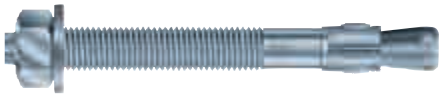
Wedge Anchor B

Steel, zinc plated



Range of loading: **2,9 kN - 37,2 kN**
Range of concrete quality: **C20/25 - C50/60**

Description

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

Its two effective anchorage depths make it very flexible, reducing contacts with reinforcements when holes are drilled.
The long thread also makes stand-off fastenings possible. The hot dip galvanised version is also included in the approval, like the B-U version with the extra large washer for timber structures.

Approvals and Certificates

CE ETA-01/0013

FM approved M10-M16

F30-F120 Fire tested

Advantages

- Approved for use in non-cracked concrete
- Very high load limits and small spacings and edge distances
- Two effective anchorage depths for greater flexibility
- The smaller effective anchorage depth helps to reduce drilling and installation time
- The standard effective anchorage depth is suitable for fastenings under the highest load limits and small spacings and edge distances
- Particularly cost effective: shorter lengths with only one (smaller) anchorage depth
- Suitable for surface, through and stand-off fastenings
- All sizes covered by the approval 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

Metal constructions, channels, brackets, supports, hand rails, cable trays, ducts, shelf bases.

Wedge Anchor B

- Steel, zinc plated
- Approved for non-cracked concrete

Description	Ref. No.	Standard anchorage depth				Reduced anchorage depth				Anchor length	Thread	Pkg. content	Weight per pkg.
		Fixture thickness t_{fix}	Drill hole Ø x depth	Setting depth h_{nom}	Anchorage depth h_{ef}	Fixture thickness $t_{fix,red}$	Drill hole Ø x depth	Setting depth $h_{nom,red}$	Anchorage depth $h_{ef,red}$	l			
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	pcs.	kg
B 6-5/40[1)]	01005101	-	-	-	-	5	6x35	27	18	40	M6x16	100	1,05
B 6-5/52	01006101	-	-	-	-	5	6x45	39	30	52	M6x20	100	1,26
B 6-10-20/67	01010101	10	6x55	49	40	20	6x45	39	30	67	M6x30	100	1,55
B 6-15-25/72	01013101	15	6x55	49	40	25	6x45	39	30	72	M6x35	100	1,63
B 6-25-35/82	01015101	25	6x55	49	40	35	6x45	39	30	82	M6x35	100	1,81
B 6-40-50/97	01025101	40	6x55	49	40	50	6x45	39	30	97	M6x35	100	2,07
B 8-5/50[1)]	01105101	-	-	-	-	5	8x45	35	24	50	M8x22	100	2,32
B 8-4/60	01110101	-	-	-	-	4	8x55	47	35	60	M8x25	100	2,62
B 8-10-19/75	01115101	10	8x65	56	44	19	8x55	47	35	75	M8x40	100	3,10
B 8-15-24/80	01120101	15	8x65	56	44	24	8x55	47	35	80	M8x45	100	3,26
B 8-20-29/85	01125101	20	8x65	56	44	29	8x55	47	35	85	M8x50	100	3,40
B 8-25-34/90	01130101	25	8x65	56	44	34	8x55	47	35	90	M8x55	100	3,59
B 8-30-39/95	01135101	30	8x65	56	44	39	8x55	47	35	95	M8x60	100	3,72
B 8-35-44/100	01140101	35	8x65	56	44	44	8x55	47	35	100	M8x65	100	3,89
B 8-45-54/110	01145101	45	8x65	56	44	54	8x55	47	35	110	M8x75	100	4,22
B 8-55-64/120	01150101	55	8x65	56	44	64	8x55	47	35	120	M8x85	100	4,54
B 8-100-109/165	01158101	100	8x65	56	44	109	8x55	47	35	165	M8x85	50	2,99
B 10-10/60[1)]	01205101	-	-	-	-	10	10x50	40	25	60	M10x25	50	2,29
B 10-10-16/85	01210101	10	10x70	62	48	16	10x65	56	42	85	M10x40	50	2,83
