

Zykon anchor FZA

The powerful and safe undercut anchor for cracked concrete.

OVERVIEW



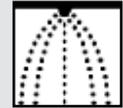
Approved for:

- Cracked and non-cracked concrete B25 to B55 resp. C20/25 to C50/60



Also suitable for:

- Concrete B15 resp. C12/15
- Natural stone with dense structure
- Solid brick
- Solid sand-lime brick



For fixing of:

- Steel constructions
- Railings
- Consoles
- Ladders
- Cable trays
- Machines
- Staircases
- Gates
- Facades
- Window elements

* stainless steel of the corrosion resistance class III, e.g. A4

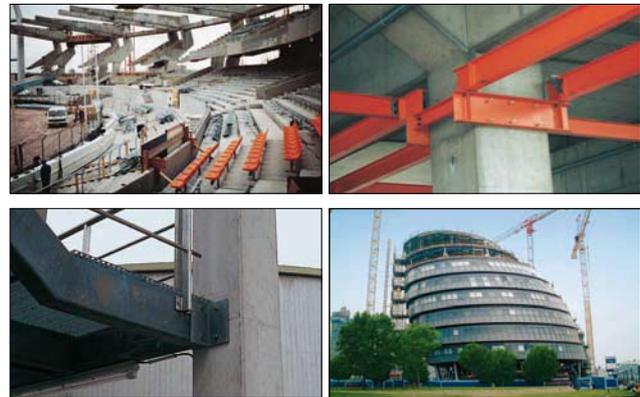
** highly corrosion-resistant steel of the corrosion resistance class IV, e.g. 1.4529

DESCRIPTION

- Undercut anchor for pre-positioned (FZA bolt version and internally-threaded anchor FZA-I) and push-through installation (FZA-D bolt version).
- A cylindrical conical hole with an undercut is produced with the drill bit FZUB in one work process.
- When setting the anchor, the anchor sleeve is driven over the cone with a hammer (or setting tool) and fills the undercut hole with a positive fit.
- Also available: special version FZA ST A4 for hot step irons according to DIN V 1211 GS / 1212 GS.
- Stainless steel version of the corrosion resistance class III, e.g. A4 for outdoor use and in damp conditions. Highly corrosion-resistant steel of the corrosion resistance class IV, e.g. 1.4529 for applications in aggressive atmospheres.

Advantages/benefits

- Positive fit in the undercut gives additional safety.
- Virtually expansion-free operation allows cost-efficient fixing with very small edge distances and axial spacings.
- Single-step drilling process simultaneously produces the undercut, saving installation time.

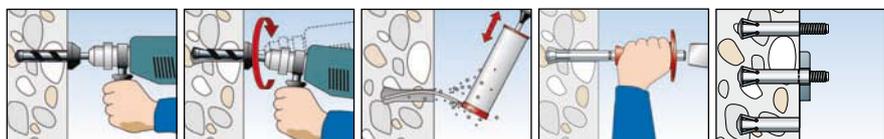


- Simple visual control of the green ring mark ensures 100% function.
- Immediate load-bearing capability avoids installation interruptions (no interruption for resin curing times, unlike chemical anchors).
- Anchor version with internal thread for high flexibility by using threaded rods or screws of different lengths and type.

INSTALLATION

Type of installation

- Pre-positioned installation (FZA and FZA-I)
- Push-through installation (FZA-D), please note: drill through the fixture

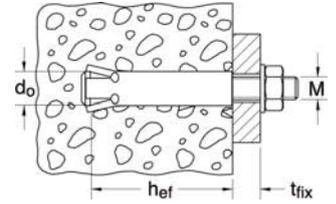


TECHNICAL DATA



Zykon Bolt anchor **FZA**,
zinc-plated steel

Type	Art.-No.	approval	drill-Ø	anchorage depth	max. usable length	Thread	width across nut	Washer (outer diameter x thickness)	Qty. per box
FZA 10 x 40 M 6/10	060712	■	10	40	10	M 6	10	12 x 1,6	25
FZA 12 x 40 M 8/15	060715	■	12	40	15	M 8	13	16 x 1,6	25
FZA 12 x 50 M 8/15	060716	■	12	50	15	M 8	13	16 x 1,6	20
FZA 14 x 40 M10/25	060718	■	14	40	25	M 10	17	20 x 2	25
FZA 14 x 60 M10/25	060719	■	14	60	25	M 10	17	20 x 2	10
FZA 18 x 80 M12/25	060721	■	18	80	25	M 12	19	24 x 2,5	10
FZA 22 x 100 M16/60	060724	■	22	100	60	M 16	24	30 x 3	10
FZA 22 x 125 M16/60	060725	■	22	125	60	M 16	24	30 x 3	6



