Wedge Anchor B

Steel, zinc plated

Range of loading: **2,9 kN–41,4 kN**
Range of concrete quality: **C20/25–C50/60**

ETA-01/0013 · F30-F120 · UKTA - 22/6207 · FM APPROVED M10 - M16

Description

The tried and tested wedge anchor B with European Technical Assessment, Option 7, is ideal for time-saving through fastenings in uncracked concrete.

Thanks to its three anchorage depths, it adapts flexibly to the respective installation requirement. The use with minimum anchorage depth reduces the drilling and installation effort as well as the risk of reinforcement hits. When using a suction drill, the need for blowing out the drill hole is eliminated.

The long thread also makes stand-off fastenings possible. The hot dip galvanised version is also included in the European Technical Assessment, like the B-U version with the extra large washer for timber structures.

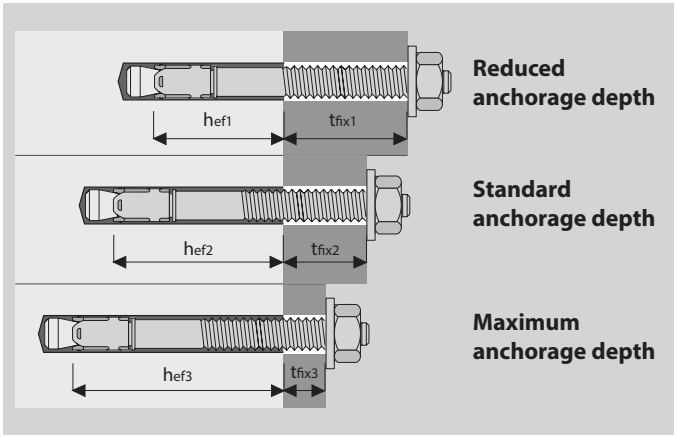
Advantages

- Approved for use in uncracked concrete
- Very high load limits and small spacings and edge distances
- Three anchorage depths for optimal flexibility
- The smaller effective anchorage depth helps to reduce drilling and installation time
- Mounting with maximum anchorage depth for for maximum, permissible loads
- Particularly cost effective: shorter lengths with only one (smaller) anchorage depth
- Suitable for surface, through and stand-off fastenings
- All sizes covered by the European Technical Assessment are assembled with a stainless steel expansion clip
- Fire tested for fire resistance ratings F30–F120
- US approval (FM) for the installation of sprinkler systems (M10 to M16)
- An impact head protects the thread from damage when it is driven into the drilled hole

Applications

Medium to heavy-duty fastenings indoors: Wood and Metal constructions, channels, brackets, supports, hand rails, cable trays, ducts, shelf bases.

Example of Installation



Wedge Anchor B

- Steel, zinc plated
- Approved for uncracked concrete
- Three anchorage depths for optimal flexibility

