Hollow Core Anchor Easy A4

Stainless steel A4/316

G 4070019

Range of loading: **0,9 kN–3,6 kN**
Range of concrete quality: **≥ C45/55 bzw. B55; pre-stressed hollow concrete slabs**

Description

The Hollow Core Anchor Easy A4, consisting of an expansion cone and an expansive sleeve, was specially developed for use in pre-stressed concrete hollow ceilings in dry and damp interiors, as well as in outdoor atmospheres.

The expansion cone is firmly clamped in the expansion sleeve and is only detached from and pulled into the anchor sleeve, when the bolt or nut is tightened. This causes the anchor to expand in the cavity and creates a form fit, or anchors itself in the solid material of the pre-stressed concrete hollow slabs. The EASY hollow core ceiling anchor can be installed in accordance with the general building authority approval Z-21.1-1785, from under the ceiling as well as from ontop of the floor.

Advantages

- General building authority approval for anchorages of single anchors in pre-stressed concrete hollow core slabs, both from floor as well as from the ceiling side
- General building authority approval as multiple anchors for anchoring light suspended ceilings as well as comparable anchorages
- Approved for use in dry and damp interiors, and in outdoor atmospheres, if no particularly aggressive conditions are present.
- Approved for use under fire exposure R30-R120
- Versatile application possibilities due to the use of commercially available screws and threaded rods (A4 stainless steel, strength class ≥ 70)
- No drill hole cleaning required for processing and assembly

Applications

Suspended ceilings; suspensions in the heating, plumbing, electrical and ventilation; anchoring to floor or ceiling of pipe and cable trays, base plates, supports, shelves, wooden structures; other fastenings with threaded rods or screws.

Note on screws, threaded rods or bolts, as well as nuts:

- Material stainless steel A4, strength class ≥ 70 according to EN ISO 3506:2010
- In order to securely brace the hollow ceiling anchor, it is preferable to use bolts with full thread (e.g. ISO 4017 / DIN 933) or ensure a sufficiently long thread.
- Minimum screw and minimum bolt length, see installation data on the next page

Hollow Core Anchor Easy A4

- Stainless steel A4/316
- For use in pre-stressed concrete hollow slab ceilings
- Mounting possible on floor and on ceiling side

Description	Ref. No.	Drill hole Ø x depth mm	Thread	Sleeve length (without cone) mm	Package content pieces	Weight per package kg
Easy M 10 A4	57200501	16 x 60	M 10	40	50	1,66

Extract from Permissible Service Conditions of Z-21.1-1785 for use in precast pre-stressed hollow core slabs

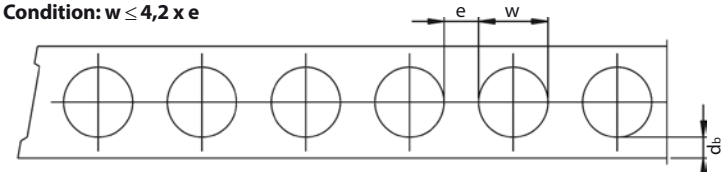
Approved loads for single anchor without influence of spacing and edge distance. Total safety factor included (γ_M and γ_F).

Loads and performance data	Easy			M 10 A4			
				Precast pre-stressed concrete hollow slabs ≥ C45/55			
Flange thickness	d_b	[mm]	≥	25	30	40	50
Mean ultimate loads, tension	C45/55 N_{um}	[kN]		9,1	12,0	18,4	18,4
Mean ultimate loads, shear	C45/55 V_{um}	[kN]		8,0	9,4	12,2	14,5
Single anchor							
Approved loads[1] (for $c \geq c_{cr}$)	F[1]	[kN]		0,9	1,2	3,0	3,6
Edge distance	c_{cr}	[mm]		150	150	150	150
Approved loads[1] (for c_{min})	F[1]	[kN]		0,8	1,0	2,7	3,0
Minimum edge distance	c_{min}	[mm]		100	100	100	100
Spacing	s_{cr}	[mm]		300	300	300	300
Pair of anchors[2]							
Approved loads[1] (for $c \geq c_{cr}$)	F[1]	[kN]		1,1	2,0	4,8	4,8
Minimum spacing	s_{min}	[mm]		70	80	100	100
Edge distance	c_{cr}	[mm]		150	150	150	150
Approved loads[1] (for c_{min})	F[1]	[kN]		0,9	1,8	4,3	4,3
Minimum spacing	s_{min}	[mm]		70	80	100	100
Minimum edge distance	c_{min}	[mm]		100	100	100	100
Approved bending moments							
Stud / Screw, Stainless steel A4, FKL ≥ 70		[Nm]		24	24	24	24
Installation parameters							
Length of sleeve (without cone)	L	[mm]		40	40	40	40
Minimum length of screw	min l_s	[mm]		55 + t_{fix}	55 + t_{fix}	55 + t_{fix}	55 + t_{fix}
Minimum length of stud	min l_b	[mm]		63 + t_{fix}	63 + t_{fix}	63 + t_{fix}	63 + t_{fix}
Minimum strength of stud / screw				FKL ≥ 70	FKL ≥ 70	FKL ≥ 70	FKL ≥ 70
Drill hole diameter	d_o	[mm]		16	16	16	16
Clearance hole in the fixture	d_f	[mm]		12	12	12	12
Depth of drill hole	h_0	[mm]		60	60	60	60
Installation torque	T_{inst}	[Nm]		30	30	30	30

