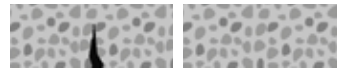
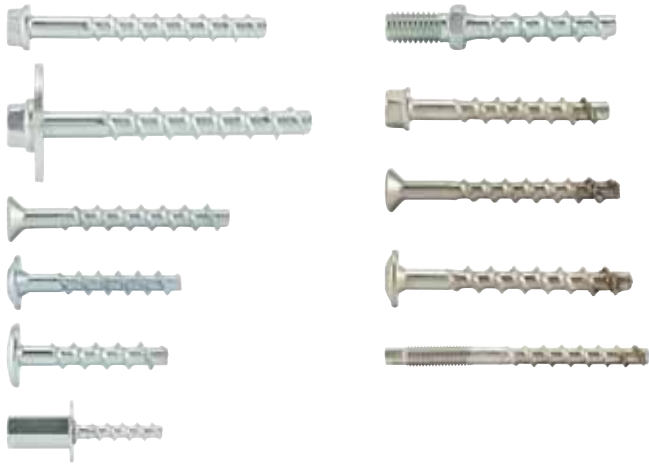


CONCRETE SCREW W-BS



Approvals and certificates



Ø 6-14 Ø 5, 6

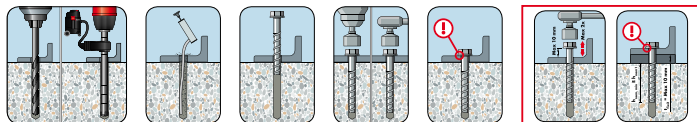
Type of installation

Pre-positioned	In-place	Stand-off
-	✓	-

Application references



Installation



Loads

Thread size				6		8			10			12			14		
Effective anchorage depth		h_{ef}	[mm]	31	44	35	43	52	43	60	68	50	67	80	58	79	92
Non-cracked Concrete																	
Tension	W-BS-S, SK; /S; /A4; /HCR	N_{rec}	[kN]	1.9	4.3	3.6	5.7	7.6	5.7	9.5	12.4	7.6	12.8	16.8	10.3	16.4	20.7
Shear		V_{rec}	[kN]	4.0	4.0	4.9	6.6	8.8	6.6	19.4	19.4	8.3	22.9	22.9	10.3	32.0	32.0
Cracked Concrete																	
Tension	W-BS-S, SK; /S; /A4; /HCR	N_{rec}	[kN]	1.0	1.9	2.4	4.3	5.7	4.3	7.6	9.2	5.7	9.0	11.7	7.2	11.5	14.5
Shear		V_{rec}	[kN]	2.8	4.0	3.4	4.6	6.1	4.6	15.2	18.4	5.8	18.0	22.9	7.2	23.0	28.9

¹⁾ Loads are valid for single anchors. Normal spaced reinforcement in $\geq C20/25$. Material safety factor γ_{Mk} and safety factor for action $\gamma_{Ed} = 1.4$ are included. The material safety factor depends on the failure mode.

²⁾ Loads for anchorages close to edge and/or with small spacing have to be reduced and should be calculated based on performance data given in the ETA.

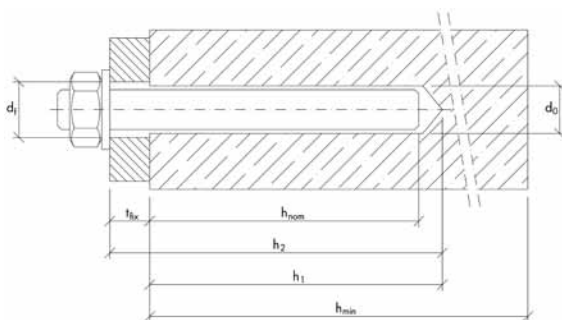
Clearance-hole in fixture	d_f	[mm]	8		12			14			16			18		
Drill depth	h_l	[mm]	45	60	55	65	75	65	85	95	75	95	110	85	110	125
Minimum thickness of concrete member	h_{min}	[mm]	100		100		120	100	130	130	120	130	150	130	150	170
Minimum edge distance	c_{min}	[mm]	40	40	50		50		50		50		70	50	70	

