Loads

HybridPower

Permissible loads[1][2][3] of a single anchor as part of a multiple fixing of non-structural systems.
For the design the complete current assessment ETA-26/0168 has to be considered.

Type			**HybridPower 10**
Drill hole diameter	d_0	**[mm]**	**10**
Anchorage depth	h_{nom}	**[mm]**	**80**
Anchorage in concrete ≥ C16/20			
Permissible tensile load N_{perm}		**[kN]**	1.59
Permissible shear load V_{perm}	zinc coated screw (gvz)	**[kN]**	5.98
	stainless steel screw (R)	**[kN]**	5.98
Minimum member thickness	h_{min}	**[mm]**	100
Characteristic edge distance	$c_{cr,N}$	**[mm]**	50
Characteristic spacing	a bzw. $s_{cr,N}$	**[mm]**	75
Minimum spacing	s_{min}	**[mm]**	50
with an edge distance	c ≥	**[mm]**	50
Minimum edge distance	c_{min}	**[mm]**	50
with a spacing	s ≥	**[mm]**	50
Anchorage in masonry			
Permissible load[4] F_{perm} in solid brick Mz	≥ NF 10.0/2.0	**[kN]**	0.57
	≥ NF 20.0/2.0	**[kN]**	1.00
Permissible load[4] F_{perm} in solid sand-lime brick KS	≥ 2DF 10.0/2.0	**[kN]**	0.57
	≥ 2DF 15.0/2.0	**[kN]**	0.85
Permissible load[4][5] F_{perm} in lightweight concrete blocks VBL	≥ 2DF 2.5/1.2	**[kN]**	0.34
	≥ 2DF 5.0/1.2	**[kN]**	0.43
Permissible load[4][5] F_{perm} in vertically perforated brick HLz	≥ 3DF 10.0/1.2	**[kN]**	0.21
	≥ 3DF 12.5/1.2	**[kN]**	0.26
Permissible load[4] F_{perm} in perforated sand-lime brick KSL	≥ 2DF 12.5/1.6	**[kN]**	0.43
	≥ 2DF 20.0/1.6	**[kN]**	0.71
Permissible load[4][5] F_{perm} in hollow lightweight concrete blocks Hbl	≥ 2.5/0.7	**[kN]**	0.26
	≥ 5.0/0.7	**[kN]**	0.57
Minimum member thickness	h_{min}	**[mm]**	115
Minimum spacing (single anchor)	a_{min}	**[mm]**	250
Minimum spacing (anchor group)	s_{min}	**[mm]**	100
Minimum edge distance (anchor group)	c_{min}	**[mm]**	100
Anchorage in aerated concrete			
Permissible load[4] F_{perm} in aerated concrete acc.to EN 771-4:2011+A1:2015	PB ≥ 4 N/mm²	**[kN]**	0.43
	PB ≥ 6 N/mm²	**[kN]**	0.71
Permissible load[4] F_{perm} in reinforced aerated concrete acc. to EN 12602:2016	AAC 4; f_{ck} ≥ 4 N/mm²	**[kN]**	0.43
	AAC 6; f_{ck} ≥ 6 N/mm²	**[kN]**	0.71
Minimum member thickness	h_{min}	**[mm]**	115/175[6]
Minimum spacing (single anchor)	a_{min}	**[mm]**	250
Minimum spacing (anchor group)	s_{min}	**[mm]**	100
Minimum edge distance (anchor group)	c_{min}	**[mm]**	100

1) Valid for zinc coated screws (gvz) and for screws made of stainless steel (R). For exterior use of the zinc coated screws measures against incoming humidity according to ETA have to be taken.

2) The required partial safety factors for material resistance as well as a partial safety factor for load actions γ_F = 1.4 are considered. As a single anchor counts e.g. an anchor with a minimum spacing a according to annexes of the ETA.

3) Valid for temperatures in the substrate up to +50 °C (resp. short term up to +80 °C). For long term temperatures up to +30 °C higher permissible loads may be possible.

4) Valid for tensile load, shear load and oblique load under any angle. For combinations of tensile and shear loads as well as bending moments, see the ETA.

5) Rotary drilling.

6) Compression strength > 3 N/mm² for AAC.