B 10-15-21/90	01215101	15	10x70	62	48	21	10x65	56	42	90	M10x45	50	2,94
B 10-20-26/95	01220101	20	10x70	62	48	26	10x65	56	42	95	M10x50	50	3,06
B 10-30-36/105	01225101	30	10x70	62	48	36	10x65	56	42	105	M10x60	50	3,32
B 10-45-51/120	01230101	45	10x70	62	48	51	10x65	56	42	120	M10x75	50	3,72
B 10-50-56/125	01235101	50	10x70	62	48	56	10x65	56	42	125	M10x80	50	3,85
B 10-70-76/145	01240101	70	10x70	62	48	76	10x65	56	42	145	M10x80	50	4,35
B 10-100-106/175	01245101	100	10x70	62	48	106	10x65	56	42	175	M10x80	50	5,10
B 10-140-146/215	01250101	140	10x70	62	48	146	10x65	56	42	215	M10x80	25	3,06
B 12-5/75[1)]	01305101	-	-	-	-	5	12x65	55	38	75	M12x30	25	1,98
B 12-13/95	01310101	-	-	-	-	13	12x75	67	50	95	M12x50	25	2,33
B 12-10-25/105	01312101	10	12x90	82	65	25	12x75	67	50	105	M12x60	25	2,55
B 12-15-30/110	01315101	15	12x90	82	65	30	12x75	67	50	110	M12x65	25	2,60
B 12-20-35/115	01320101	20	12x90	82	65	35	12x75	67	50	115	M12x70	25	2,70
B 12-30-45/125	01325101	30	12x90	82	65	45	12x75	67	50	125	M12x80	25	2,88
B 12-50-65/145	01330101	50	12x90	82	65	65	12x75	67	50	145	M12x100	25	3,26
B 12-65-80/160	01335101	65	12x90	82	65	80	12x75	67	50	160	M12x100	25	3,49
B 12-85-100/180	01340101	85	12x90	82	65	100	12x75	67	50	180	M12x100	25	3,90
B 12-105-120/200	01345101	105	12x90	82	65	120	12x75	67	50	200	M12x100	25	4,22
B 12-125-140/220	01350101	125	12x90	82	65	140	12x75	67	50	220	M12x80	25	5,04
B 12-145-160/240	01355101	145	12x90	82	65	160	12x75	67	50	240	M12x80	20	4,38
B 12-160-175/255	01365101	160	12x90	82	65	175	12x75	67	50	255	M12x80	20	4,68
B 12-190-205/285	01370101	190	12x90	82	65	205	12x75	67	50	285	M12x80	20	5,21
B 12-230-245/325	01375101	230	12x90	82	65	245	12x75	67	50	325	M12x80	20	5,90
B 12-260-275/355	01380101	260	12x90	82	65	275	12x75	67	50	355	M12x80	20	6,53
B 16-5/90[1)]	01505101	-	-	-	-	5	16x75	65	47	90	M16x35	20	3,32
B 16-13/115	01510101	-	-	-	-	13	16x95	84	64	115	M16x60	20	3,98
B 16-10-28/130	01512101	10	16x110	102	82	28	16x95	84	64	130	M16x70	20	4,50
B 16-30-48/150	01515101	30	16x110	102	82	48	16x95	84	64	150	M16x90	20	4,87
B 16-60-78/180	01520101	60	16x110	102	82	78	16x95	84	64	180	M16x110	20	5,66
B 16-80-98/200	01525101	80	16x110	102	82	98	16x95	84	64	200	M16x110	10	3,12
B 16-100-118/220	01530101	100	16x110	102	82	118	16x95	84	64	220	M16x80	10	3,64
B 16-130-148/250	01535101	130	16x110	102	82	148	16x95	84	64	250	M16x80	10	4,10
B 16-165-183/285	01540101	165	16x110	102	82	183	16x95	84	64	285	M16x80	10	4,68
B 16-200-218/320	01545101	200	16x110	102	82	218	16x95	84	64	320	M16x80	10	5,23
B 20-10/120[1)]	01604101	-	-	-	-	10	20x100	90	67	120	M20x50	10	3,17
B 20-5-27/150	01605101	5	20x130	121	100	27	20x110	99	78	150	M20x70	10	3,78
B 20-20-42/165	01607101	20	20x130	121	100	42	20x110	99	78	165	M20x70	10	4,12
B 20-35-57/180	01610101	35	20x130	121	100	57	20x110	99	78	180	M20x70	10	4,44
B 20-60-82/205	01612101	60	20x130	121	100	82	20x110	99	78	205	M20x70	10	4,94
B 20-95-117/240	01615101	95	20x130	121	100	117	20x110	99	78	240	M20x70	10	6,10
B 20-120-142/265	01622101	120	20x130	121	100	142	20x110	99	78	265	M20x70	10	6,65

[1)]Not part of assessment, expansion clip steel, zinc plated.