CONCRETE SCREW W-BS

Type	Anchor length	Fixture thickness for			Art. no.			Drill hole diameter	Drill hole depth for through installation	Installation torque	Adjustability	Wrench Size/ Drive	Approval		Head specification	P. Qty.
	l [mm]	h _{ef,1}	h _{ef,2}	h _{ef,3}	Carbon steel galvanized	Carbon steel zinc-flake coating	Stainless steel A4	d ₀ [mm]	h ₂ [mm]	T _{inst} ≤ [Nm]		SW/ Torx [mm]	ETA-16-0043*	Sesimic C1/C2**	[mm]	
W-BS hexagon head with pressed-on washer, Type S 																
W-BS 5	40	5	-	-	5929 125 005	5929 325 005	-	5.0	45	8	-	SW10	-	-	Ø 12.5	100
	50	15	-	-	5929 125 015	5929 325 015	-	5.0	55	8	-	SW10	-	-	Ø 12.5	100
	60	25	-	-	5929 125 025	5929 325 025	-	5.0	65	8	-	SW10	-	-	Ø 12.5	100
W-BS 6	40	5	-	-	5929 126 005	5929 326 005	-	6.0	45	10	-	SW13	-	-	Ø 15.0	100
	50	15	10	-	5929 126 015	5929 326 015	5929 226 015	6.0	55	10	-	SW13	✓	-	Ø 15.0	100
	60	25	20	5	5929 126 025	5929 326 025	5929 226 025	6.0	65	10	-	SW13	✓	-	Ø 15.0	100
	80	45	40	25	5929 126 045	5929 326 045	-	6.0	85	10	-	SW13	✓	-	Ø 15.0	100
	100	65	60	45	5929 126 065	5929 326 065	-	6.0	105	10	-	SW13	✓	-	Ø 15.0	100
W-BS 8	50	5	-	-	5929 128 005	5929 328 005	-	8.0	60	20	✓	SW13	✓	C1+C2	Ø 16.0	50
	60	15	5	-	5929 128 015	5929 328 015	-	8.0	70	20	✓	SW13	✓	C1+C2	Ø 16.0	50
	70	25	15	5	5929 128 025	5929 328 025	5929 228 025	8.0	80	20	✓	SW13	✓	C1+C2	Ø 16.0	50
	80	35	25	15	5929 128 035	5929 328 035	5929 228 035	8.0	90	20	✓	SW13	✓	C1+C2	Ø 16.0	50
	90	45	35	25	5929 128 045	5929 328 045	-	8.0	100	20	✓	SW13	✓	C1+C2	Ø 16.0	50
	100	55	45	35	5929 128 055	5929 328 055	-	8.0	110	20	✓	SW13	✓	C1+C2	Ø 16.0	50
	120	75	65	55	5929 128 075	5929 328 075	-	8.0	130	20	✓	SW13	✓	C1+C2	Ø 16.0	50
	140	95	85	75	5929 128 095	5929 328 095	-	8.0	150	20	✓	SW13	✓	C1+C2	Ø 16.0	50
	160	115	105	95	5929 128 115	5929 328 115	-	8.0	170	20	✓	SW13	✓	C1+C2	Ø 16.0	50
W-BS 10	60	5	-	-	5929 121 005	5929 321 005	-	10.0	70	40	✓	SW15	✓	C1+C2	Ø 20.0	25
	80	25	5	-	5929 121 025	5929 321 025	-	10.0	90	40	✓	SW15	✓	C1+C2	Ø 20.0	25
	90	35	15	5	5929 121 035	5929 321 035	5929 221 035	10.0	100	40	✓	SW15	✓	C1+C2	Ø 20.0	25
	100	45	25	15	5929 121 045	5929 321 045	5929 221 045	10.0	110	40	✓	SW15	✓	C1+C2	Ø 20.0	25
	120	65	45	35	5929 121 065	5929 321 065	5929 221 065	10.0	130	40	✓	SW15	✓	C1+C2	Ø 20.0	25
	140	85	65	55	5929 121 085	5929 321 085	-	10.0	150	40	✓	SW15	✓	C1+C2	Ø 20.0	25
	160	105	85	75	5929 121 105	5929 321 105	-	10.0	170	40	✓	SW15	✓	C1+C2	Ø 20.0	25
W-BS 12	80	15	-	-	5929 122 015	5929 322 015	-	12.0	90	60	✓	SW17	✓	C1+C2	Ø 23.0	25
	110	45	25	10	5929 122 045	5929 322 045	-	12.0	120	60	✓	SW17	✓	C1+C2	Ø 23.0	25
W-BS 14	80	5	-	-	5929 124 005	5929 324 005	-	14.0	90	80	✓	SW21	✓	C1+C2	Ø 28.0	25
	110	35	10	-	5929 124 035	5929 324 035	-	14.0	120	80	✓	SW21	✓	C1+C2	Ø 28.0	25
	130	55	30	15	5929 124 055	5929 324 055	-	14.0	140	80	✓	SW21	✓	C1+C2	Ø 28.0	25
W-BS hexagon head with big U-washer, Type S 																
W-BS 10	180	125	105	95	5929 121 125	5929 321 125	-	10.0	190	40	✓	SW15	✓	C1+C2	Ø 44.0	25
	200	145	125	115	5929 121 145	5929 321 145	-	10.0	210	40	✓	SW15	✓	C1+C2	Ø 44.0	25
	240	185	165	155	5929 121 185	5929 321 185	-	10.0	250	40	✓	SW15	✓	C1+C2	Ø 44.0	15
	280	225	205	195	5929 121 225	5929 321 225	-	10.0	290	40	✓	SW15	✓	C1+C2	Ø 44.0	15
	320	265	245	235	5929 121 265	5929 321 265	-	10.0	330	40	✓	SW15	✓	C1+C2	Ø 44.0	15