Zykon Bolt anchor **FZA A4**,
stainless steel of the corrosion
resistance class III, e.g. A4

Type	Art.-No.	approval	drill-Ø	anchorage depth	max. usable length	Thread	width across nut	Washer (outer diameter x thickness)	Qty. per box
FZA 10 x 40 M 6/10 A4	060772	■	10	40	10	M 6	10	12 x 1,6	25
FZA 10 x 40 M 6/35 A4	060771	■	10	40	35	M 6	10	12 x 1,6	25
FZA 12 x 40 M 8/15 A4	060775	■	12	40	15	M 8	13	16 x 1,6	25
FZA 12 x 50 M 8/15 A4	060776	■	12	50	15	M 8	13	16 x 1,6	20
FZA 12 x 50 M 8/50 A4	060774	■	12	50	50	M 8	13	16 x 1,6	20
FZA 14 x 40 M10/25 A4	060778	■	14	40	25	M 10	17	20 x 2	20
FZA 14 x 60 M10/25 A4	060779	■	14	60	25	M 10	17	20 x 2	10
FZA 14 x 60 M10/50 A4	060766	■	14	60	50	M 10	17	20 x 2	10
FZA 18 x 80 M12/25 A4	060781	■	18	80	25	M 12	19	24 x 2,5	10
FZA 18 x 80 M12/55 A4	060767	■	18	80	55	M 12	19	24 x 2,5	10
FZA 22 x 100 M16/60 A4	060782	■	22	100	60	M 16	24	30 x 3	10
FZA 22 x 125 M16/60 A4	060768	■	22	125	60	M 16	24	30 x 3	6



Zykon Bolt Anchor **FZA C**,
highly corrosion-resistant steel of
the corrosion resistance class IV,
e.g. 1.4529

Type	Art.-No.	approval	drill-Ø	anchorage depth	max. usable length	Thread	width across nut	Washer (outer diameter x thickness)	Qty. per box
FZA 10 x 40 M 6/10 C	096214	■	10	40	10	M 6	10	12 x 1,6	25
FZA 10 x 40 M 6/35 C	096361	■	10	40	35	M 6	10	12 x 1,6	25
FZA 12 x 40 M 8/15 C	096215	■	12	40	15	M 8	13	16 x 1,6	25
FZA 12 x 50 M 8/15 C	096227	■	12	50	15	M 8	13	16 x 1,6	20
FZA 12 x 50 M 8/50 C	096362	■	12	50	50	M 8	13	16 x 1,6	20
FZA 14 x 40 M10/25 C	096228	■	14	40	25	M 10	17	20 x 2	20
FZA 14 x 60 M10/25 C	096216	■	14	60	25	M 10	17	20 x 2	10
FZA 14 x 60 M10/50 C	096358	■	14	60	50	M 10	17	20 x 2	10
FZA 18 x 80 M12/25 C	096315	■	18	80	25	M 12	19	24 x 2,5	10
FZA 18 x 80 M12/55 C	096359	■	18	80	55	M 12	19	24 x 2,5	10
FZA 22 x 100 M16/25 C	033800	■	22	100	25	M 16	24	30 x 3	10
FZA 22 x 100 M16/30 C	024523	■	22	100	30	M 16	24	30 x 3	10
FZA 22 x 100 M16/60 C	096364	■	22	100	60	M 16	24	30 x 3	10
FZA 22 x 125 M16/60 C	096360	■	22	125	60	M 16	24	30 x 3	6

Other usable lengths available on request.