Wedge Anchor B-U

- Steel, zinc plated; Large washer DIN EN ISO 7094 (formerly DIN 440)
- Approved for non-cracked concrete

Description	Ref. No.	Standard anchorage depth				Reduced anchorage depth				Anchor length	Thread	Pkg. content	Weight per pkg.
		Fixture thickness t_{fix}	Drill hole Ø x depth	Setting depth h_{nom}	Anchorage depth h_{ef}	Fixture thickness $t_{fix,red}$	Drill hole Ø x depth	Setting depth $h_{nom,red}$	Anchorage depth $h_{ef,red}$	l			
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	pcs.	kg
B-U 12-85-100/180[1]	01340701	85	12x90	82	65	100	12x75	67	50	180	M12x100	25	4,74
B-U 12-105-120/200[1]	01345701	105	12x90	82	65	120	12x75	67	50	200	M12x100	25	5,05
B-U 12-125-140/220[1]	01350701	125	12x90	82	65	140	12x75	67	50	220	M12x80	25	5,90
B-U 12-145-160/240[1]	01355701	145	12x90	82	65	160	12x75	67	50	240	M12x80	20	5,09
B-U 12-160-175/255[1]	01365701	160	12x90	82	65	175	12x75	67	50	255	M12x80	20	5,36
B-U 12-190-205/285[1]	01370701	190	12x90	82	65	205	12x75	67	50	285	M12x80	20	5,88
B-U 12-230-245/325[1]	01375701	230	12x90	82	65	245	12x75	67	50	325	M12x80	20	6,56
B-U 12-260-275/355[1]	01380701	260	12x90	82	65	275	12x75	67	50	355	M12x80	10	3,48
B-U 12-300-315/395[1]	01385701	300	12x90	82	65	315	12x75	67	50	395	M12x80	20	7,80
B-U 12-335-350/430[1]	01390701	335	12x90	82	65	350	12x75	67	50	430	M12x80	20	8,00
B-U 16-80-98/200[2]	01525701	80	16x110	102	82	98	16x95	84	64	200	M16x110	10	3,75
B-U 16-100-118/220[2]	01530701	100	16x110	102	82	118	16x95	84	64	220	M16x80	10	4,25
B-U 16-130-148/250[2]	01535701	130	16x110	102	82	148	16x95	84	64	250	M16x80	10	4,72
B-U 16-165-183/285[2]	01540701	165	16x110	102	82	183	16x95	84	64	285	M16x80	10	5,32
B-U 16-200-218/320[2]	01545701	200	16x110	102	82	218	16x95	84	64	320	M16x80	10	5,95
B-U 16-220-238/340[2]	01550701	220	16x110	102	82	238	16x95	84	64	340	M16x80	10	6,16
B-U 16-260-278/380[2]	01557701	260	16x110	102	82	278	16x95	84	64	380	M16x80	10	6,75
B-U 16-300-318/420[2]	01560701	300	16x110	102	82	318	16x95	84	64	420	M16x80	10	7,35

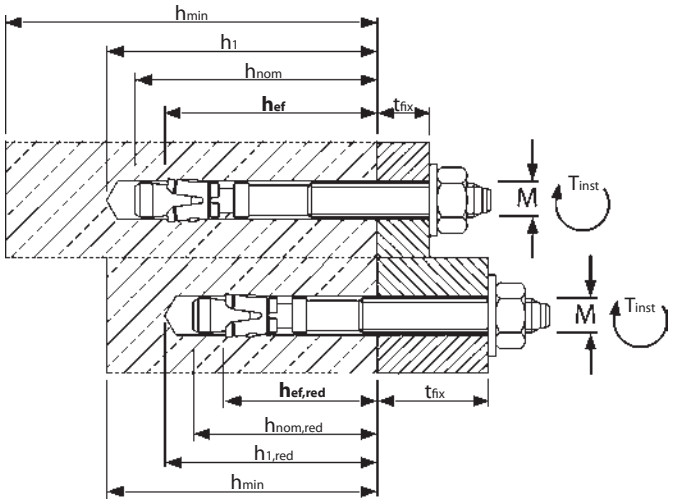
[1] Ø washer M12 DIN EN ISO 7094 = 44 mm, thickness 4mm
[2] Ø washer M16 DIN EN ISO 7094 = 56 mm, thickness 5mm

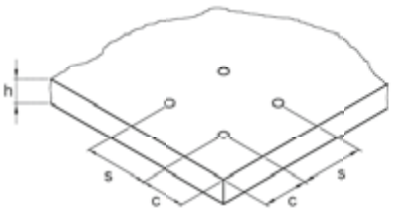
Extract from Permissible Service Condition of European Technical Assessment ETA-01/0013.

