

Highest permissible loads in concrete C20/25

Approved loads for single anchor without influence of spacing and edge distance.

Total safety factor as per ETAG 001 included (γ_M and γ_F).

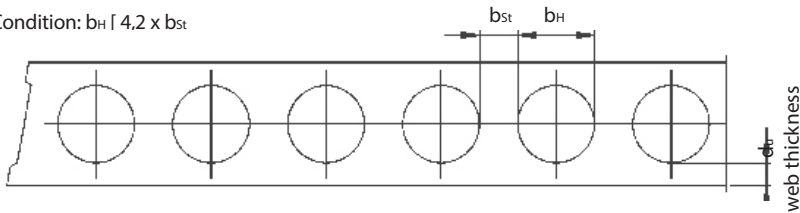
Loads and performance data	Easy	M 6				M 8				M 10				M 12					
		Pre-stressed hollow concrete slabs \geq C45/55																	
Web thickness	d_u	[mm]	m	25	30	40	50	25	30	40	50	25	30	40	50	25	30	40	50
Mean ultimate loads, tension	C45/55 N_{um}	[kN]		6,6	8,6	8,6	8,6	7,0	9,3	11,7	11,7	9,1	12,0	18,4	18,4	9,4	12,3	19,0	22,7
Mean ultimate loads, shear	C45/55 V_{um}	[kN]		6,9 ²⁾	8,1 ³⁾	8,1 ³⁾	8,1 ³⁾	7,3	8,7	9,2	9,2	8,0	9,4	12,2	14,5	8,3	9,8	12,7	15,5
Single anchor																			
Approved loads ¹⁾ (for $c \geq c_{cr}$)	$F^{(1)}$	[kN]		0,7	0,9	2,0	2,9	0,7	0,9	2,0	3,6	0,9	1,2	3,0	3,6	1,0	1,2	3,0	4,3
Edge distance	c_{cr}	[mm]		150				150				150				150			
Approved loads ¹⁾ (for c_{min})	$F^{(1)}$	[kN]		0,35	0,8	1,8	2,4	0,35	0,8	1,8	3,0	0,8	1,0	2,7	3,0	0,8	1,0	2,7	3,6
Minimum edge distance	c_{min}	[mm]		100				100				100				100			
Spacing	s_{cr}	[mm]		300				300				300				300			
Pair of anchors²⁾																			
Approved loads ¹⁾ (for $c \geq c_{cr}$)	$F^{(1)}$	[kN]		0,7	1,4	2,6	3,9	0,7	1,4	2,6	4,8	1,1	2,0	4,8	4,8	1,2	2,0	4,8	5,7
Minimum spacing	s_{min}	[mm]		70	80	100	100	70	80	100	100	70	80	100	100	70	80	100	100
Edge distance	c_{cr}	[mm]		150				150				150				150			
Approved loads ¹⁾ (for c_{min})	$F^{(1)}$	[kN]		0,35	1,25	2,35	3,2	0,35	1,25	2,35	4,0	0,9	1,8	4,3	4,3	1,0	1,8	4,3	4,8
Minimum spacing	s_{min}	[mm]		70	80	100	100	70	80	100	100	70	80	100	100	70	80	100	100
Minimum edge distance	c_{min}	[mm]		100				100				100				100			
Approved bending moments																			
Stud / Screw, steel 5.8		[Nm]		-				10,7				21,4				37,4			
Stud / Screw, steel 8.8		[Nm]		4,4				17,1				34,2				59,8			
Installation parameters																			
Length of sleeve (without cone)	L	[mm]		30				35				40				45			
Minimum length of screw	min l_s	[mm]		42 + t_{fix}				47 + t_{fix}				55 + t_{fix}				61 + t_{fix}			
Minimum length of stud	min l_b	[mm]		47 + t_{fix}				53 + t_{fix}				63 + t_{fix}				71 + t_{fix}			
Minimum strength of stud / screw				8.8				5.8				5.8				5.8			
Drill hole diameter	d_o	[mm]		10				12				16				18			
Clearance hole in the fixture	d_r	[mm]		7				9				12				14			
Depth of drill hole	h_o	[mm]		50				55				60				70			
Installation torque	T_{inst}	[Nm]		10				20				30				40			

¹⁾ For edge distance $c_{min} < c \leq c_{cr}$ can be determined by linear interpolation.

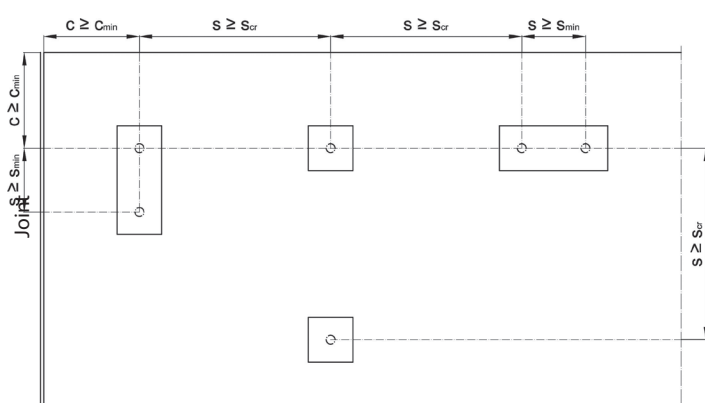
²⁾ Approved loads valid for double anchorage. Recommended load of the most stressed anchor may not exceed the recommended load of a single anchor. On double anchorages with spacing $s_{min} < s < s_{cr}$ the recommended load may be determined by linear interpolation, assuming the limiting value $s = s_{cr}$ for the double anchorage exposed to tension is twice the recommended load of a single anchor.

³⁾ Screw 8.8

Condition: $b_H \geq 4,2 \times b_{St}$

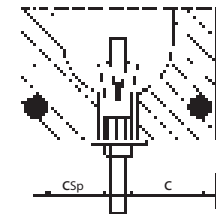


Arrangement of the anchors

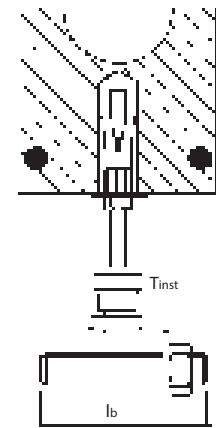


Installation with a threaded stud

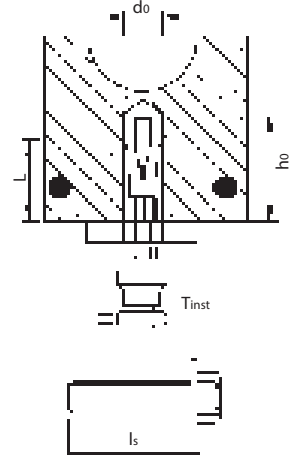
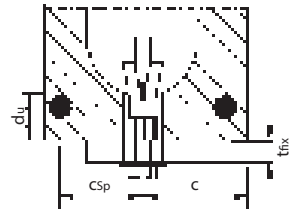
Hollow



Solid



Installation with a screw



t_{fix} = Fixture thickness

d_u = Web thickness

b_H = Width of hollow

b_{St} = Width of web

c_{Sp} = Spacing to tension wire

c = Edge distance