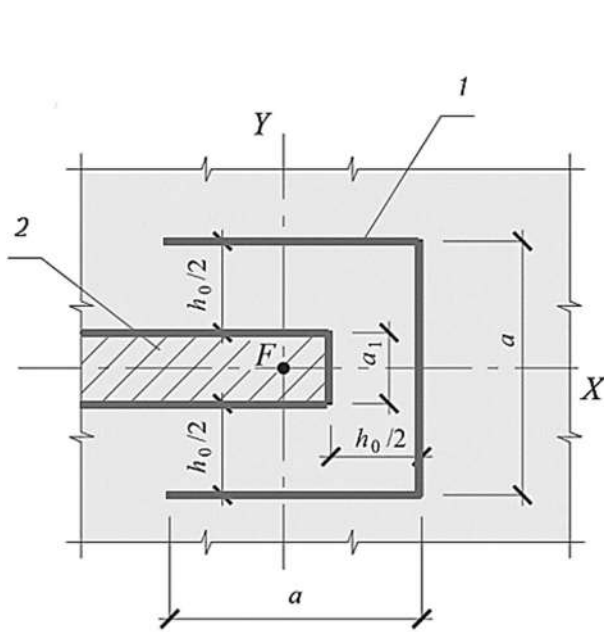
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531 A

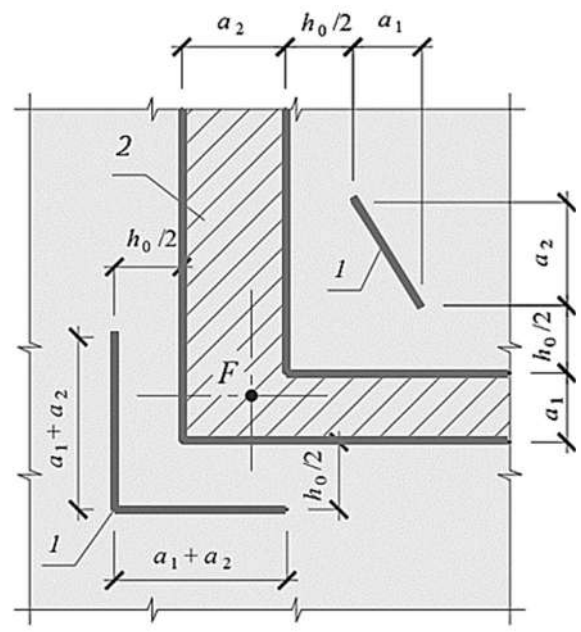
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J 5: 6151



E
G



R
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D. 6

a 5C85

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J 2 4

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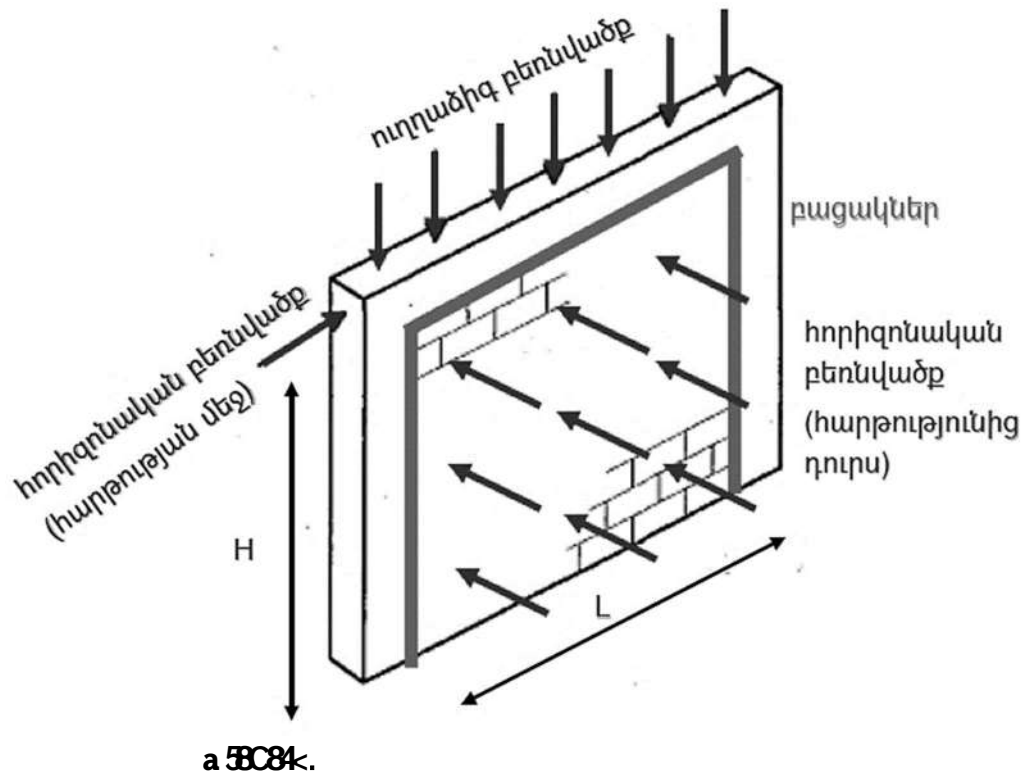
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a 5C818