Zykon anchor FZA

TECHNICAL DATA



Zykon Through anchor **FZA-D**,
zinc-plated steel

Type	Art.-No.	approval	drill-Ø	anchorage depth	max. usable length	Thread	width across nut	Washer (outer diameter x thickness)	Qty. per box
		■ ETA	d_0 [mm]	h_{ef} [mm]	t_{fix} [mm]	A	SW	[mm]	pcs.
FZA 12 x 50 M 8 D/10	060652	■	12	40	10	M 8	13	22 x 2,5	25
FZA 12 x 60 M 8 D/10	060653	■	12	50	10	M 8	13	22 x 2,5	25
FZA 12 x 80 M 8 D/30	060654	■	12	50	30	M 8	13	22 x 2,5	25
FZA 14 x 80 M10 D/20	060657	■	14	60	20	M 10	17	25 x 3	10
FZA 14 x 100 M10 D/40	060658	■	14	60	40	M 10	17	25 x 3	10
FZA 18 x 100 M12 D/20	060684	■	18	80	20	M 12	19	30 x 3	10
FZA 18 x 130 M12 D/50	060685	■	18	80	50	M 12	19	30 x 3	10
FZA 22 x 125 M16 D/25	060663	■	22	100	25	M 16	24	40 x 4	10

Other usable lengths available on request.



Zykon Through anchor **FZA-D A4**,
stainless steel of the corrosion
resistance class III, e.g. A4

Type	Art.-No.	approval	drill-Ø	anchorage depth	max. usable length	Thread	width across nut	Washer (outer diameter x thickness)	Qty. per box
		■ ETA	d_0 [mm]	h_{ef} [mm]	t_{fix} [mm]	A	SW	[mm]	pcs.
FZA 12 x 50 M 8 D/10 A4	060664	■	12	40	10	M 8	13	22 x 2,5	25
FZA 12 x 60 M 8 D/10 A4	060665	■	12	50	10	M 8	13	22 x 2,5	25
FZA 12 x 80 M 8 D/30 A4	060666	■	12	50	30	M 8	13	22 x 2,5	25
FZA 14 x 80 M10 D/20 A4	060669	■	14	60	20	M 10	17	25 x 3	10
FZA 14 x 100 M10 D/40 A4	060670	■	14	60	40	M 10	17	25 x 3	10
FZA 18 x 100 M12 D/20 A4	060672	■	18	80	20	M 12	19	30 x 3	10
FZA 18 x 130 M12 D/50 A4	060673	■	18	80	50	M 12	19	30 x 3	10
FZA 22 x 125 M16 D/25 A4	060675	■	22	100	25	M 16	24	40 x 4	10

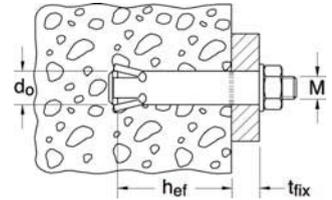
Other usable lengths available on request.



Zykon Through anchor **FZA-D C**,
highly corrosion-resistant steel of
the corrosion resistance class IV,
e.g. 1.4529

Type	Art.-No.	approval	drill-Ø	anchorage depth	max. usable length	Thread	width across nut	Washer (outer diameter x thickness)	Qty. per box
		■ ETA	d_0 [mm]	h_{ef} [mm]	t_{fix} [mm]	A	SW	[mm]	pcs.
FZA 12 x 50 M 8 D/10 C	096319	■	12	40	10	M 8	13	22 x 3	20
FZA 12 x 60 M 8 D/10 C	096353	■	12	50	10	M 8	13	22 x 3	20
FZA 12 x 80 M 8 D/30 C	096354	■	12	50	30	M 8	13	22 x 3	20
FZA 14 x 80 M10 D/20 C	096355	■	14	60	20	M 10	17	25 x 3	10
FZA 18 x 100 M12 D/20 C	096356	■	18	80	20	M 12	19	30 x 3	10
FZA 18 x 130 M12 D/50 C	096357	■	18	80	50	M 12	19	30 x 3	10

Other usable lengths available on request.

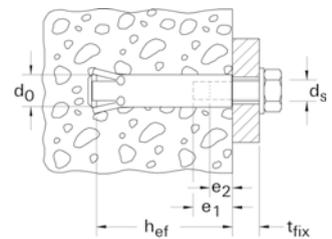


TECHNICAL DATA ZYKON INTERNALLY-THREADED ANCHOR



Zykon Internally-threaded anchor
FZA-I, zinc-plated steel

Type	Art.-No.	approval	drill-Ø	anchorage depth	internal thread	min. bolt penetration	max. bolt penetration	qty. per box
		■ ETA	d_0 [mm]	h_{ef} [mm]	d_s	e_2 [mm]	e_1 [mm]	pcs.
FZA 12 x 40 M 6 I	060758	■	12	40	M 6	8	13	25
FZA 14 x 60 M 8 I	060760	■	14	60	M 8	11	17	20
FZA 18 x 80 M10 I	060761	■	18	80	M 10	13	21	10
FZA 22 x 100 M12 I	060763	■	22	100	M 12	15	25	10
FZA 22 x 125 M12 I	060769	■	22	125	M 12	15	25	10