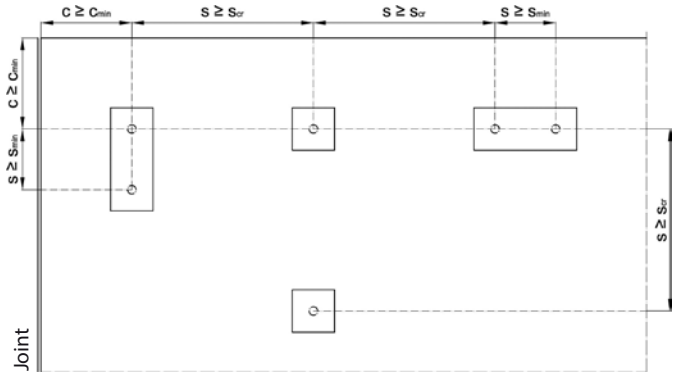
[1] For edge distance $c_{min} < c \leq c_{cr}$ can be determined by linear interpolation.

[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 my 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.

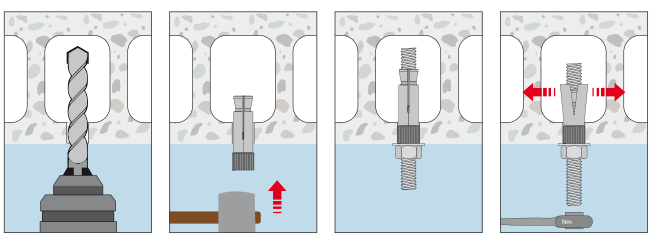
Condition: w ≤ 4,2 x e



Arrangement of the anchors



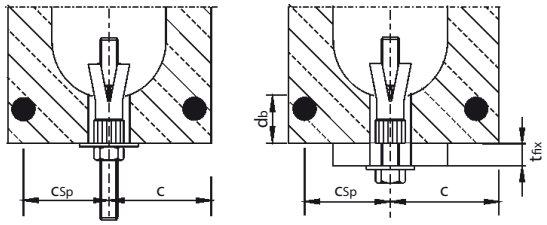
Installation



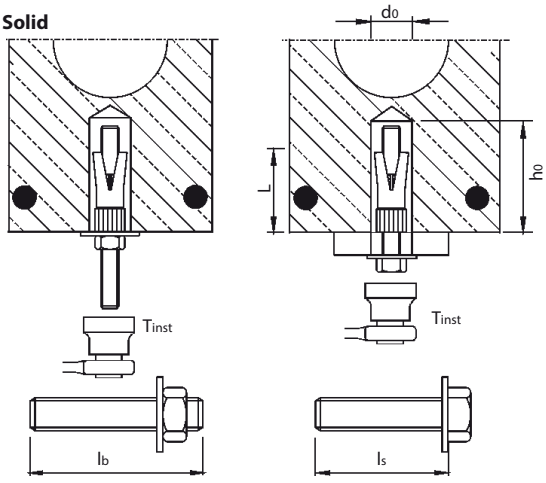
Installation with a threaded stud

Installation with a screw

Hollow



Solid



t_{fix} = Fixture thickness
d_b = Flange thickness
w = Width of hollow
e = Web width
c_{sp} = Spacing to tension wire
c = Edge distance