

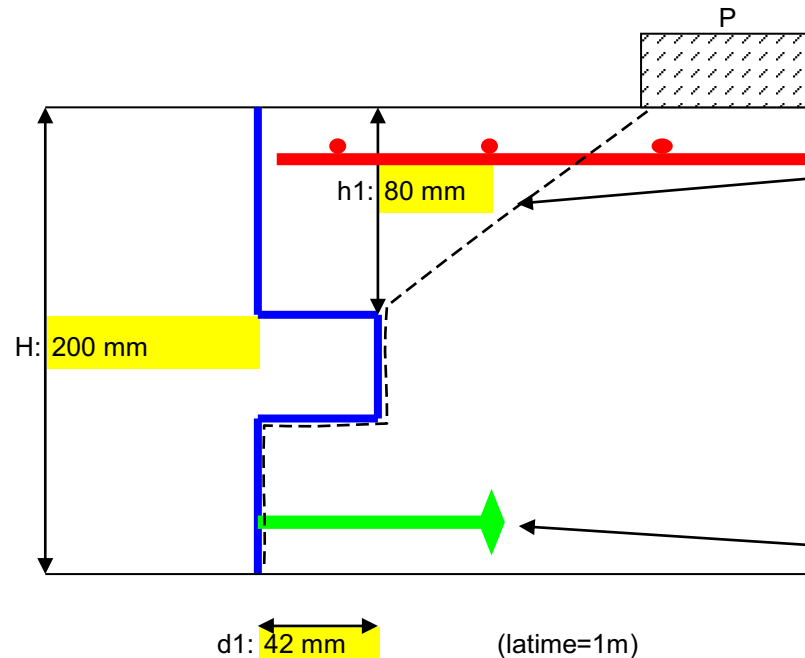
## Rost metalic

### Calcularea capacitatii de incarcare

Tipul: **DOUBLE OMEGA JOINT 180mm**

Beton:	(Cxx/yy)	C32/40	$f_{ck} =$	32 N/mm <sup>2</sup>
Intărire	Plasă / armături metalice:	193 mm <sup>2</sup> /m	$\rho =$	24 %
	Fibre:	85%(Re3)		
Șuruburi inferioare diametru spatiere		10 mm 200 mm	$A_{studs} =$	393 mm <sup>2</sup> /m

Cadre  
Valoarea de ductilitate RE3



#### Capacitatea de forfecare deasupra tijei (după TR34)

##### Secțiune beton+oțel:

$v_{Rd,c} = 1,41 \text{ N/mm}^2$

$P_{1st\ crack} = 169 \text{ kN/m}$

$$v_{Rd,c} = \frac{0.18}{\gamma_c} k_1 (100 \rho_l f_{ck}) \geq 0.035 k_1^{3/2} f_{ck}^{1/2}$$

$$0.5 * P_{1stcrack} = v_{Rd,c} * (0.75 h_1)$$

##### Fibre de oțel

$v_f = 0,65 \text{ N/mm}^2$

$P_{fibres} = 78 \text{ kN/m}$

$$v_f = 0.12 R_{e,3} f_{ctk,fl}$$

$$0.5 * P_{fibres} = v_f * (0.75 h_1)$$

**Total:** 246 kN/m

#### Capacitatea de forfecare a șuruburilor inferioare

$P_{connectors} = 275 \text{ kN/m}$

$$0.5 * P_{connectors} = 350 \text{ N/m}^2 * A_{connector}$$

**CAPACITATEA FINALĂ = capacitatea maximă de forfecare (deasupra tijei, șuruburi):**

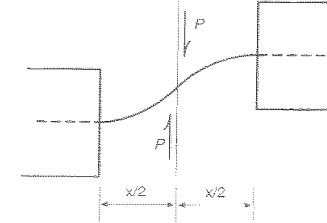
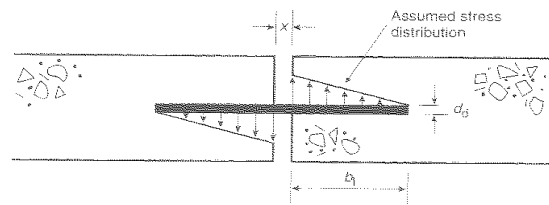
**P total = 275 kN/m**

