

HIGH-PERFORMANCE ANCHOR W-HAZ



Approvals and certificates



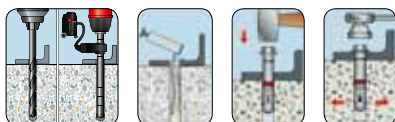
Type of installation

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

Application references



Installation



Loads


Thread size				10/M6	12/M8	15/M10	18M12	24/M16	24/M16L	28/M20	32/M24
Effective anchorage depth		h_{ef}	[mm]	50	60	71	80	100	115	125	150
Non-cracked Concrete											
Tension	S SK B; /S	N_{rec}	[kN]	7.6	9.5	14.0	16.8	23.4	28.9	32.7	43.0
	S SK B; /A4		[kN]	-	7.6	11.9	16.7		-	-	-
Shear	B; /S	V_{rec}	[kN]	9.1	14.3	20.6	33.5	46.9	52.0	65.5	86.1
	B; /A4		[kN]	-	13.7	21.1			-	-	-
	S SK; /S		[kN]	10.3	17.1	27.4	33.5	46.9	57.8	65.5	86.1
	S SK; /A4		[kN]	-	12.6	19.4	32.6		-	-	-
Cracked concrete											
Tension	S SK B; /S	N_{rec}	[kN]	2.4	5.7	7.6	11.7	16.4	20.2	22.9	30.1
	S SK B; /A4		[kN]	-	4.3				-	-	-
Shear	B; /S	V_{rec}	[kN]	9.1	14.3	19.6	23.5	32.8	40.4	45.8	60.2
	B; /A4		[kN]	-	13.7				-	-	-
	S SK; /S		[kN]	10.3	15.2	19.6	23.5	32.8	40.4	45.8	60.2
	S SK; /A4		[kN]	-	12.6	19.4	-		-	-	

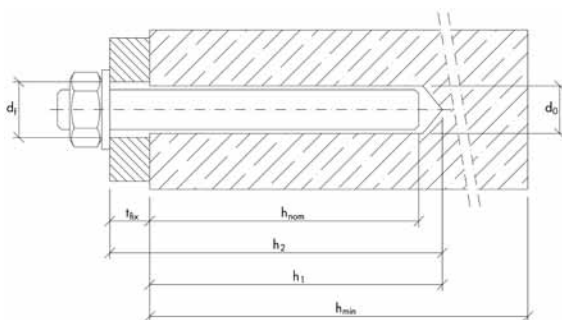
¹⁾ Loads are valid for single anchors. Normal spaced reinforcement in $\geq C20/25$. Material safety factor γ_{M} and safety factor for action $\gamma_i = 1.4$ are included. The material safety factor depends on the failure mode.

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]	12	14	17	20	26	26	31	35
Drill depth	$h_i \geq$	[mm]	65	80	95	105	130	145	160	180
Minimum thickness of concrete member	h_{min}	[mm]	100	120	140	160	200	230	250	300