Description	Ref. No.	Drill hole-Ø d_0 mm	Standard anchorage depth: Fixture thickness $t_{fix,std}$ mm	Standard anchorage depth: Anchorage depth $h_{ef,std}$ mm	Reduced anchorage depth: Fixture thickness $t_{fix,min}$ mm	Reduced anchorage depth: Anchorage depth $h_{ef,min}$ mm	Maximum anchorage depth: Fixture thickness $t_{fix,max}$ mm	Maximum anchorage depth: Anchorage depth $h_{ef,max}$ mm	Setting depth h_1 mm	Anchor length l mm	Thread ØxL mm	Pkg. content pcs.	Weight per pkg. kg
B 6-5/40[1)]	01005101	6	-	-	5	18	-	-	$h_{ef}+9$	40	M6x16	100	1,05
B 6-5/52	01006101	6	-	-	5	30	-	-	$h_{ef}+9$	52	M6x20	100	1,26
B 6-10-20/67	01010101	6	10	40	20	30	-	-	$h_{ef}+9$	67	M6x30	100	1,55
B 6-15-25/72	01013101	6	15	40	25	30	-	-	$h_{ef}+9$	72	M6x35	100	1,63
B 6-25-35/82	01015101	6	25	40	35	30	5	60	$h_{ef}+9$	82	M6x35	100	1,81
B 6-40-50/97	01025101	6	40	40	50	30	20	60	$h_{ef}+9$	97	M6x35	100	2,07
B 8-5/50[1)]	01105101	8	-	-	5	24	-	-	$h_{ef}+11$	50	M8x22	100	2,32
B 8-4/60	01110101	8	-	-	4	35	-	-	$h_{ef}+12$	60	M8x25	100	2,62
B 8-10-19/75	01115101	8	10	44	19	35	-	-	$h_{ef}+12$	75	M8x40	100	3,10
B 8-15-24/80	01120101	8	15	44	24	35	-	-	$h_{ef}+12$	80	M8x45	100	3,26
B 8-20-29/85	01125101	8	20	44	29	35	-	-	$h_{ef}+12$	85	M8x50	100	3,40
B 8-25-34/90	01130101	8	25	44	34	35	-	-	$h_{ef}+12$	90	M8x55	100	3,59
B 8-30-39/95	01135101	8	30	44	39	35	4	70	$h_{ef}+12$	95	M8x60	100	3,72
B 8-35-44/100	01140101	8	35	44	44	35	9	70	$h_{ef}+12$	100	M8x65	100	3,89
B 8-45-54/110	01145101	8	45	44	54	35	19	70	$h_{ef}+12$	110	M8x75	100	4,22
B 8-55-64/120	01150101	8	55	44	64	35	29	70	$h_{ef}+12$	120	M8x85	100	4,54
B 8-100-109/165	01158101	8	100	44	109	35	74	70	$h_{ef}+12$	165	M8x85	50	2,99
B 10-10/60[1)]	01205101	10	-	-	10	25	-	-	$h_{ef}+15$	60	M10x25	50	2,29
B 10-10-16/85	01210101	10	10	48	16	42	-	-	$h_{ef}+14$	85	M10x40	50	2,83
B 10-15-21/90	01215101	10	15	48	21	42	-	-	$h_{ef}+14$	90	M10x45	50	2,94
B 10-20-26/95	01220101	10	20	48	26	42	-	-	$h_{ef}+14$	95	M10x50	50	3,06
B 10-30-36/105	01225101	10	30	48	36	42	-	-	$h_{ef}+14$	105	M10x60	50	3,32
B 10-45-51/120	01230101	10	45	48	51	42	13	80	$h_{ef}+14$	120	M10x75	50	3,72
B 10-50-56/125	01235101	10	50	48	56	42	18	80	$h_{ef}+14$	125	M10x80	50	3,85
B 10-70-76/145	01240101	10	70	48	76	42	38	80	$h_{ef}+14$	145	M10x80	50	4,35
B 10-100-106/175	01245101	10	100	48	106	42	68	80	$h_{ef}+14$	175	M10x80	50	5,10
B 10-140-146/215	01250101	10	140	48	146	42	108	80	$h_{ef}+14$	215	M10x80	25	3,06
B 12-5/75[1)]	01305101	12	-	-	5	38	-	-	$h_{ef}+17$	75	M12x30	25	1,98