* Size 5 and 6 approved for multiple attachment ETA-16/0128

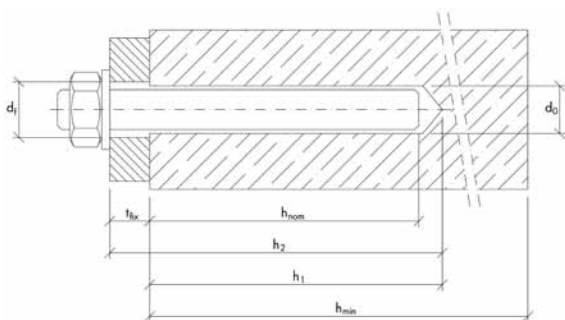
** Seismic C2 not for stainless steel A4



CONCRETE SCREW W-BS

	Anchor length	Fixture thickness for			Art. no.			Drill hole diameter	Drill hole depth for through installation	Installation torque	Adjustability	Wrench Size/ Drive	Approval		Head specification	P. Qty.
		h _{ef,1}	h _{ef,2}	h _{ef,3}												
Type	l [mm]	t _{fix} [mm]			Carbon steel galvanized	Carbon steel zinc-flake coating	Stainless steel A4	d ₀ [mm]	h ₂ [mm]	T _{inst} ≤ [Nm]		SW/ Torx [mm]	ETA-16-0043	Sesimic C1/C2 *	[mm]	
W-BS countersunk head, Type SK																
W-BS 5	40	5	-	-	5929 135 005	-	-	5.0	45	8	-	TX25	-	-	Ø 12.0	100
	50	15	-	-	5929 135 015	-	-	5.0	55	8	-	TX25	-	-	Ø 12.0	100
	60	25	-	-	5929 135 025	-	-	5.0	65	8	-	TX25	-	-	Ø 12.0	100
W-BS 6	40	5	-	-	5929 136 005	-	-	6.0	45	10	-	TX30	-	-	Ø 13.0	100
	50	15	10	-	5929 136 015	-	5929 236 015	6.0	55	10	-	TX30	✓	-	Ø 13.0	100
	60	25	20	5	5929 136 025	-	-	6.0	65	10	-	TX30	✓	-	Ø 13.0	100
	65	30	25	10	-	-	5929 236 030	6.0	70	10	-	TX30	✓	-	Ø 13.0	100
	80	45	40	25	5929 136 045	-	-	6.0	85	10	-	TX30	✓	-	Ø 13.0	100
	85	50	45	30	-	-	5929 236 050	6.0	90	10	-	TX30	✓	-	Ø 13.0	100
	100	65	60	45	5929 136 065	-	-	6.0	105	10	-	TX30	✓	-	Ø 13.0	100
	105	70	65	50	-	-	5929 236 070	6.0	110	10	-	TX30	✓	-	Ø 13.0	100
	120	85	80	65	5929 136 085	-	-	6.0	125	10	-	TX30	✓	-	Ø 13.0	100
	140	105	100	85	5929 136 105	-	-	6.0	145	10	-	TX30	✓	-	Ø 13.0	100
	160	125	120	105	5929 136 125	-	-	6.0	165	10	-	TX30	✓	-	Ø 13.0	100
W-BS 8	80	35	25	15	5929 138 035	-	5929 238 035	8.0	90	20	✓	TX40	✓	C1+C2	Ø 20.0	50
W-BS 10	90	35	15	5	5929 131 035	-	5929 231 035	10.0	100	40	✓	TX50	✓	C1+C2	Ø 22.0	25