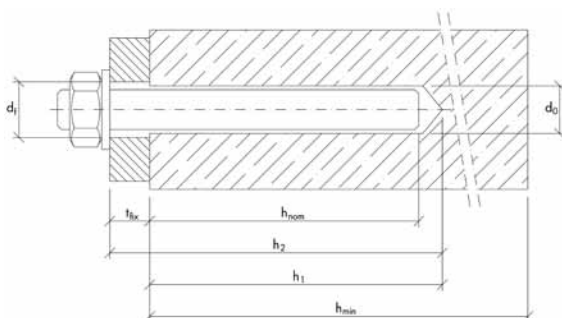
HIGH-PERFORMANCE ANCHOR W-HAZ

Type	Anchor length	Fixture thickness for	Art. no.		Drill hole diameter	Drill hole depth for through installation	Installation torque	Wrench size	Approval		P. Qty.			
	l [mm]	t _{fix} [mm]	Carbon steel galvanized	Stainless steel A4	d ₀ [mm]	h ₂ [mm]	T _{inst} [Nm]	SW [mm]	ETA-02/0031	Sesimic C1/C2	[qty.]			
W-HAZ-B threaded bolt 														
M6	67	0	0905 210 101	-	10	65	15	-	10	✓	-	100		
	77	10	0905 210 102	-		75				✓	-	50		
	97	30	0905 210 103	-		95				✓	-	50		
	117	50	0905 210 104	-		115				✓	-	50		
	167	100	0905 210 105	-		165				✓	-	50		
M8	80	0	0905 212 101	5932 612 101	12	80	30	35	13	✓	C1+C2	50		
	90	10	0905 212 102	5932 612 102		90				✓	C1+C2	50		
	110	30	0905 212 103	5932 612 103		110				✓	C1+C2	50		
	130	50	0905 212 104	5932 612 104		130				✓	C1+C2	25		
	180	100	0905 212 105	5932 612 105		180				✓	C1+C2	25		
M10	95	0	-	5932 615 101	15	95	-	55	17	✓	C1+C2	25		
	96	0	0905 215 101	-		95	50	-		✓	C1+C2	25		
	110	15	-	5932 615 102		110	-	55		✓	C1+C2	25		
	111	15	0905 215 102	-		110	50	-		✓	C1+C2	25		
	120	25	-	5932 615 103		120	-	55		✓	C1+C2	25		
	121	25	0905 215 103	-		120	50	-		✓	C1+C2	25		
	140	45	-	5932 615 104		140	-	55		✓	C1+C2	25		
	141	45	0905 215 104	-		140	50	-		✓	C1+C2	25		
	190	95	-	5932 615 105		190	-	55		✓	C1+C2	25		
191	95	0905 215 105	-	190	50	-	✓	C1+C2	25					
M12	112	0	0905 218 101	5932 618 101	18	105	80	90	19	✓	C1+C2	20		
	122	10	0905 218 102	5932 618 102		115				✓	C1+C2	20		
	131	20	-	5932 618 103		125				-	-	✓	C1+C2	20
	132	20	0905 218 103	-		125				80	-	✓	C1+C2	20
	151	40	-	5932 618 104		145	-	90		✓	C1+C2	20		
	152	40	0905 218 104	-		145	-	-		✓	C1+C2	20		
	182	70	0905 218 105	5932 618 105		175	80	90		✓	C1+C2	20		
	212	100	0905 218 106	-		205	-	-		✓	C1+C2	10		
M16	137	0	0905 224 101	5932 624 101	24	130	160	170	24	✓	C1+C2	10		
	157	20	0905 224 102	5932 624 102		150				✓	C1+C2	10		
	187	50	0905 224 103	5932 624 103		180				✓	C1+C2	10		
	237	100	0905 224 104	-		230				✓	C1+C2	5		
M16L	152	0	0905 224 101	-	24	145	160	170	24	✓	C1+C2	10		
	182	30	0905 224 102	-		175				✓	C1+C2	10		
	202	50	0905 224 103	-		195				✓	C1+C2	10		
M20	181	10	0905 228 101	-	28	170	280	-	30	✓	C1+C2	10		
	201	30	0905 228 102	-		190				✓	C1+C2	10		
	231	60	0905 228 103	-		220				✓	C1+C2	5		
	271	100	0905 228 104	-		260				✓	C1+C2	5		