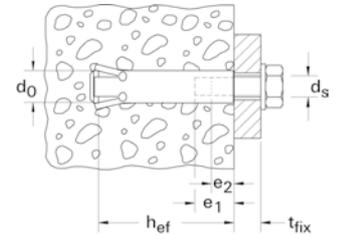


TECHNICAL DATA ZYKON INTERNALLY-THREADED ANCHOR



Zylon internally-threaded anchor
FZA-I A4, stainless steel of the
corrosion resistance class III, e.g. A4

Type	Art.-No.	approval	drill-Ø	anchorage depth	internal thread	min. bolt penetration	max. bolt penetration	qty. per box
			d_0 [mm]	h_{ef} [mm]	d_s	e_2 [mm]	e_1 [mm]	
FZA 12 x 40 M 6 I A4	060783	■ ETA	12	40	M 6	8	13	25
FZA 12 x 50 M 6 I A4	060784	■	12	50	M 6	8	13	25
FZA 14 x 60 M 8 I A4	060786	■	14	60	M 8	11	17	20
FZA 18 x 80 M10 I A4	060787	■	18	80	M 10	13	21	10
FZA 22 x 100 M12 I A4	060788	■	22	100	M 12	15	25	10
FZA 22 x 125 M12 I A4	060770	■	22	125	M 12	15	25	10



TECHNICAL DATA ZYKON ANCHOR FOR FIXING STEP IRONS



Zylon anchor for fixing step irons
FZA ST A4, stainless steel of the
corrosion resistance class III, e.g. A4

Type	Art.-No.	drill-Ø	anchorage depth	max. usable length	thread	width across nut		qty. per box
						M	SW	
FZA 14 x 40 ST A4	1) 060686	d_0 [mm]	h_{ef} [mm]	t_{fix} [mm]	M	SW	pcs.	20
FZA 14 x 60 ST A4	1) 060687	14	40	30	M 10	16	20	20
		14	60	30	M 10	16	20	20

1) According to DIN V 1211GS/1212GS.

DRILLING AND SETTING TOOLS



Drill bit **FZUB**
approved only for Zylon anchors
and Zylon hammer-set anchors



Setting tool **FZE Plus** including
centring pin for internally-threaded
anchors for assembly with hand
hammer

Type	Art.-No.	fits anchor			qty. per box
		Bolt anchor	Through anchor	Internally-threaded anchor	
FZUB 10 x 40	060622	FZA 10 x 40 M6	-	-	1
FZUB 12 x 40	060623	FZA 12 x 40 M8	-	FZA 12 x 40 M6 I	1
FZUB 12 x 50	060627	FZA 12 x 50 M8	FZA 12 x 50 M8 D/10	FZA 12 x 50 M6 I	1
FZUB 12 x 60	060625	-	FZA 12 x 60 M8 D/10	-	1
FZUB 12 x 80	060626	-	FZA 12 x 80 M8 D/30	-	1
FZUB 14 x 40	060624	FZA 14 x 40 M10	-	-	1
FZUB 14 x 60	060628	FZA 14 x 60 M10	-	FZA 14 x 60 M8 I	1
FZUB 14 x 80	060629	-	FZA 14 x 80 M10 D/20	-	1
FZUB 14 x 100	060630	-	FZA 14 x 100 M10 D/40	-	1
FZUB 18 x 80	060634	FZA 18 x 80 M12	-	FZA 18 x 80 M10 I	1
FZUB 18 x 100	060632	-	FZA 18 x 100 M12 D/20	-	1
FZUB 18 x 130	060633	-	FZA 18 x 130 M12 D/50	-	1
FZUB 22 x 100	060636	FZA 22 x 100 M16	-	FZA 22 x 100 M12 I	1
FZUB 22 x 125	060638	FZA 22 x 125 M16	FZA 22 x 125 M16 D/25	FZA 22 x 125 M12 I	1
FZE 10 Plus	044637	FZA 10 x ... M6	-	-	1
FZE 12 Plus	044638	FZA 12 x ... M8	FZA 12 x ... M8 D	FZA 12 x ... M6 I	1
FZE 14 Plus	044639	FZA 14 x ... M10	FZA 14 x ... M10 D	FZA 14 x ... M8 I	1
FZE 18 Plus	044640	FZA 18 x ... M12	FZA 18 x ... M12 D	FZA 18 x ... M10 I	1
FZE 22 Plus	044641	FZA 22 x ... M16	FZA 22 x ... M16 D	FZA 22 x ... M12 I	1

