



Cracked concrete

Load values

	Steel grade	Temperature	M8	M10	M12	M16
Tensile load [kN]						
C20/25	5.8	24°C/40°C	2,9-7,7	3,7-12,5	5,8-19,7	8,8-35,1
C20/25	5.8	50°C/80°C	1,8-4,8	2,6-8,7	4,2-14,4	6,4-25,5

Shear load [kN]						
C20/25	5.8	24°C/40°C	5,2	8,3	12	21,1-22,4
C20/25	5.8	50°C/80°C	3,6-5,2	6,3-8,3	10,1-12,0	15,3-22,4

Tensile load [kN]						
C20/25	8.8	24°C/40°C	-	-	5,8-19,7	8,8-35,1
C20/25	8.8	50°C/80°C	-	-	4,2-14,4	6,4-25,5

Shear load [kN]						
C20/25	8.8	24°C/40°C	-	-	13,8-19,4	21,1-36,0
C20/25	8.8	50°C/80°C	-	-	10,1-19,4	15,3-36,0

Fire loads

Permissible load R30 per. F [kN]	1,64	2,6	3,35	6,25
Permissible load R60 per. F [kN]	1,12	1,77	2,59	4,82
Permissible load R90 per. F [kN]	0,59	0,94	1,82	3,4
Permissible load R120 per. F [kN]	0,33	0,52	1,44	2,69

Application dimensions

Borehole diameter d0 [mm]	10	12	14	18
Through-hole in the attachment df [mm]	9	12	14	18
Borehole depth hef,min - hef,max [mm]	60 - 160	60 - 200	70 - 240	80 - 320
Torque when anchoring Tinst [Nm]	10	20	40	80
Minimum component thickness hef,min - hef,max [mm]	100 - 190	100 - 230	100 - 270	116 - 356
Minimum centre distance smin [mm]	40	50	60	80
Minimum edge distance cmin [mm]	40	50	60	80

Perforated block with sieve sleeve

Load values

	M8	M8 / M10	M8 / M10	M12 / M16	M12 / M16
Sieve sleeve	12x80	16x85	16x130	20x85	20x130
Tensile load [kN]					
$f_b \geq 4 \text{ N/mm}^2$	0,26	0,26	0,34	0,26	0,34
$f_b \geq 6 \text{ N/mm}^2$	0,26	0,26	0,34	0,26	0,34
$f_b \geq 10 \text{ N/mm}^2$	0,34	0,34	0,43	0,34	0,43
Shear load [kN]					
$f_b \geq 4 \text{ N/mm}^2$	0,57	0,57	0,57	0,71	0,71
$f_b \geq 6 \text{ N/mm}^2$	0,71	0,71	0,71	0,86	0,86
$f_b \geq 10 \text{ N/mm}^2$	0,86	0,86	1	1,14	0,14

Application dimensions

Borehole diameter d_0 [mm]	12	16	16	20	20
Borehole depth d_0	85	90	135	90	135
Through-hole in the attachment $d_f \leq$ [mm]	9	9 / 12	9 / 12	14 / 18	14 / 18
Minimum component thickness (masonry) h_{min}	115	115	175	115	175
Borehole depth h_{ef}	80	85	130	85	130,00
Centre distance parallel to the horizontal joint $s_{cr,II}$	500	500	500	500	500,00
Centre distance perpendicular to the horizontal joint $s_{cr,I}$	300	300	300	300	300
Edge distance c_{cr}	100	100	100	120	120
Minimum edge distance c_{min} [mm]	100	100	100	120	120
Minimum centre distance s_{min} [mm]	100	100	100	100	100
Tightening torque $T_{inst,max}$	2	2	2	2	2

All values refer to cracked concrete.