**CAPACITATEA DE DESIGN:**

protecția betonului 1,5  
protecția otelului 1,15

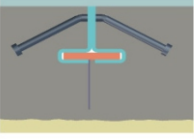
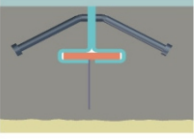
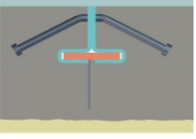
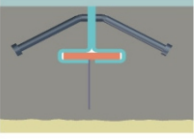
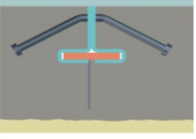
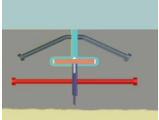
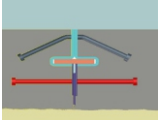
**P design = 239 kN/m**

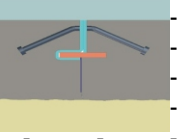
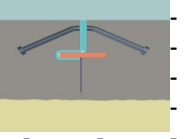
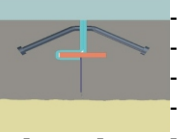
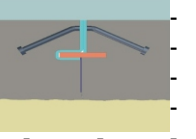
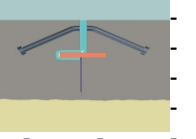
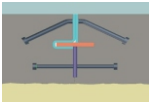
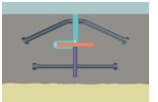
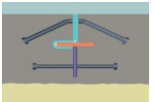
## CALCULAREA TRANSFERULUI DE SARCINĂ (Potrivit TR34 editia 2003 pp 60-62)

