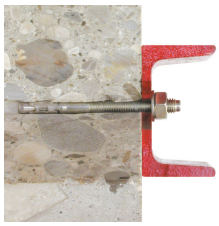
Technical data sheet

FM-753 CRACK A4

Stainless Steel Heavy Duty Wedge Anchor with Seismic Certification

Stainless steel wedge anchor for the medium load range in sizes M8 - M16 for anchoring in cracked and non-cracked concrete C20/25 - C50/60, as well as for seismic actions of the performance category C1/C2.



Features

Material

- Stainless steel A4

Benefits

- Dynamic and seismic loads
- Seismic performance C1 and C2
- Immediate expansion
- Increased thickness of three expander segments
- Nine gripping dents for greater adhesion to hole wall
- Fire resistance R120

Applications

Applications

- Structural fixings
- Steel constructions
- Seismic applications

Suitable for

- Cracked concrete
- Non-cracked concrete
- Solid stone

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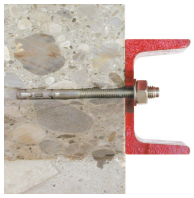
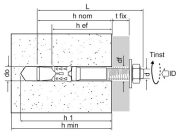
Technical Data





Product dimensions

References	Product Reference	Dimensions [mm]	Thread length	Fixture thickness [$t_{fix,max}$] with standard setting depth [$h_{ef,STD}$] [mm]	Fixture thickness [$t_{fix,max}$] with reduced setting depth [$h_{ef,RED}$] [mm]	Hole diameter in fixture [d_f] [mm]	Hole diameter [d_0] x depth [h_1] in substrate with standard setting depth [$h_{ef,STD}$] [mm]	Hole diameter [d_0] x depth [h_1] in substrate with reduced setting depth [$h_{ef,RED}$] [mm]	Min. setting depth [$h_{ef,STD}$] [mm]	Reduced setting depth [$h_{ef,RED}$] [mm]	Q p b
7535000806800	FM-753 CRACK A4	M8x68	30	4	18	9	8x70	8x56	48	34	1(
7535000807500	FM-753 CRACK A4	M8x75	30	10	24	9	8x70	8x56	48	34	1(
7535001009000	FM-753 CRACK A4	M10x90	40	10	30	12	10x80	10x60	60	40	5
7535001211000	FM-753 CRACK A4	M12x110	65	10	30	14	12x100	12x80	72	52	5
7535001212000	FM-753 CRACK A4	M12x120	65	20	40	14	12x100	12x80	72	52	5
7535001214500	FM-753 CRACK A4	M12x145	85	45	65	14	12x100	12x80	72	52	2

Technical data sheet

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Stainless Steel Heavy Duty Wedge Anchor with Seismic Certification

Recommended loads / Non-cracked concrete / for single anchors / with no edge distances or spacings

References	Product Reference	Dimensions [mm]	Recommended loads - Non-cracked concrete								
			Tension - N_{rec}				Shear - V_{rec}				Bending moment M_{rec} [Nm]
			C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	
7535000806800	FM-753 CRACK A4	M8x68	4.8	5.9	6.8	7.4	7.8	7.8	7.8	7.8	10.5
7535000807500	FM-753 CRACK A4	M8x75	4.8	5.9	6.8	7.4	7.8	7.8	7.8	7.8	10.5
7535001009000	FM-753 CRACK A4	M10x90	7.6	9.3	10.7	11.8	13.4	13.4	13.4	13.4	21.5
7535001211000	FM-753 CRACK A4	M12x110	10.5	12.8	14.8	16.3	17.3	17.3	17.3	17.3	37.4
7535001212000	FM-753 CRACK A4	M12x120	10.5	12.8	14.8	16.3	17.3	17.3	17.3	17.3	37.4
7535001214500	FM-753 CRACK A4	M12x145	10.5	12.8	14.8	16.3	17.3	17.3	17.3	17.3	37.4

1) In case of interaction of tension and shear loads (lever arm) as well as in case of anchor groups and/or edge influence, a design according to EN 1992-4 (seismic actions - Annex C / fire action
- Annex D) shall be carried out taking into account the entire European Technical Assessment ETA-10/0293.
2) The load data take into account the partial safety factors of the resistances given in the European Technical Assessment (ETA) and a partial safety factor of the actions
of $\gamma F = 1.4$. The values given assume unreinforced or normally reinforced concrete with a spacing of the reinforcing bars $s \geq 15$ cm or $s \geq 10$ cm at a
rebar diameter $ds \leq 10$ mm is assumed.

Technical data sheet

FM-753 CRACK A4

Stainless Steel Heavy Duty Wedge Anchor with Seismic Certification

Design capacities - single anchor - no edge distances - Uncracked concrete

References	Product Reference	Dimensions [mm]	Design capacity - Non-cracked concrete (3)								
			Tension - N_{Rd} (1)				Shear - V_{Rd} (1-2)				Bending moment MRd [Nm]
			C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	
7535000806800	FM-753 CRACK A4	M8x68	6.7	-	-	-	10.9	-	-	-	-
7535000807500	FM-753 CRACK A4	M8x75	6.7	-	-	-	10.9	-	-	-	-
7535001009000	FM-753 CRACK A4	M10x90	10.7	-	-	-	18.8	-	-	-	-
7535001211000	FM-753 CRACK A4	M12x110	14.7	-	-	-	24.2	-	-	-	-
7535001212000	FM-753 CRACK A4	M12x120	14.7	-	-	-	24.2	-	-	-	-
7535001214500	FM-753 CRACK A4	M12x145	14.7	-	-	-	24.2	-	-	-	-

1. The design loads loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s). The loading figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing s ≥ 15 cm (any diameter) or with a rebar spacing s ≥ 10 cm, if the rebar diameter is 10mm or smaller.
2. The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges (c ≤ max [10 hef; 60d]) the concrete edge failure shall be checked per ETAG 001, Annex C, design method A.
3. Concrete is considered non-cracked when the tensile stress within the concrete is\sigmaL +\sigmaR ≤ 0. In the absence of detailed verification\sigmaR = 3 N/mm² can be assumed (\sigmaL equals the tensile stress within the concrete induced by external loads, anchors loads included).

