AAC anchor X-Pansion internal thread FPX-I (minimum screw property class 4.8)
Highest permissible loads[1] in aerated concrete
For the design the complete approval ETA - 12/0456 has to be considered.

Type				M6	M8	M10	M12
Minimum member thickness with drill hole cleaning		h_{min}	[mm]		100		
Minimum member thickness without drill hole cleaning		h_{min}	[mm]		120		
Effective anchorage depth		h_{ef}	[mm]		70		
Maximum fastening torque for fixing screw		T_{max}	[Nm]		3,0[5]		
Permissible load for single anchors F_{perm} [3]							
Min. distance to joints for single anchors		c_F	[mm]		0[9] / 75[13] / 125[14]		
Min. edge distance[2]		c_1	[mm]		125[11]		
Min. spacing[2] orthogonal c_1		c_2	[mm]		188		
Min. spacing[15]		a	[mm]		375 (600)[12]		
AAC masonry [4] [7]	$f_{ck} \geq 1,6$ N /mm^2 $\rho_m \geq 0,25$ kg/dm^3	F_{perm} [3]	[kN]		0,3		
	$f_{ck} \geq 2,0$ N /mm^2 $\rho_m \geq 0,35$ kg/dm^3	F_{perm} [3]	[kN]		0,4		
	$f_{ck} \geq 4,0$ N /mm^2 $\rho_m \geq 0,50$ kg/dm^3	F_{perm} [3]	[kN]		0,9		
	$f_{ck} \geq 6,0$ N /mm^2 $\rho_m \geq 0,65$ kg/dm^3	F_{perm} [3]	[kN]		1,4		
AAC slabs [4], cracked	$f_{ck} \geq 3,3$ N /mm^2 $\rho_m \geq 0,50$ kg/dm^3	F_{perm} [3]	[kN]		0,6		
	$f_{ck} \geq 4,4$ N /mm^2 $\rho_m \geq 0,55$ kg/dm^3	F_{perm} [3]	[kN]		0,8		
AAC slabs [4], non-cracked	$f_{ck} \geq 3,3$ N /mm^2 $\rho_m \geq 0,50$ kg/dm^3	F_{perm} [3]	[kN]		0,8		
	$f_{ck} \geq 4,4$ N /mm^2 $\rho_m \geq 0,55$ kg/dm^3	F_{perm} [3]	[kN]		1,2		
Permissible load for anchor groups with 2 or 4 anchors $F_{perm,n}$ [3] [6] [8]							
Min. spacing[2] within a anchor group and 2 single anchors[15]		s_{min}	[mm]		100		
Min. edge distance[2]		c_1	[mm]		250		
Min. spacing[2] orthogonal c_1		c_2	[mm]		375		
Min. spacing		a	[mm]		750		
AAC masonry [4] [7] [10]	$f_{ck} \geq 1,6$ N /mm^2 $\rho_m \geq 0,25$ kg/dm^3	F_{perm} [3]	[kN]		0,6		
	$f_{ck} \geq 2,0$ N /mm^2 $\rho_m \geq 0,35$ kg/dm^3	F_{perm} [3]	[kN]		0,8		
	$f_{ck} \geq 4,0$ N /mm^2 $\rho_m \geq 0,50$ kg/dm^3	F_{perm} [3]	[kN]		1,8		
	$f_{ck} \geq 6,0$ N /mm^2 $\rho_m \geq 0,65$ kg/dm^3	F_{perm} [3]	[kN]		2,8		
AAC slabs [4] [10], cracked	$f_{ck} \geq 3,3$ N /mm^2 $\rho_m \geq 0,50$ kg/dm^3	F_{perm} [3]	[kN]		1,2		
	$f_{ck} \geq 4,4$ N /mm^2 $\rho_m \geq 0,55$ kg/dm^3	F_{perm} [3]	[kN]		1,6		
AAC slabs [4] [10], non-cracked	$f_{ck} \geq 3,3$ N /mm^2 $\rho_m \geq 0,50$ kg/dm^3	F_{perm} [3]	[kN]		1,6		
	$f_{ck} \geq 4,4$ N /mm^2 $\rho_m \geq 0,55$ kg/dm^3	F_{perm} [3]	[kN]		2,4		

[1] The required partial safety factors for material resistance as well as a partial safety factor for load actions of γ_L = 1,4 are considered.

[2] Minimum possible axial spacing resp. edge distance without reducing the permissible load.

[3] Valid for tensile load, shear load and oblique load under any angle.

[4] Strength class f_{ck} and dry density ρ_m according EN 771-4 resp. EN 12602.

[5] If the anchor cannot support against the fixture no installation torque must be applied (T_{max} =0).

[6] While using 4 anchors they have to be arranged rectangularly.

[7] For masoned joints a proof against pull-out of the block is required.

[8] Permissible total load of the anchor group.

[9] For joints completely filled with mortar with a joint width ≤ 12mm and a compressive strength according to EN 998-2 ≥ f_{ck} AAC no distances to joints is required.

[10] For not visible joints the permissible total load of the anchor group has to be halved and must be designed for multiple use according ETAG 001, Part 6.

[11] For reinforced AAC slabs with width ≤ 700 mm: c_1 ≥ 150 mm.

[12] Value in brackets valid for AAC slabs.

[13] c_F for tensile load and/or shear load parallel to the joint which is not filled with mortar with width ≤ 2 mm.

[14] c_F = c_1 for shear load or oblique load orthogonal to the joint which is not filled with mortar with width ≥ 0 mm.

[15] For 2 single anchors with a spacing ≤ 375 mm (≥ s_{min}) the spacings and edge distances for anchor groups are valid.