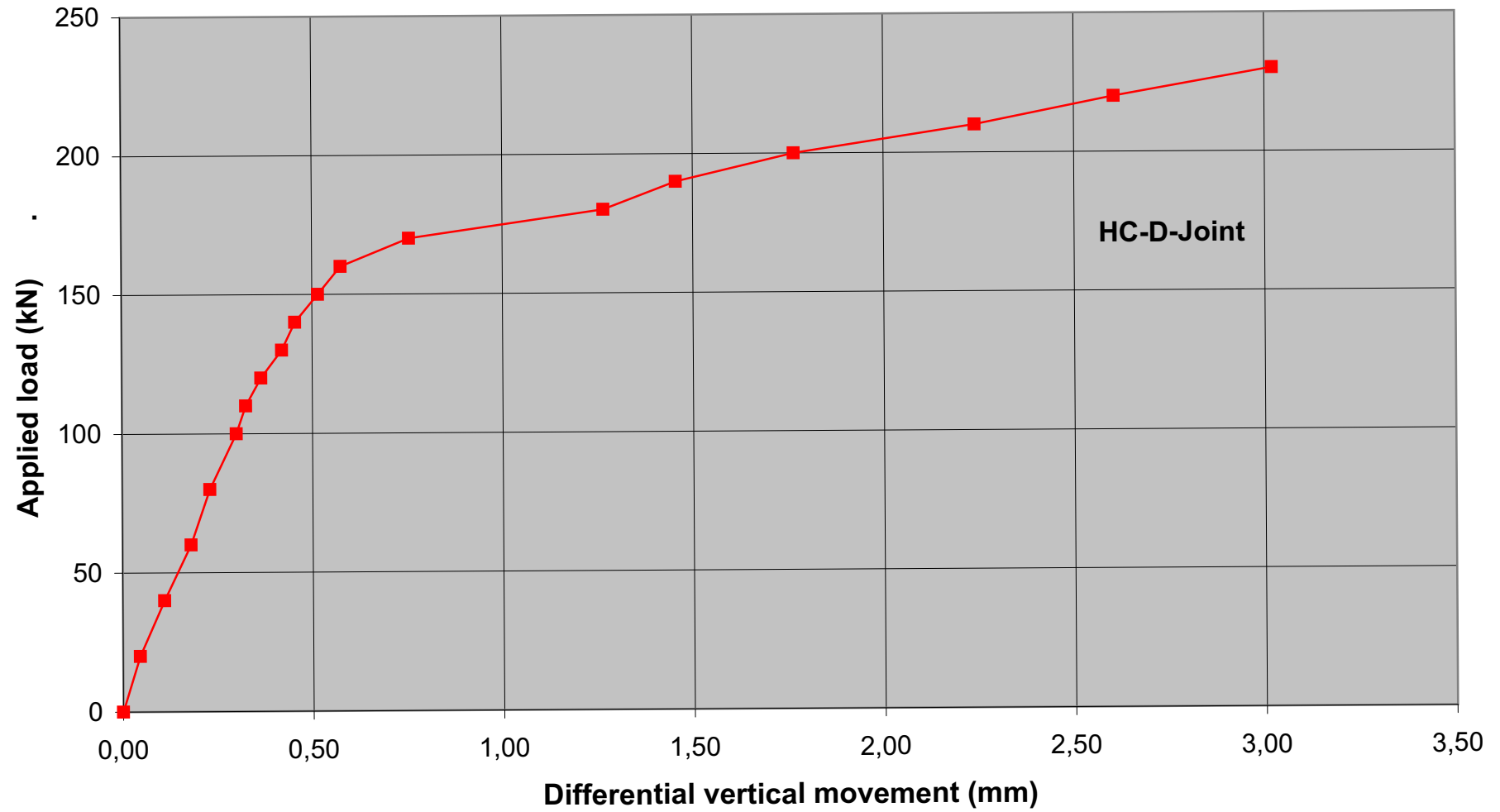


		Dibluri metalici de imbinare					HCJ joints			
		12mm	16mm	20mm	20mm	6mm	10mm	HC-D	HC-O	
		rotund	rotund	rotund	pătrat	Diamond	Alpha	10mm	2x5mm	
		400mm	400mm	500mm	500mm	155,6	120mm	dreptunghi	profile	
<b>Capacitatea de forfecare</b>										
$P_{sh}=0.6 f_y A_v / \gamma_s$										
$f_y=$	250 N/mm <sup>2</sup> (N/mm <sup>2</sup> )	250	250	250	250	250	250	370	370	
$A_v=0.9 \cdot \text{secțiune oțel}$	(mm <sup>2</sup> )	102	181	283	360	420	1080	9000	9000	
$\gamma_s=$	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	
$P_{sh}$ (kN)		13,3	23,6	36,9	47,0	54,8	140,9 (kN/diblu)	1737	1737 (kN/m)	
<b>Capacitatea susținere:</b>										
$P_{bear}=0.5 f_{cu} b_l d_d / \gamma_c$										
$f_{cu}=$	40 N/mm <sup>2</sup> (N/mm <sup>2</sup> )	40	40	40	40	40	40	40	40	
$b_l=$	max 8xddd (mm)	96	128	160	160	48	60	40	40	
$d_d$	(mm)	12	16	20	20	155,6	250	1000	1000	
$\gamma_c=$	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	
$P_{bear}$ (kN)		15,4	27,3	42,7	42,7	68,8	200,0 (kN/diblu)	533	533 (kN/m)	
<b>Capacitatea de îndoire</b>										
$P_{bend}=(2 f_y Z_p)/x / \gamma_s$										
$f_y=$	250 N/mm <sup>2</sup> (N/mm <sup>2</sup> )	250	250	250	250	250	250	370	370	
$Z_p=dd^3/4$ or 6 (circular sau patrat)	(mm <sup>2</sup> )	288	683	1333	2000	1400	6250	25000	12500	
$x=$ deschidere	(mm)	15	15	15	15	15	15	15	15	
$\gamma_s=$	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	1,15	
$P_{bend}$ (kN)		8,3	19,8	38,6	58,0	40,6	181,2 (kN/diblu)	1072	536 (kN/m)	