Approved loads for single anchor without influence of spacing and edge distance.
Total safety factor as per ETAG 001 included (γ_M and γ_F). Load capacities under fire exposure see page 166.

Loads and performance data		Wedge Anchor B		M 6		M 8		M 10		M 12		M 16		M 20	
Standard anchorage depth		**h_{ef}**	**[mm]**	**40**	**-**	**44**	**-**	**48**	**-**	**65**	**-**	**82**	**-**	**100**	**-**
Reduced anchorage depth		**hef, red**	**[mm]**	**-**	**30[1)]**	**-**	**35[1)]**	**-**	**42**	**-**	**50**	**-**	**64**	**-**	**78**
								non-cracked concrete							
Mean ultimate loads, tension	C25/30	Num	[kN]	12	9,6	18,7	12,3	23,6	19,2	34,5	26,1	51,4	43,6	70,0	53,6
Mean ultimate loads, shear	C25/30	Vum	[kN]	7,3	7,3	19,3	19,3	28,1	28,1	41,3	41,3	73,0	73,0	103,6	103,6
								non-cracked concrete							
Approved loads, tension	C20/25	appr. N	[kN]	4,1	2,9	5,7	5,0	7,6	6,5	12,6	8,5	17,9	12,3	24,0	16,6
	C25/30	appr. N	[kN]	4,1	3,1	6,3	5,5	8,4	7,2	13,8	9,3	19,6	13,5	26,3	18,1
	C30/37	appr. N	[kN]	4,1	3,5	7,0	6,1	9,3	8,0	15,3	10,4	21,7	15,0	29,3	20,2
	C40/50	appr. N	[kN]	4,1	4,0	7,3	7,0	10,7	9,2	16,7	12,0	25,3	17,4	34,0	23,4
	C50/60	appr. N	[kN]	4,1	4,1	7,3	7,3	11,8	10,1	16,7	13,2	27,7	19,1	37,3	25,7
Approved loads, shear	C20/25	appr. V	[kN]	2,9	2,9	6,3	5,0	8,0	6,5	14,3	8,5	23,6	23,6	37,1	33,1
	≥ C25/30	appr. V	[kN]	2,9	2,9	6,3	5,5	8,8	7,2	14,3	9,3	23,6	23,6	37,1	36,3
Approved bending moments		appr. M	[Nm]	5,1	5,1	13,1	13,1	25,7	25,7	44,6	44,6	99,9	99,9	195,0	195,0
Spacing and edge distance															
Effective anchorage depth		hef	[mm]	40	30[1)]	44	35[1)]	48	42	65	50	82	64	100	78
Characteristic spacing		$s_{cr,N}$	[mm]	120	90	132	105	144	126	195	150	246	192	300	234
Characteristic edge distance		$c_{cr,N}$	[mm]	60	45	66	52,5	72	63	97,5	75	123	96	150	117
								non-cracked concrete							
Minimum spacing		s_{min}	[mm]	35	35	40	40	55	55	75	100	90	100	105	140
Minimum edge distance		c_{min}	[mm]	40	40	45	45	65	65	90	100	105	100	125	140
Minimum thickness of concrete slab		h_{min}	[mm]	100	80	100	80	100	100	130	100	170	130	200	160
Installation parameters															
Drill hole diameter		d_o	[mm]	6	6	8	8	10	10	12	12	16	16	20	20
Diameter of clearance hole in the fixture		d_f	[mm]	7	7	9	9	12	12	14	14	18	18	22	22
Depth of drill hole		h_1	[mm]	55	45	65	55	70	65	90	75	110	95	130	110
Installation torque		T_{inst}	[Nm]	8	8	15	15	30	30	50	50	100	100	200	200
Width across nut		SW	[mm]	10	10	13	13	17	17	19	19	24	24	30	30

[1)] Application limited to statically indeterminated systems.
For anchor designing, an easy to operate CD-ROM is available on request or can be downloaded at www.mkt.de.





Installation