B 12-13/95	01310101	12	-	-	13	50	-	-	$h_{ef}+17$	95	M12x50	25	2,33
B 12-10-25/105	01312101	12	10	65	25	50	-	-	$h_{ef}+17$	105	M12x60	25	2,55
B 12-15-30/110	01315101	12	15	65	30	50	-	-	$h_{ef}+17$	110	M12x65	25	2,60
B 12-20-35/115	01320101	12	20	65	35	50	-	-	$h_{ef}+17$	115	M12x70	25	2,70
B 12-30-45/125	01325101	12	30	65	45	50	-	-	$h_{ef}+17$	125	M12x80	25	2,88
B 12-50-65/145	01330101	12	50	65	65	50	15	100	$h_{ef}+17$	145	M12x100	25	3,26
B 12-65-80/160	01335101	12	65	65	80	50	30	100	$h_{ef}+17$	160	M12x100	25	3,49
B 12-85-100/180	01340101	12	85	65	100	50	50	100	$h_{ef}+17$	180	M12x100	25	3,90
B 12-105-120/200	01345101	12	105	65	120	50	70	100	$h_{ef}+17$	200	M12x100	25	4,22
B 12-125-140/220	01350101	12	125	65	140	50	90	100	$h_{ef}+17$	220	M12x80	25	5,04
B 12-145-160/240	01355101	12	145	65	160	50	110	100	$h_{ef}+17$	240	M12x80	20	4,38
B 12-160-175/255	01365101	12	160	65	175	50	125	100	$h_{ef}+17$	255	M12x80	20	4,68
B 12-190-205/285	01370101	12	190	65	205	50	155	100	$h_{ef}+17$	285	M12x80	20	5,21
B 12-230-245/325	01375101	12	230	65	245	50	195	100	$h_{ef}+17$	325	M12x80	20	5,90
B 12-260-275/355	01380101	12	260	65	275	50	225	100	$h_{ef}+17$	355	M12x80	20	6,53
B 16-5/90[1)]	01505101	16	-	-	5	47	-	-	$h_{ef}+18$	90	M16x35	20	3,32
B 16-13/115	01510101	16	-	-	13	64	-	-	$h_{ef}+20$	115	M16x60	20	3,98
B 16-10-28/130	01512101	16	10	82	28	64	-	-	$h_{ef}+20$	130	M16x70	20	4,50
B 16-30-48/150	01515101	16	30	82	48	64	-	-	$h_{ef}+20$	150	M16x90	20	4,87
B 16-60-78/180	01520101	16	60	82	78	64	22	120	$h_{ef}+20$	180	M16x110	20	5,66
B 16-80-98/200	01525101	16	80	82	98	64	42	120	$h_{ef}+20$	200	M16x110	10	3,12
B 16-100-118/220	01530101	16	100	82	118	64	62	120	$h_{ef}+20$	220	M16x80	10	3,64
B 16-130-148/250	01535101	16	130	82	148	64	92	120	$h_{ef}+20$	250	M16x80	10	4,10
B 16-165-183/285	01540101	16	165	82	183	64	127	120	$h_{ef}+20$	285	M16x80	10	4,68
B 16-200-218/320	01545101	16	200	82	218	64	162	120	$h_{ef}+20$	320	M16x80	10	5,23
B 20-10/120[1)]	01604101	20	-	-	10	67	-	-	$h_{ef}+23$	120	M20x50	10	3,17
B 20-5-27/150	01605101	20	5	100	27	78	-	-	$h_{ef}+21$	150	M20x70	10	3,78
B 20-20-42/165	01607101	20	20	100	42	78	5	115	$h_{ef}+21$	165	M20x70	10	4,12
B 20-35-57/180	01610101	20	35	100	57	78	20	115	$h_{ef}+21$	180	M20x70	10	4,44
B 20-60-82/205	01612101	20	60	100	82	78	45	115	$h_{ef}+21$	205	M20x70	10	4,94
B 20-95-117/240	01615101	20	95	100	117	78	80	115	$h_{ef}+21$	240	M20x70	10	6,10
B 20-120-142/265	01622101	20	120	100	142	78	105	115	$h_{ef}+21$	265	M20x70	10	6,65