a 5C89.



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59* 1 0

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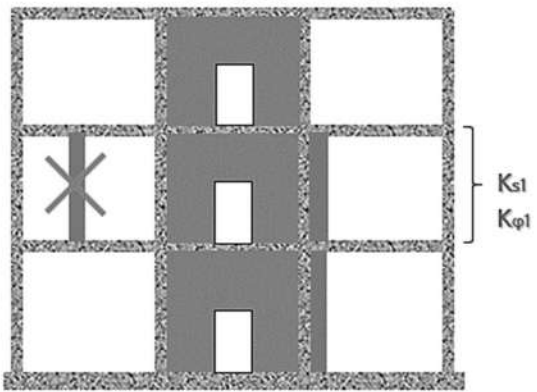
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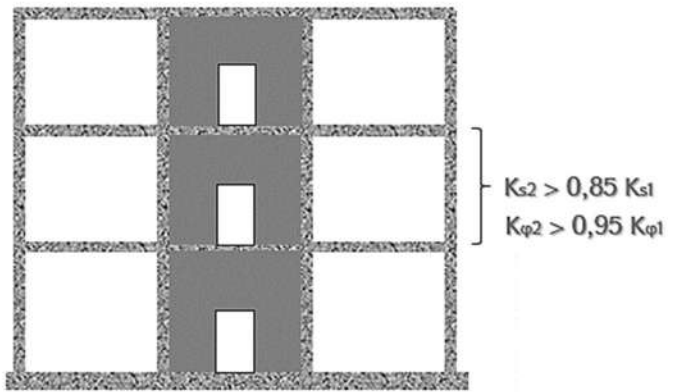
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t = 40 սմ t = 20 սմ



K_{s1} – հարկի հորիզոնական կոշտությունն է
 $K_{\phi 1}$ – հարկի ոլորման կոշտությունն է



K_{s2} – հարկի հորիզոնական կոշտությունն է
 $K_{\phi 2}$ – հարկի ոլորման կոշտությունն է

$K_{s2} > 0,85 K_{s1}$
 $K_{\phi 2} > 0,95 K_{\phi 1}$

a 5C84.

8-

A

P

J 2561 -A

a 5C95

0

A

E. 6

a 575
-0

0 0 ,
, 0 0 0
-0

S_k^h

$$S_k^h = A \cdot k_0 \cdot k_1 \cdot Q_k^e \cdot \sqrt{\sum_{i=1}^3 \beta_i^2 \eta_{ki}^2} \quad , \text{J } 258-$$

