Technical data sheet

BOAX-II A4
BOAX-II A4 throughbolt

BOAX-II A4 is a mechanical expansion anchor in stainless steel

Features

Material

Inox A4

Benefits

- **Efficient and economical installation.**
- **Simple drilling: Ø = thread diameter drilling.**
- **Variable anchors = various diameters and lengths**
- **Efficient and economical installation.**
- **Simple drilling: Ø = thread diameter drilling.**
- **Variable anchors = various diameters and lengths**

Applications

Header member

- Concrete and reinforced concrete
- solid materials

For Use With

- **consolidation of wooden structures-shoes**
- **Fixing the steel and metal: railings, brackets, cable trays etc.**
- **Static and quasi-static anchors gates and machinery**

Zoom de la pointe

Fixation de structure métallique

Fixation de structure bois

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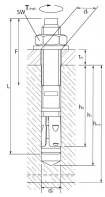
Technical Data

Zoom de la pointe



Product Dimensions

References	Item Code	Seismic class C1/C2	Tun / DB nr.	NOB nr.	Thread size [mm] [mm]	Total Length [L] [mm]	Max. Fixture Thickness [tfix] [mm]	Thread length [F] [mm]	Ø Fixture Hole [df] [mm]	Depth of the drilling hole [hef] [mm]	Ø x Depth of Drilled Hole [d0 x h1] [mm]	Packaging
BOAX-II M20-170/20 A4*	B0AX2020110020A4	-	-	-	20	170	20	55	22	110	20x130	5
BOAX M20-220/70 A4*	B0AX2020110070A4	-	-	-	20	220	70	55	22	110	20x130	5

* Not part of the ETA

Seismic category **C1**: for fixing non-structural elements to structures

Operating Expenses - cracked concrete

References	cracked concrete										Bending moment [Mrds] [Nm]
	Tension - Nrec [Nrec] [kN]				Shear (1-3) [Vrec] [Vrec] [kN]				Tension [NRd] [kN]	Shear [VRd] [kN]	
	C20/25	C30/37	C40/50	C50/60	C20/25	C30/37	C40/50	C50/60	C20/25	C20/25	
BOAX-II M20-170/20 A4*	-	-	-	-	-	-	-	-	-	-	185.4
BOAX M20-220/70 A4*	-	-	-	-	-	-	-	-	-	-	185.4

* Not part of ETA

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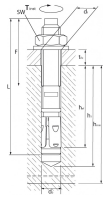
Recommended loads / for single anchors in uncracked concrete(4)

References	Non-cracked concrete									
	Tension - $N_{rec}^{(1-2)}$ [Rds,N] [kN]				Shear - $V_{rec}^{(1-3)}$ [Rds,V] [kN]				Tension [NRd] [kN]	Shear [VRd] [kN]
	C20/25	C30/37	C40/50	C50/60	C20/25	C30/37	C40/50	C50/60		
BOAX-II M20-170/20 A4*	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	-	-
BOAX M20-220/70 A4*	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	-	-

* Not included in ETA-08/0276
1) The recommended loads have been calculated using the characteristic capacities stated in the ETA-assessment with the partial safety factors given in the ETAG001 and the partial safety factor for loads: f = 1.4.
2) The recommended axial loads are valid for unreinforced concrete and reinforced concrete with a rebar spacing s ≥ 15 cm (any diameter) or with a rebar spacing s ≥ 10 cm, if the rebar diameter is 10 mm or smaller.
3) The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges (c ≤ max [10 hef; 60d]) the concrete edge failure shall be checked per ETAG 001, Annex C, design method A.
4) Concrete is considered non-cracked when the tensile stress within the concrete is \sigmaL + \sigmaR ≤ 0. In the absence of detailed verification \sigmaR = 3 N/mm² can be assumed (\sigmaL equals the tensile stress within the concrete induced by external loads, anchors loads included).
6) The recommended bending moment is only valid for threaded rods.



Design capacities - single anchor - no edge distances - Non-cracked concrete

References	Design capacity - Non-cracked concrete								
	Tension - N_{Rd} [kN]				Shear - V_{Rd} [kN]				Bending moment - M_{Rd} [Nm]
	C20/25	C30/37	C40/50	C50/60	C20/25	C30/37	C40/50	C50/60	
BOAX-II M20-170/20 A4*	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	259.6
BOAX M20-220/70 A4*	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	259.6

1. The design loads loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s). The loading figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing s ≥ 15 cm (any diameter) or with a rebar spacing s ≥ 10 cm, if the rebar diameter is 10mm or smaller.
2. The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges (c ≤ max [10 hef; 60d]) the concrete edge failure shall be checked per ETAG 001, Annex C, design method A.
3. Concrete is considered non-cracked when the tensile stress within the concrete is\sigmaL +\sigmaR ≤ 0. In the absence of detailed verification\sigmaR = 3 N/mm² can be assumed (\sigmaL equals the tensile stress within the concrete induced by external loads, anchors loads included).
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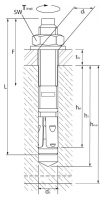