[1)]Not part of assessment.

Wedge Anchor B-U

- Steel, zinc plated
- Large washer DIN EN ISO 7094 (formerly DIN 440)
- Approved for uncracked concrete
- Three anchorage depths for optimal flexibility

Description	Ref. No.	Drill hole-Ø d_0 mm	Standard anchorage depth: Fixture thickness $t_{fix,std}$ mm	Standard anchorage depth: Anchorage depth $h_{ef,std}$ mm	Reduced anchorage depth: Fixture thickness $t_{fix,min}$ mm	Reduced anchorage depth: Anchorage depth $h_{ef,min}$ mm	Maximum anchorage depth: Fixture thickness $t_{fix,max}$ mm	Maximum anchorage depth: Anchorage depth $h_{ef,max}$ mm	Setting depth h_1 mm	Anchor length l mm	Thread ØxL mm	Washer[1] d2xs mm	Pkg. content pcs.	Weight per pkg. kg
B-U 12-85-100/180	01340701	12	85	65	100	50	50	100	h_{ef} + 17	180	M12x100	44x4	25	4,74
B-U 12-105-120/200	01345701	12	105	65	120	50	70	100	h_{ef} + 17	200	M12x100	44x4	25	5,05
B-U 12-125-140/220	01350701	12	125	65	140	50	90	100	h_{ef} + 17	220	M12x80	44x4	25	5,90
B-U 12-145-160/240	01355701	12	145	65	160	50	110	100	h_{ef} + 17	240	M12x80	44x4	20	5,09
B-U 12-160-175/255	01365701	12	160	65	175	50	125	100	h_{ef} + 17	255	M12x80	44x4	20	5,36
B-U 12-190-205/285	01370701	12	190	65	205	50	155	100	h_{ef} + 17	285	M12x80	44x4	20	5,88
B-U 12-230-245/325	01375701	12	230	65	245	50	195	100	h_{ef} + 17	325	M12x80	44x4	20	6,56
B-U 12-260-275/355	01380701	12	260	65	275	50	225	100	h_{ef} + 17	355	M12x80	44x4	10	3,48
B-U 12-300-315/395	01385701	12	300	65	315	50	265	100	h_{ef} + 17	395	M12x80	44x4	20	7,80
B-U 12-335-350/430	01390701	12	335	65	350	50	300	100	h_{ef} + 17	430	M12x80	44x4	20	8,00
B-U 16-80-98/200	01525701	16	80	82	98	64	42	120	h_{ef} + 20	200	M16x110	56x5	10	3,75
B-U 16-100-118/220	01530701	16	100	82	118	64	62	120	h_{ef} + 20	220	M16x80	56x5	10	4,25
B-U 16-130-148/250	01535701	16	130	82	148	64	92	120	h_{ef} + 20	250	M16x80	56x5	10	4,72
B-U 16-165-183/285	01540701	16	165	82	183	64	127	120	h_{ef} + 20	285	M16x80	56x5	10	5,32
B-U 16-200-218/320	01545701	16	200	82	218	64	162	120	h_{ef} + 20	320	M16x80	56x5	10	5,95
B-U 16-220-238/340	01550701	16	220	82	238	64	182	120	h_{ef} + 20	340	M16x80	56x5	10	6,16
B-U 16-260-278/380	01557701	16	260	82	278	64	222	120	h_{ef} + 20	380	M16x80	56x5	10	6,75
B-U 16-300-318/420	01560701	16	300	82	318	64	262	120	h_{ef} + 20	420	M16x80	56x5	10	7,35

[1]Outer diameter x thickness

Wedge Anchor-Setting Tool BSW

- Setting Tool for Wedge Anchor M6 – M16
- With SDS plus connection

Description	Ref. No.	Suitable for Wedge Anchor	Length mm	Package content pcs.	Weight per pkg. kg
BSW M6-M16	43990101	BZ3/BZ plus/B M6 – M16	140	1	0,13

ETA-01/0013

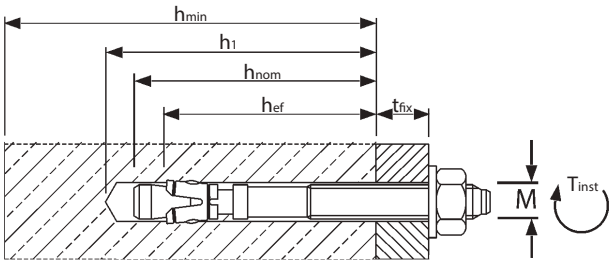
Extract from Permissible Service Conditions of European Technical Assessment ETA-01/0013 for use in uncracked concrete (Option 7)

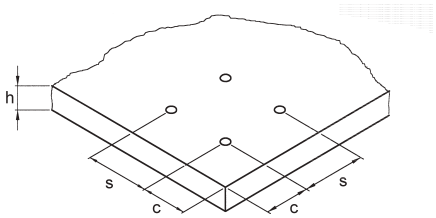
Approved loads according to EN 1992-4 for single anchors without the influence of spacing and edge distances. The total safety factor (γ_M und γ_F) is included. Load capacities under fire exposure see page 199.