Zykon anchor FZA

LOADS - ZYKON BOLT ANCHOR

Mean ultimate loads, design resistant and recommended loads for single anchors of fischer Zykon bolt anchor FZA with large axial spacing and edge distance.

Anchor size	Non-cracked concrete								Cracked concrete									
	10 x 40 M6	12 x 40 M8	14 x 40 M10	12 x 50 M8	14 x 60 M10	18 x 80 M12	22 x 100 M16	22 x 125 M16	10 x 40 M6	12 x 40 M8	14 x 40 M10	12 x 50 M8	14 x 60 M10	18 x 80 M12	22 x 100 M16	22 x 125 M16		
Effective anchorage depth	h_{ef} [mm]	40	40	40	50	60	80	100	125	40	40	40	50	60	80	100	125	
Drill hole depth	h_0 [mm]	43	44	45	54	65	85	105	130	43	44	45	54	65	85	105	130	
Drill hole diameter	d_0 [mm]	10	12	14	12	14	18	22	22	10	12	14	12	14	18	22	22	
Mean ultimate loads N_u and V_u [kN]																		
Tensile	0° N_u [kN]	gvz	16.1*	17.1	17.1	23.9	31.4	48.3	67.5	94.3	12.0	12.0	12.0	16.7	22.0	33.8	47.2	66.0
		A4/C	14.1*	17.1	17.1	23.9	31.4	48.3	67.5	94.3	12.0	12.0	12.0	16.7	22.0	33.8	47.2	66.0
Shear	90° V_u [kN]	gvz	9.6*	17.6*	27.8*	17.6*	27.8*	40.5*	75.4*	75.4*	9.6*	15.5	15.5	17.6*	27.8*	40.5*	75.4*	75.4*
		A4/C	8.4*	15.4*	24.4*	15.4*	24.4*	35.4*	65.9*	65.9*	8.4*	15.4*	15.5	15.4*	24.4*	35.4*	65.9*	65.9*
Design resistant loads N_{Rd} and V_{Rd} [kN]																		
Tensile	0° N_{Rd} [kN]	gvz	9.4	9.4	9.4	13.1	17.2	26.4	37.0	51.7	6.1	6.1	6.1	8.5	11.2	17.2	24.0	33.5
		A4	7.5	9.4	9.4	13.1	17.2	26.4	37.0	51.7	6.1	6.1	6.1	8.5	11.2	17.2	24.0	33.5
		C	9.4	9.4	9.4	13.1	17.2	26.4	37.0	51.7	6.1	6.1	6.1	8.5	11.2	17.2	24.0	33.5
Shear	90° V_{Rd} [kN]	gvz	6.4	11.8	12.2	11.8	18.6	27.0	50.2	50.2	6.4	7.9	7.9	11.0	18.6	27.0	48.0	50.2
		A4	4.5	8.2	12.2	8.2	13.0	18.9	35.3	35.3	4.5	7.9	7.9	8.2	13.0	18.9	35.3	35.3
		C	5.6	10.2	12.2	10.2	16.2	23.6	44.0	44.0	5.6	7.9	7.9	10.2	16.2	23.6	44.0	44.0
Recommended loads N_{rec} and V_{rec} [kN]																		
Tensile	0° N_{rec} [kN]	gvz	6.7	6.7	6.7	9.3	12.3	18.9	26.4	36.9	4.3	4.3	4.3	6.1	8.0	12.3	17.1	24.0
		A4	5.4	6.7	6.7	9.3	12.3	18.9	26.4	36.9	4.3	4.3	4.3	6.1	8.0	12.3	17.1	24.0
		C	6.7	6.7	6.7	9.3	12.3	18.9	26.4	36.9	4.3	4.3	4.3	6.1	8.0	12.3	17.1	24.0
Shear	90° V_{rec} [kN]	gvz	4.6	8.4	8.7	8.4	13.3	19.3	35.9	35.9	4.6	5.6	5.6	7.9	13.3	19.3	34.3	35.9
		A4	3.2	5.9	8.7	5.9	9.3	13.5	25.2	25.2	3.2	5.6	5.6	5.9	9.3	13.5	25.2	25.2
		C	4.0	7.3	8.7	7.3	11.6	16.9	31.4	31.4	4.0	5.6	5.6	7.3	11.6	16.9	31.4	31.4
Recommended bending moment M_{rec} [Nm]																		
	M_{rec} [Nm]	gvz	7.0	17.1	34.2	17.1	34.2	60.0	152.0	152.0	7.0	17.1	34.2	17.1	34.2	60.0	152.0	152.0
		A4	4.9	12.0	23.9	12.0	23.9	41.9	106.2	106.2	4.9	12.0	23.9	12.0	23.9	41.9	106.2	106.2
		C	6.1	15.0	29.9	15.0	29.9	52.3	132.6	132.6	6.1	15.0	29.9	15.0	29.9	52.3	132.6	132.6
Component dimensions, minimum axial spacings and edge distances																		
Min. axial spacing ¹⁾	s_{min} [mm]	40	40	70	50	60	80	100	125	40	40	70	50	60	80	100	125	
Min. edge distance ¹⁾	c_{min} [mm]	35	40	70	45	55	70	100	125	35	40	70	45	55	70	100	125	
Min. structural component thickness	h_{min} [mm]	100	100	100	100	120	160	200	250	100	100	100	100	120	160	200	250	
Required torque	T_{inst} [Nm]	8.5	20	20	20	40	60	100	100	8.5	20	20	20	40	60	100	100	