Q_k^e y1

A

w6 428 0 D 629 ,

-0 J 258

$$S_k^h = 2.5 A \cdot k_0 \cdot k_1 \cdot Q_k^e \cdot \eta_{k1} A$$

0

U5D5240

U5D524

ZbXPVpde D

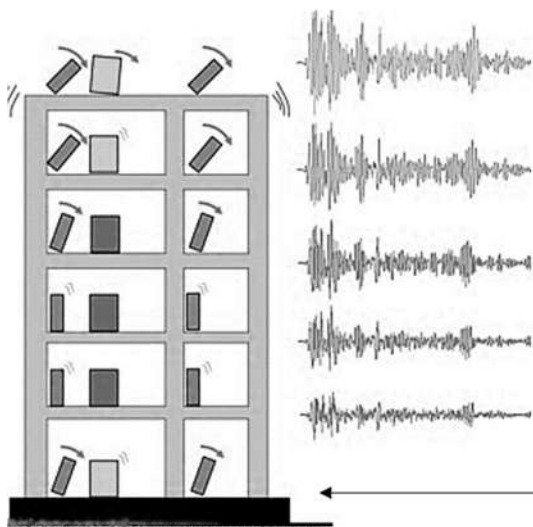
U5D4290

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U5D524

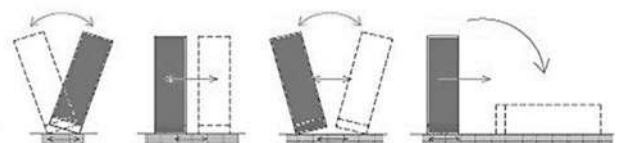
$$S_k^h = A \cdot k_0 \cdot Q_k^e ,$$

U5D524-



$$S_{hk} = A k_0 k_1 Q_{ek} \sqrt{\sum_{i=1}^3 (\beta_i \eta_{ki})^2}$$

ερετ T1 ≤ 0,4 φηη S_{hk} = A k₀ k₁ Q_{ek} β_i η_{ki}



$$S_{hk} = A k_0 k_1 Q_{ek}$$

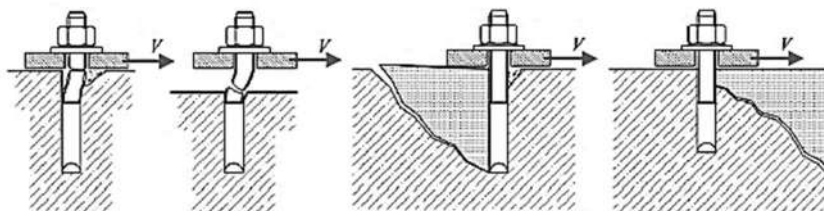
a 574B

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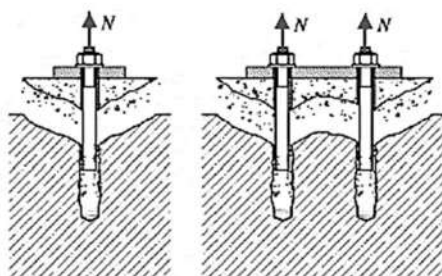
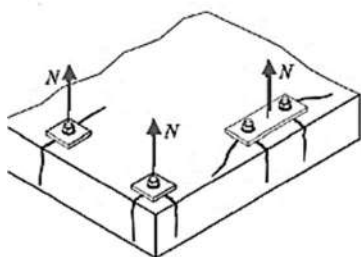
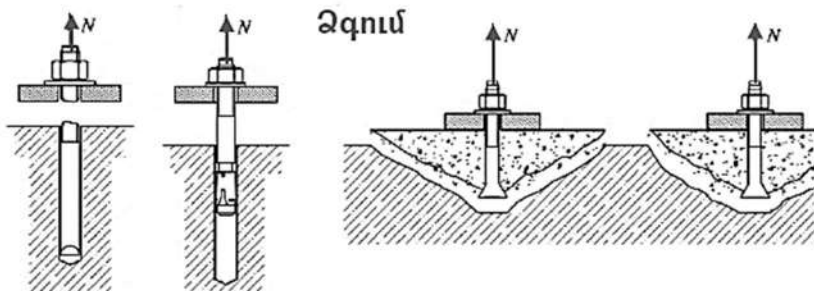
ԱԾ 524

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Սահք



Ձգում



աՅԳԳ

ճԵԸ 70

D 9A

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ԱԾ 5240

J 2581

$$S_k^h = 5 A \cdot k_0 \cdot Q_k^e$$

ՀօքրՎրժե E

$$S_k^h$$

0

0

$$S_k^h$$

$$S_k^h = A \cdot k_0 \cdot k_1 \cdot Q_k^e \cdot k_2 \left(\frac{3(1+z/H)}{1+(1-T_{eq}/T_1)^2} - 0.5 \right) 0$$

ՊՏ...