HIGH-PERFORMANCE ANCHOR W-HAZ

	Anchor length	Fixture thickness for	Art. no.		Drill hole diameter	Drill hole depth for through installation	Installation torque	Wrench	Approval		P. Qty.	
Type	l [mm]	t _{fix} [mm]	Carbon steel galvanized	Stainless steel A4	d ₀ [mm]	h ₂ [mm]	T _{inst} [Nm]	SW [mm]	ETA-02/0031	Sesimic C1/C2	[qty.]	
W-HAZ-S hexagon head screw 												
M6	65	0	0905 210 001	-	10	65	15	-	10	✓	-	100
	75	10	0905 210 002	-		75				✓	-	50
	95	30	0905 210 003	-		95				✓	-	50
	115	50	0905 210 004	-		115				✓	-	50
M8	75	0	0905 212 001	5932 612 001	12	80	30	13	✓	C1+C2	50	
	85	10	0905 212 002	5932 612 002		90			✓	C1+C2	50	
	105	30	0905 212 003	5932 612 003		110			✓	C1+C2	50	
	125	50	0905 212 004	5932 612 004		130			✓	C1+C2	25	
M10	91	0	0905 215 001	5932 615 001	15	95	50	17	✓	C1+C2	25	
	106	15	0905 215 002	5932 615 002		110			✓	C1+C2	25	
	116	25	0905 215 003	5932 615 003		120			✓	C1+C2	25	
	136	45	0905 215 004	5932 615 004		140			✓	C1+C2	25	
	186	95	0905 215 005	5932 615 005		190			✓	C1+C2	25	
M12	107	0	0905 218 001	-	18	105	80	19	✓	C1+C2	20	
	108	0	-	5932 618 001		105	-		80	✓	C1+C2	20
	117	10	0905 218 002	-		115	80		-	✓	C1+C2	20
	118	10	-	5932 618 002		115	-		80	✓	C1+C2	20
	127	20	0905 218 003	-		125	80		-	✓	C1+C2	20
	128	20	-	5932 618 003		125	-		80	✓	C1+C2	20
	147	40	0905 218 004	-		145	80		-	✓	C1+C2	20
	148	40	-	5932 618 004		145	-		80	✓	C1+C2	20
	177	70	0905 218 005	-		175	80		-	✓	C1+C2	20
	178	70	-	5932 618 005		175	-		80	✓	C1+C2	20
M16	130	0	0905 224 001	5932 624 001	24	130	160	24	✓	C1+C2	10	
	150	20	0905 204 002	5932 624 002		150			170	✓	C1+C2	10
	180	50	0905 224 003	5932 624 003		180			✓	C1+C2	10	
M16L	150	0	0905 221 001	-	24	145	160	24	✓	C1+C2	10	
	180	30	0905 224 002	-		175			✓	C1+C2	10	
	200	50	0905 224 003	-		195			✓	C1+C2	10	
M20	172	10	0905 228 001	-	28	170	280	30	✓	C1+C2	10	
	192	30	0905 228 002	-		190			✓	C1+C2	10	
	222	60	0905 228 003	-		220			✓	C1+C2	5	
	262	100	0905 228 004	-		260			✓	C1+C2	5	



HIGH-PERFORMANCE ANCHOR W-HAZ

	Anchor length	Fixture thickness for	Art. no.		Drill hole diameter	Drill hole depth for through installation	Installation torque	for SK use hex bit	Approval		Countersunk head geometry	P. Qty.	
Type	l [mm]	t _{fix} [mm]	Carbon steel galvanized	Stainless steel A4	d _o [mm]	h ₂ [mm]	T _{inst} [Nm]	SW [mm]	ETA-02/0031	Sesimic C1/C2	t _{sk} [mm]	[qty.]	
W-HAZ-SK countersunk washer and countersunk screw 													
M6	70	10	0905 210 201	-	10	75	10	-	4	✓	-	16.5x4	50
	85	25	0905 210 202	-		90				✓	-		50
	100	40	0905 210 203	-		105				✓	-		50
M8	80	10	0905 212 201	5932 612 201	12	90	25	17.5	5	✓	C1+C2	20.5x5	50
	95	25	0905 212 202	5932 612 202		105				✓	C1+C2		50
	120	50	0905 212 203	5932 612 203		130				✓	C1+C2		25
M10	100	10	0905 215 201	5932 615 201	15	105	55	42.5	6	✓	C1+C2	24.5x6	25
	110	25	0905 215 202	5932 615 202		120				✓	C1+C2		25
	120	35	0905 215 203	5932 615 203		130				✓	C1+C2		25
	135	50	0905 215 204	5932 615 204		145				✓	C1+C2		25
M12	115	20	0905 218 203	5932 618 203	18	125	70	50	8	✓	C1+C2	29.5x7	20
	135	40	0905 218 204	5932 618 204		145				✓	C1+C2		20