* Steel failure value

¹⁾ For min. axial spacing and min. edge distance the above described loads have to be reduced! (See "Technical Handbook" or design software "CC-Compufix")

All load values apply for concrete C20/25 without edge or spacing influence.

Design resistant loads: material safety factor γ_M is included. Material safety factor γ_M depends on type of anchor.

Recommended loads: material safety factor γ_M and safety factor for load $\gamma_L = 1.4$ are included.

The conditions of application may differ from those given in the European Technical Approval.

For further detailed information about ETA please contact the representation in your country.

LOADS - ZYKON THROUGH ANCHOR

Mean ultimate loads, design resistant and recommended loads for single anchors of fischer Zykon Through-anchor FZA-D with large axial spacing and edge distance.

Anchor size		Non-cracked concrete									Cracked concrete								
		12 x 50 M8 D	12 x 60 M8 D	12 x 80 M8 D	14 x 80 M8 D	14 x 100 M10 D	18 x 100 M12 D	18 x 130 M12 D	22 x 125 M16 D	12 x 50 M8 D	12 x 60 M8 D	12 x 80 M8 D	14 x 80 M8 D	14 x 100 M10 D	18 x 100 M12 D	18 x 130 M12 D	22 x 125 M16 D		
Effective anchorage depth	h_{ef} [mm]	40	50	50	60	60	80	80	100	40	50	50	60	60	80	80	100		
Drill hole depth	h_D [mm]	44	54	54	65	65	85	85	105	44	54	54	65	65	85	85	105		
Drill hole diameter	d_D [mm]	12	12	12	14	14	18	18	22	12	12	12	14	14	18	18	22		
Mean ultimate loads N_U and V_U [kN]																			
Tensile	0°	N_U [kN]	gvz	17.1	23.9	23.9	31.4	31.4	48.3	48.3	67.5	12.0	16.7	16.7	22.0	22.0	33.8	33.8	47.2
			A4/C	17.1	23.9	23.9	31.4	31.4	48.3	48.3	67.5	12.0	16.7	16.7	22.0	22.0	33.8	33.8	47.2
Shear	90°	V_U [kN]	gvz	23.8*	23.8*	23.8*	33.6*	33.6*	53.1*	53.1*	85.3*	15.5	21.7	21.7	33.6*	33.6*	53.1*	53.1*	85.3*
			A4/C	25.4*	25.4*	25.4*	34.5*	34.5*	56.2*	56.2*	85.5*	15.5	21.7	21.7	34.5*	34.5*	56.2*	56.2*	85.5*
Design resistant loads N_{Rd} and V_{Rd} [kN]																			
Tensile	0°	N_{Rd} [kN]	gvz	9.4	13.1	13.1	17.2	17.2	26.4	26.4	37.0	6.1	8.5	8.5	11.2	11.2	17.2	17.2	24.0
			A4	9.4	13.1	13.1	17.2	17.2	26.4	26.4	37.0	6.1	8.5	8.5	11.2	11.2	17.2	17.2	24.0
			C	9.4	13.1	13.1	17.2	–	26.4	26.4	–	6.1	8.5	8.5	11.2	–	17.2	17.2	–
Shear	90°	V_{Rd} [kN]	gvz	11.8	11.8	11.8	18.6	18.6	27.0	27.0	50.2	7.9	11.0	11.0	18.6	18.6	27.0	27.0	48.0
			A4	8.2	8.2	8.2	13.0	13.0	18.9	18.9	35.3	7.9	8.2	8.2	13.0	13.0	18.9	18.9	35.3