0 ԱԾ 1

0

ԱԾ 5240

yD4-0 k

yDk-

w₆... 40

$$S_k^h = A \cdot k_0 \cdot k_1 \cdot Q_k^e \cdot k_2 \left(1,5 \left(1 + \frac{z}{H} \right) - 0,5 \right),$$

U₆D524 U₆D524

$$S_k^h = A \cdot k_0 \cdot Q_k^e \cdot \left(1,5 \left(1 + \frac{z}{H} \right) - 0,5 \right) 0$$

yD4

$$S_k^h = A \cdot k_0 \cdot Q_k^e 0$$

yDk

$$S_k^h = 2,5 A \cdot k_0 \cdot Q_k^e$$

0 w₆... D w₆ ,

-0

S_k^h

$$S_k^h = A \cdot k_0 \cdot k_1 \cdot Q_k^e \cdot k_2 \left(3 \left(1 + \frac{z}{H} \right) - 0,5 \right) = 5,5 A \cdot k_0 \cdot k_1 \cdot Q_k^e \cdot k_2$$

Π<1=5.

a 585

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$$S_k^v = 1,4 A \cdot k_0 \cdot k_1 \cdot Q_k^e 0$$

J 259-

Q_k^e

A

Π<1=5.

D9A

ZьxpVpдe E

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D 929

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U₆D524A

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J 2<5

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 62 6414616468 064680
 72 9614516465 064650
 82 9714516464 064640
 92 54.45451644: 0644: 0
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 <2 6614516468 06468

=2 HJ P 75=15> ,66-0 I δv̄rwu J .rs Ys..δws' s«ϕΔ t.' aγδqδ'oz J .«q'sys o«r J . ' ' s«ρ' φ064660

>2 HJ P 796Y1460 Ysq.' ' s«ρωγ«Δ t.' KsΔw« .t I so' 1J .zδ' « J .««sqγw«Δ w T .« .zγwη Yswt.' qsr J .«q'sys aγδqδ' sΔ064540

542HaJ L <1660T w w δ' KsΔw« S .orΔo«r HΔ . qv̄ysr J ' ηs' w t.' I δv̄rwuΔ o«r Vγs' aγδqδ' sΔ064660

552 Lδ' .q .rs =AKsΔw« .t Δγδqδ' sΔt.' so' γ..δoys ' sΔwγo«qs Wδ' γ 5ANs«s' oz ' δzΔ0 ΔsvΔ w qoγw«Δo«r ' δzΔt.' pδv̄rwuΔ064480

562KsΔw«s' εΔ Nδws γ LU 5>>=15 o«r 5>>=192 Lδ' .q .rs =A KsΔw« W' .εv̄w«Δ t.' Lo' γ..δoys YsΔwγo«γαγδqδ' sΔ0P L Wδpzw w u06449

572URab2NJ YZ: 1>5<184 asvΔ w qKsΔw« .t Yswt.' qsr J .«q'sys a»sqv̄ozT.' s«γMo' sΔA HNδws t.' W'oqγw u L«uwss' Δ,asq.«r Lrγw«-0H»»zsr bsq« .z uφJ .δ«qv̄0645: 0

582 58257774.645=0 0 2064660
 592 Π<1=5. 0 205>=>0

5: 2 Π<1=5 , Π<1=5-0 205>=80

5<2Ko' ous o«r P »zγρωγ«Δ t.' asvΔ w qKsΔw« .t YJ aγδqδ'oz e ozz I δv̄rwuΔ3 e ozoqs Qe 20T oΔ .«s S.T 20I .«szv̄WOK' ou .εv̄v̄ QDSou .Δ Y20S rs' ΔJ ., T .svz Q0 hBqηHηpBUUvηUCηB0ε .z26=0U .2a50»ousΔa6=5 a6>>0Q«s 64562

5=2e . .r QNT 2Vws' ΔY .σ J o' Wδ' y0e .zεs' vo' »γ .«OXδo«γγoγes aγδr φ .t ws J oδΔsΔ .t ws Wδ' γv̄ozJ .zo»Δs .« 64γ T o' qv 5>><2aa+K J .«γ'oqγ Ys» . ' γ γ I ' v̄wΔv Osozγ o«r aotsγpLtsqδγes ,OaL-0c R 64472