* Seismic C2 not for stainless steel A4



CONCRETE SCREW W-BS

	Anchor length	Fixture thickness for			Art. no.			Drill hole diameter	Drill hole depth for through installation	Installation torque	Adjustability	Wrench Size/ Drive	Approval		Head specification	P. Qty.
		h _{ef,1}	h _{ef,2}	h _{ef,3}												
Type	l [mm]	t _{fix} [mm]			Carbon steel galvanized	Carbon steel zinc-flake coating	Stainless steel A4	d ₀ [mm]	h ₂ [mm]	T _{inst} ≤ [Nm]		SW/ Torx [mm]	ETA-16-0043	Sesimic C1/C2*	[mm]	
W-BS panhead, Type P 																
W-BS 5	40	5	-	-	5929 145 005	-	-	5.0	45	8	-	TX30	-	-	Ø 14.0	100
	50	15	-	-	5929 145 015	-	-	5.0	55	8	-	TX30	-	-	Ø 14.0	100
	60	25	-	-	5929 145 025	-	-	5.0	65	8	-	TX30	-	-	Ø 14.0	100
W-BS 6	40	5	-	-	5929 146 005	-	-	6.0	45	10	-	TX30	-	-	Ø 15.0	100
	50	15	10	-	5929 146 015	-	5929 246 015	6.0	55	10	-	TX30	✓	-	Ø 15.0	100
	60	25	20	5	5929 146 025	-	5929 246 025	6.0	65	10	-	TX30	✓	-	Ø 15.0	100
	80	45	40	25	5929 146 045	-	5929 246 045	6.0	85	10	-	TX30	✓	-	Ø 15.0	100
	100	65	60	45	5929 146 065	-	5929 246 065	6.0	105	10	-	TX30	✓	-	Ø 15.0	100
W-BS big panhead, Type P 																
W-BS 6	40	5	-	-	5929 156 005	-	-	6.0	45	10	-	TX30	-	-	Ø 18.0	100
	60	25	20	5	5929 156 025	-	-	6.0	65	10	-	TX30	✓	-	Ø 18.0	100
W-BS coupling nut, Type I 																
W-BS 6	35	0	-	-	5929 176 001	-	-	6.0	40	10	-	SW13	-	-	M8/ M10 socket	50
	55	-	-	0	5929 176 002	-	-	6.0	60	10	-	SW13	✓	-	M8/ M10 socket	50
W-BS stair bolt with hexagon gear, Type ST 																
W-BS 6	35	0	-	-	5929 186 000	-	-	6.0	40	10	-	SW10	-	-	M8x16	100
	55	20	15	0	5929 186 020	-	-	6.0	60	10	-	SW10	✓	-	M8x16	100
	75	40	35	20	5929 186 040	-	-	6.0	80	10	-	SW10	✓	-	M8x16	100
	95	60	55	40	5929 186 060	-	-	6.0	100	10	-	SW10	✓	-	M8x16	100
W-BS 8	105	40	30	20	-	-	5929 268 040	8.0	95	20	✓	SW7	✓	C1	M10x30	50
W-BS 10	140	60	40	30	-	-	5929 261 060	10.0	125	40	✓	SW9	✓	C1	M12x35	25
	160	80	60	50	-	-	5929 261 080	10.0	145	40	✓	SW9	✓	C1	M12x55	25

* Seismic C2 not for stainless steel A4