			C	10.2	10.2	10.2	16.2	–	23.6	23.6	–	7.9	10.2	10.2	16.2	–	23.6	23.6	–
Recommended loads N_{rec} and V_{rec} [kN]																			
Tensile	0°	N_{rec} [kN]	gvz	6.7	9.3	9.3	12.3	12.3	18.9	18.9	26.4	4.3	6.1	6.1	8.0	8.0	12.3	12.3	17.1
			A4	6.7	9.3	9.3	12.3	12.3	18.9	18.9	26.4	4.3	6.1	6.1	8.0	8.0	12.3	12.3	17.1
			C	6.7	9.3	9.3	12.3	–	18.9	18.9	–	4.3	6.1	6.1	8.0	–	12.3	12.3	–
Shear	90°	V_{rec} [kN]	gvz	8.4	8.4	8.4	13.3	13.3	19.3	19.3	35.9	5.6	7.9	7.9	13.3	13.3	19.3	19.3	34.3
			A4	5.9	5.9	5.9	9.3	9.3	13.5	13.5	25.2	5.6	5.9	5.9	9.3	9.3	13.5	13.5	25.2
			C	7.3	7.3	7.3	11.6	–	16.9	16.9	–	5.6	7.3	7.3	11.6	–	16.9	16.9	–
Recommended bending moment M_{rec} [Nm]																			
		M_{rec} [Nm]	gvz	17.1	17.1	17.1	34.2	34.2	60.0	60.0	152.0	17.1	17.1	17.1	34.2	34.2	60.0	60.0	152.0
			A4	12.0	12.0	12.0	23.9	23.9	41.9	41.9	106.2	12.0	12.0	12.0	23.9	23.9	41.9	41.9	106.2
			C	15.0	15.0	15.0	29.9	–	52.3	52.3	–	15.0	15.0	15.0	29.9	–	52.3	52.3	–
Component dimensions, minimum axial spacings and edge distances																			
Min. axial spacing ¹⁾	s_{min} [mm]	40	50	50	60	60	80	80	100	40	50	50	60	60	80	80	100		
Min. edge distance ¹⁾	c_{min} [mm]	40	45	45	55	55	70	70	100	40	45	45	55	55	70	70	100		
Min. structural component thickness	h_{min} [mm]	100	100	100	120	120	160	160	200	100	100	100	120	120	160	160	200		
Required torque	T_{inst} [Nm]	20	20	20	40	40	60	60	100	20	20	20	40	40	60	60	100		

* Steel failure value

¹⁾ For min. axial spacing and min. edge distance the above described loads have to be reduced! (See "Technical Handbook" or design software "CC-Compufix")

All load values apply for concrete C20/25 without edge or spacing influence.

Design resistant loads: material safety factor γ_M is included. Material safety factor γ_M depends on type of anchor.

Recommended loads: material safety factor γ_M and safety factor for load $\gamma_L = 1.4$ are included.

The conditions of application may differ from those given in the European Technical Approval.

For further detailed information about ETA please contact the representation in your country.

Zykon anchor FZA

LOADS - ZYKON INTERNALLY-THREADED ANCHOR

Mean ultimate loads, design resistant and recommended loads for single anchors of fischer Zykon internally-threaded anchor FZA-I with large axial spacing and edge distance.