Design capacities - single anchor - no edge distances - Cracked concrete

References	Design capacity - Non-cracked concrete								
	Tension - N_{Rd} [kN]				Shear - V_{Rd} [kN]				Bending moment - M_{Rd} [Nm]
	C20/25	C30/37	C40/50	C50/60	C20/25	C30/37	C40/50	C50/60	
BOAX-II M20-170/20 A4*	-	-	-	-	-	-	-	-	-
BOAX M20-220/70 A4*	-	-	-	-	-	-	-	-	-

1. The design loads loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s). The loading figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing s ≥ 15 cm (any diameter) or with a rebar spacing s ≥ 10 cm, if the rebar diameter is 10mm or smaller.
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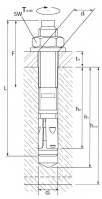

Recommended capacities - single anchor - no edge distances - Non-cracked concrete

References	Recommended capacity - Non-cracked concrete								
	Tension - N_{rec} [kN]				Shear - V_{rec} [kN]				Bending moment - M_{rec} [Nm]
	C20/25	C30/37	C40/50	C50/60	C20/25	C30/37	C40/50	C50/60	
BOAX-II M20-170/20 A4*	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	185.4
BOAX M20-220/70 A4*	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	185.4

1. The recommended loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s) and with a partial safety factor for actions of γF=1.4. The loading figures
are valid for unreinforced concrete and reinforced concrete with a rebar spacing s ≥ 15 cm (any diameter) or with a rebar spacing s ≥ 10 cm, if the rebar diameter is 10 mm or smaller.
2. The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges (c ≤ max [10 hef; 60d]) the concrete edge failure shall be checked per
ETAG 001, Annex C, design method A.
3. Concrete is considered non-cracked when the tensile stress within the concrete is\sigmaL +\sigmaR ≤ 0. In the absence of detailed verification\sigmaR = 3 N/mm² can be assumed (\sigmaL equals the tensile stress within the concrete induced by external loads, anchors loads included).

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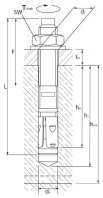

Recommended capacities - single anchor - no edge distances - Cracked concrete

References	Recommended capacity - Cracked concrete								
	Tension - N_{rec} [kN]				Shear - V_{rec} [kN]				Bending moment - M_{rec} [Nm]
	C20/25	C30/37	C40/50	C50/60	C20/25	C30/37	C40/50	C50/60	
BOAX-II M20-170/20 A4*	-	-	-	-	-	-	-	-	-
BOAX M20-220/70 A4*	-	-	-	-	-	-	-	-	-

1. The recommended loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s) and with a partial safety factor for actions of γF=1.4. The loading figures
are valid for unreinforced concrete and reinforced concrete with a rebar spacing s ≥ 15 cm (any diameter) or with a rebar spacing s ≥ 10 cm, if the rebar diameter is 10 mm or smaller.
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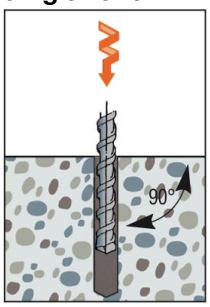
ETAG 001, Annex C, design method A.
3. Concrete is considered non-cracked when the tensile stress within the concrete is\sigmaL +\sigmaR ≤ 0. In the absence of detailed verification\sigmaR = 3 N/mm² can be assumed (\sigmaL equals the tensile stress within the concrete induced by external loads, anchors loads included)

Installation

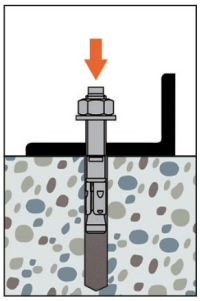
Installation

In these systems, the interior of the armature is pulled into the expansion sleeve and the sleeve is pressed against the borehole wall. This creates friction between the wellbore and the ever expanding anchor. This principle of action is reliable and allows a high load on the anchor.

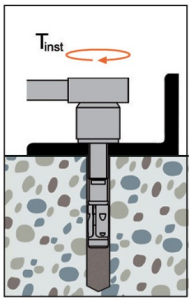


Drill the hole

Dusting off the hole



Set the anchor through the fixture



Apply installation torque

Installation data

References	Ø drilling diameter [d0] [mm]	Depth of the drilling hole [h1] [mm]	Ø Fixture Hole [df] [mm]	Wrench Size [SW]	Installation Torque [Tinst] [Nm]	Effective Embedment Depth [hef] [mm]	Characteristic spacing - $S_{cr,N}$ [scr,N] [mm]	Minimum spacing [smin] [mm]	Characteristic edge distance - $C_{cr,N}$ [ccr,N] [mm]	Minimum edge distance [cmin] [mm]	Min. Member Thickness [hmin] [mm]
BOAX-II M20-170/20 A4*	20	130	22	30	240	110	400	400	300	300	180
BOAX M20-220/70 A4*	20	130	22	30	240	110	400	400	300	300	180