Technical data sheet

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Stainless Steel Heavy Duty Wedge Anchor with Seismic Certification

Recommended loads - Cracked concrete - single anchor - no edge distances

References	Product Reference	Dimensions [mm]	Recommended loads - Cracked concrete								
			Tension - N_{rec}				Shear - V_{rec}				Bending moment M_{rec} [Nm]
			C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	
7535000806800	FM-753 CRACK A4	M8x68	3.1	3.8	4.4	4.8	5.4	5.4	5.4	5.4	10.5
7535000807500	FM-753 CRACK A4	M8x75	3.1	3.8	4.4	4.8	5.4	5.4	5.4	5.4	10.5
7535001009000	FM-753 CRACK A4	M10x90	4.8	5.9	6.8	7.4	13.4	13.4	13.4	13.4	21.5
7535001211000	FM-753 CRACK A4	M12x110	6.2	7.6	8.7	9.6	17.3	17.3	17.3	17.3	37.4
7535001212000	FM-753 CRACK A4	M12x120	6.2	7.6	8.7	9.6	17.3	17.3	17.3	17.3	37.4
7535001214500	FM-753 CRACK A4	M12x145	6.2	7.6	8.7	9.6	17.3	17.3	17.3	17.3	37.4

1) In case of interaction of tension and shear loads (lever arm) as well as in case of anchor groups and/or edge influence, a design according to EN 1992-4 (seismic actions - Annex C / fire action
- Annex D) shall be carried out taking into account the entire European Technical Assessment ETA-10/0293.
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of γF = 1.4. The values given assume unreinforced or normally reinforced concrete with a spacing of the reinforcing bars s ≥ 15 cm or s ≥ 10 cm at a
rebar diameter ds ≤ 10 mm is assumed.

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Stainless Steel Heavy Duty Wedge Anchor with Seismic Certification

Design capacities - single anchor - no edge distances - Cracked concrete

References	Product Reference	Dimensions [mm]	Design capacities - single anchor - no edge distances								
			Design capacity - Cracked concrete (3)								
			Tension - N_{Rd} (1)				Shear - V_{Rd} (1-2)				Bending moment MRd [Nm]
			C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	
7535000806800	FM-753 CRACK A4	M8x68	4.3	-	-	-	7.6	-	-	-	-
7535000807500	FM-753 CRACK A4	M8x75	4.3	-	-	-	7.6	-	-	-	-
7535001009000	FM-753 CRACK A4	M10x90	6.7	-	-	-	18.8	-	-	-	-
7535001211000	FM-753 CRACK A4	M12x110	8.7	-	-	-	24.2	-	-	-	-
7535001212000	FM-753 CRACK A4	M12x120	8.7	-	-	-	24.2	-	-	-	-
7535001214500	FM-753 CRACK A4	M12x145	8.7	-	-	-	24.2	-	-	-	-

1. The design loads loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s). The loading figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing s ≥ 15 cm (any diameter) or with a rebar spacing s ≥ 10 cm, if the rebar diameter is 10mm or smaller.
2. The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges (c ≤ max [10 hef; 60d]) the concrete edge failure shall be checked per ETAG 001, Annex C, design method A.
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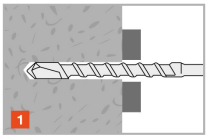
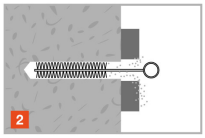
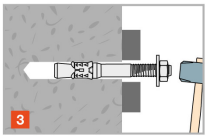
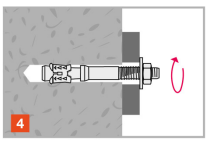
Installation









Installation data

References	Product Reference	Dimensions [mm]	Ø drilling hole [d0] [mm]	Min. drill depth [h1] [mm]	Ø drilling fixture [df] [mm]	Wrench size [SW] [mm]	Installation torque [Tinst] [Nm]	Embedment depth [hef] [mm]	Min. support thickness [hmin] [mm]
7535000806800	FM-753 CRACK A4	M8x68	8	70	9	13	20	48	100
7535000807500	FM-753 CRACK A4	M8x75	8	70	9	13	20	48	100
7535001009000	FM-753 CRACK A4	M10x90	10	80	12	17	40	60	120
7535001211000	FM-753 CRACK A4	M12x110	12	100	14	19	60	72	150
7535001212000	FM-753 CRACK A4	M12x120	12	100	14	19	60	72	150
7535001214500	FM-753 CRACK A4	M12x145	12	100	14	19	60	72	150

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Spacings and edge distances

References	Product Reference	Dimensions [mm]	Min. edge distance [cmin] [mm]	Min. spacing [smin] [mm]	Characteristic edge distance [ccr,N] [mm]	Characteristic spacing(5) - Scr,N [scr,N] [mm]
7535000806800	FM-753 CRACK A4	M8x68	50	50	72	144
7535000807500	FM-753 CRACK A4	M8x75	50	50	72	144
7535001009000	FM-753 CRACK A4	M10x90	50	55	90	180
7535001211000	FM-753 CRACK A4	M12x110	60	60	108	216
7535001212000	FM-753 CRACK A4	M12x120	60	60	108	216
7535001214500	FM-753 CRACK A4	M12x145	60	60	108	216

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