Anchor size			Non-cracked concrete						Cracked concrete							
			12 x 40 M6 I	12 x 50 M6 I	14 x 60 M8 I	18 x 80 M10 I	22 x 100 M12 I	22 x 125 M12 I	12 x 40 M6 I	12 x 50 M6 I	14 x 60 M8 I	18 x 80 M10 I	22 x 100 M12 I	22 x 125 M12 I		
Effective anchorage depth	h_{ef}	[mm]	40	50	60	80	100	125	40	50	60	80	100	125		
Drill hole depth	h_0	[mm]	44	54	65	85	105	130	44	54	65	85	105	130		
Drill hole diameter	d_0	[mm]	12	12	14	18	22	22	12	12	14	18	22	22		
Mean ultimate loads N_U and V_U [kN]																
Tensile	0°	N_U	[kN]	gvz	17.2*	–	23.0*	26.9*	63.0*	63.0*	12.0	–	23.0*	26.9*	47.2	63.0*
				A4	13.4*	13.4*	18.0*	22.7*	53.2*	53.2*	12.0	12.0	18.0*	22.7*	47.2	53.2*
Shear	90°	V_U	[kN]	gvz	9.6*	–	17.6*	27.8*	40.5*	40.5*	9.6*	–	17.6*	27.8*	40.5*	40.5*
				A4	8.4*	8.4*	15.4*	24.4*	35.4*	35.4*	8.4*	8.4*	15.4*	24.4*	35.4*	35.4*
Design resistant loads N_{Rd} and V_{Rd} [kN]																
Tensile	0°	N_{Rd}	[kN]	gvz	9.4	–	13.1	13.5	31.5	31.5	6.1	–	11.2	13.5	24.0	31.5
				A4	7.5	7.5	9.9	12.6	29.5	29.5	6.1	7.5	9.9	12.6	24.0	29.5
Shear	90°	V_{Rd}	[kN]	gvz	5.7	–	7.6	7.9	18.5	18.5	5.7	–	7.6	7.9	18.5	18.5
				A4	4.5	4.5	6.0	7.5	17.7	17.7	4.5	4.5	6.0	7.5	17.7	17.7
Recommended loads N_{rec} and V_{rec} [kN]																
Tensile	0°	N_{rec}	[kN]	gvz	6.7	–	9.3	9.6	22.5	22.5	4.3	–	8.0	9.6	17.1	22.5
				A4	5.4	5.4	7.1	9.0	21.1	21.1	4.3	5.4	7.1	9.0	17.1	21.1
Shear	90°	V_{rec}	[kN]	gvz	4.1	–	5.4	5.6	13.2	13.2	4.1	–	5.4	5.6	13.2	13.2
				A4	3.2	3.2	4.3	5.4	12.7	12.7	3.2	3.2	4.3	5.4	12.7	12.7
Recommended bending moment M_{rec} [Nm]																
	M_{rec}	[Nm]	gvz	7.0	–	17.1	34.2	60.0	60.0	7.0	–	17.1	34.2	60.0	60.0	
			A4	4.9	4.9	12.0	23.9	41.9	41.9	4.9	4.9	12.0	23.9	41.9	41.9	
Component dimensions, minimum axial spacings and edge distances																
Min. axial spacing ¹⁾	s_{min}	[mm]	40	50	60	80	100	125	40	50	60	80	100	125		
Min. edge distance ¹⁾	c_{min}	[mm]	35	45	55	70	100	125	35	45	55	70	100	125		
Min. structural component thickness	h_{min}	[mm]	100	100	120	160	200	250	100	100	120	160	200	250		
Required torque	T_{inst}	[Nm]	8.5	8.5	15	30	60	60	8.5	8.5	15	30	60	60		

* Steel failure, values apply to screws with a strength classification 8.8 and A4-70 respectively.

¹⁾ For min. axial spacing and min. edge distance the above described loads have to be reduced! (See "Technical Handbook" or design software "CC-Compufix")

All load values apply for concrete C20/25 without edge or spacing influence.

Design resistant loads: material safety factor γ_M is included. Material safety factor γ_M depends on type of anchor.

Recommended loads: material safety factor γ_M and safety factor for load $\gamma_L = 1.4$ are included.

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