## Compoziție

Delta HP	Numărul de profile	Modelul profilului	Placă 1,5 mm			Placă 2 mm						Placă 3 mm			Placă 5mm					Placă 70 x 10 mm	Pivot 125 x 10MM	Șurub	Moers
			Placă 60	Placă 80	Placă 100	Placă 35	Placă 50	Placă 65	Placă 95	Placă 115	Placă 135	Placă 165	Placă 40	Placă 60	Placă 70	Placă 66	Placă 0	Placă 95	Placă 125				
110	2	80	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2 x 15	3	3
130	2	80	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	2 x 15	3	3
145	2	80	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	2 x 15	3	3
160	2	95				-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	2 x 15	4	4
185	2	95				-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	2 x 15	4	4
200	2	110				-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	2 x 15	4	4
220	2	110				-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	2 x 15	4	4
250	2	140				-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	2 x 15	4	4
270	2	140	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	2 x 15	4	4
300	2	140	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	2 x 15	4	4
160+	2	95	1	-	-	-				-	-	-	2	-	-	-	-	-	-	1	4 x 15	4	4
200+	2	110	-	1	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	1	4 x 15	4	4
250+	2	140	-	-	1	-				-	-	-	-	-	2	-	-	-	-	1	4 x 15	4	4

Delta HP Light	Numărul de profile	Modelul profilului	Placă 1,5 mm			Placă 2 mm						Placă 3 mm			Placă 5mm					Placă 70 x 10 mm	Pivot 125 x 10MM	Șurub	Moers
			Placă 60	Placă 80	Placă 100	Placă 35	Placă 50	Placă 65	Placă 95	Placă 115	Placă 135	Placă 165	Placă 40	Placă 60	Placă 70	Placă 66	Placă 0	Placă 95	Placă 125				
110	1	80	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	1	2 x 15	3	3	
130	1	80	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	1	2 x 15	3	3	
145	1	80	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	1	2 x 15	3	3	
160	1	95				-	-	1	-	-	-	-	-	-	-	1	-	-	1	2 x 15	4	4	
185	1	95				-	-	-	1	-	-	-	-	-	-	1	-	-	1	2 x 15	4	4	
200	1	110				-	-	-	1	-	-	-	-	-	-	-	1	-	1	2 x 15	4	4	
220	1	110				-	-	-	-	1	-	-	-	-	-	-	1	-	1	2 x 15	4	4	
250	1	140				-	-	-	-	1	-	-	-	-	-	-	-	1	1	2 x 15	4	4	
270	1	140	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	1	2 x 15	4	4	
300	1	140	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1	2 x 15	4	4	
160+	1	95	1	-	-				-	-	-	-	2	-	-	1	-	-	1	4 x 15	4	4	
200+	1	110	-	1	-				-	-	-	-	-	2	-	-	1	-	1	4 x 15	4	4	
250+	1	140	-	-	1				-	-	-	-	-	2	-	-	-	1	1	4 x 15	4	4	



## **Tabel cu greutatea rosturilor Delta**

<b>Tipul și înălțimea</b>	<b>Greutatea în Kg/m</b>
Delta 95 HP	17,66
Delta 100 HP	17,78
Delta 110 HP	17,86
Delta 120 HP	18,26
Delta 130 HP	18,1
Delta 140 HP	18,34
Delta 160 HP	19,62
Delta 180 HP	20,1
Delta 200 HP	21,22
Delta 220 HP	21,54
Delta 230 HP	21,7
Delta 250 HP	23,62
Delta 275 HP	23,94
Delta 300 HP	24,42
Delta 160 HP+	22,04
Delta 200 HP+	24,36
Delta 350 HP+	29,08