Loads and performance data	Wedge Anchor B			M 6			M8			M 10			M 12			M 16			M 20		
Reduced anchorage depth		h_{ef1}	[mm]	30[1]			35[1]			42			50			64			78		
Standard anchorage depth		h_{ef2}	[mm]		40			44			48			65			82			100	
Maximum anchorage depth		h_{ef3}	[mm]			60			70			80			100			120			115
				uncracked concrete																	
Mean ultimate loads, tension	C25/30	Num	[kN]	9,6	12	12	12,3	18,7	18,7	19,2	23,6	23,6	26,1	34,5	34,5	43,6	51,4	51,4	53,6	70,0	70,0
Mean ultimate loads, shear	C25/30	Vum	[kN]	7,3	7,3	7,3	19,3	19,3	19,3	28,1	28,1	28,1	41,3	41,3	41,3	73,0	73,0	73,0	103,6	103,6	103,6
Approved loads, tension	C20/25	appr. N	[kN]	3,1	4,1	4,1	4,9	6,2	6,2	6,4	7,8	7,8	8,3	12,3	12,4	12,0	17,4	19,0	16,1	23,4	26,2
	C25/30	appr. N	[kN]	3,5	4,1	4,1	5,4	6,9	6,9	7,1	8,7	8,7	9,3	13,7	13,8	12,9	18,7	20,5	18,0	26,2	29,3
	C30/37	appr. N	[kN]	3,8	4,1	4,1	5,9	7,3	7,3	7,8	9,5	9,6	10,1	15,0	15,2	13,7	19,9	21,8	19,8	28,7	32,1
	C40/50	appr. N	[kN]	4,1	4,1	4,1	6,9	7,3	7,3	9,0	11,0	11,0	11,7	16,7	16,7	15,1	21,8	23,9	22,8	33,1	37,0
	C50/60	appr. N	[kN]	4,1	4,1	4,1	7,3	7,3	7,3	10,1	12,3	12,3	13,1	16,7	16,7	16,2	23,5	25,8	25,5	37,0	41,4
Approved loads, shear	≥ C20/25	appr. V	[kN]	2,9	2,9	2,9	6,3	6,3	6,3	9,7	9,7	9,7	14,3	14,3	14,3	23,6	23,6	23,6	37,1	37,1	37,1
Approved bending moments		appr. M	[Nm]	5,1	5,1	5,1	13,1	13,1	13,1	25,7	25,7	25,7	44,6	44,6	44,6	99,9	99,9	99,9	195,0	195,0	195,0
Spacing and edge distance																					
Effective anchorage depth		h_{ef}	[mm]	30	40	60	35	44	70	42	48	80	50	65	100	64	82	120	78	100	115
Minimum thickness		h_{min}	[mm]	80	100	120	80	100	126	100	100	132	100	130	165	130	170	208	160	200	215
Characteristic spacing		$s_{cr,N}$	[mm]	90	120	180	105	132	210	126	144	240	150	195	300	192	246	360	234	300	345
Characteristic edge distance		$c_{cr,N}$	[mm]	45	60	90	52,5	66	105	63	72	120	75	97,5	150	96	123	180	117	150	172,5
Minimum spacing		s_{min}	[mm]	35	35	35	40	40	40	55	55	55	100	75	75	100	90	90	140	105	105
Minimum edge distance		c_{min}	[mm]	40	40	40	45	45	45	65	65	65	100	90	90	100	105	105	140	125	125
Installation parameters																					
Drill hole diameter		d_o	[mm]	6	6	6	8	8	8	10	10	10	12	12	12	16	16	16	20	20	20
Diameter of clearance hole in the fixture		$d_f \leq$	[mm]	7	7	7	9	9	9	12	12	12	14	14	14	18	18	18	22	22	22
Depth of drill hole		$h_1 \geq$	[mm]	45	55	75	55	65	91	65	70	102	75	90	125	95	110	148	110	130	145
Installation torque		T_{inst}	[Nm]	8	8	8	15	15	15	30	30	30	50	50	50	100	100	100	200	200	200
Width across nut		SW	[mm]	10	10	10	13	13	13	17	17	17	19	19	19	24	24	24	30	30	30
Height of the hexagon nut			[mm]	5	5	5	6,5	6,5	6,5	8	8	8	10	10	10	13	13	13	16	16	16
Outer diameter x washer thickness B		d2 x s	[mm]	12 x 1,6	12 x 1,6	12 x 1,6	16 x 1,6	16 x 1,6	16 x 1,6	20 x 2	20 x 2	20 x 2	24 x 2,5	24 x 2,5	24 x 2,5	30 x 3	30 x 3	30 x 3	37 x 3	37 x 3	37 x 3
Outer diameter x washer thickness B-U		d2 x s	[mm]	-	-	-	-	-	-	-	-	-	44 x 4	44 x 4	44 x 4	56 x 5	56 x 5	56 x 5	-	-	-

[1] Application limited to statically indeterminated systems.

For anchor designing, an easy to operate software on CD-ROM is available on request or can be downloaded at www.mkt.de.





Installation