Loads

Aircrete anchor FPX-I

Permissible loads[1] and required component dimensions in aerated concrete masonry.
For the design the complete current assessment ETA-12/0456 has to be considered.

Type			**FPX-I M6 , M8 , M10 , M12**	
Effective anchorage depth	h_{ef}	**[mm]**	**70**	
Permissible load[2] (F_{perm}) per anchor				
$f_{AAC} \geq 1{,}6$ N /mm² / $\rho_m \geq 0{,}25$ kg/dm³	F_{perm}	**[kN]**	0.32	
$f_{AAC} \geq 2{,}0$ N /mm² / $\rho_m \geq 0{,}35$ kg/dm³	F_{perm}	**[kN]**	0.43	
$f_{AAC} \geq 4{,}0$ N /mm² / $\rho_m \geq 0{,}50$ kg/dm³	F_{perm}	**[kN]**	0.89	
$f_{AAC} \geq 6{,}0$ N /mm² / $\rho_m \geq 0{,}65$ kg/dm³	F_{perm}	**[kN]**	1.43	
Component dimensions				
Minimum member thickness with drill hole cleaning	h_{min}	**[mm]**	100	
Minimum member thickness without drill hole cleaning	h_{min}	**[mm]**	120	
Single anchor				
Minimum spacing	a	**[mm]**	375	
Minimum edge distance	c_1	**[mm]**	125	
Minimum distance to joints	c_F[3]	**[mm]**	75[4] / 125	
Minimum edge distance orthogonal to c_1	c_2	**[mm]**	190	
Anchor groups[5] with 2 or 4 ancors				
Actions			**shear and oblique tension**	**only axial tension**
Minimum spacing between anchor group and 2 single anchors	s_{min}	**[mm]**	100	100
Minimum edge distance	c_1	**[mm]**	250	125
Minimum spacing	a	**[mm]**	750	375
Minimum edge distance orthogonal to c_1	c_2	**[mm]**	375	190

[1] Permissible loads of a single anchor for all load directions. The required partial safety factors for material resistance as well as a partial safety factor for load actions of $\gamma_L = 1.4$ are considered.
[2] Grade of the screw resp. threaded rod ≥ 4.8.
[3] In case of non visible joints F_{perm} has to be divided in halve. Accurate data see ETA.
[4] c_F for tensile load and/or shear load parallel to the joint which is not filled with mortar with width ≤ 2 mm.
[5] $F_{perm,group} = 2 \times F_{perm,single\ anchor}$ valid in case of anchor groups with 2 or 4 anchors. Accurate deta see ETA.