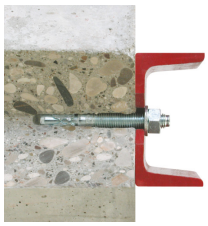
Technical data sheet

FM-753 3DG
Heavy Duty Wedge Anchor

Heavy-duty wedge anchor for the medium load range, in sizes M8 - M20 for anchoring in non-cracked concrete C20/25 - C50/60. With coating 3DG



Features

Material

- Steel
- Special anti-corrosion coating 3DG with matte finish

Benefits

- Wide range
- Easy installation
- Versatile
- Cold forged anchor body
- Increased thickness of three expander segments
- Six teeth and anti-slip ridge to prevent slip during tightening

Applications

Applications

- Railings
- Metal and wood carpentry
- Facades

Suitable for

- Non-cracked concrete
- Solid stone

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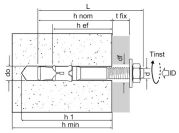
Technical Data

Product dimensions



References	Product Reference	NOBB nr. [NOBB nr.]	Dimensions [ØxL] [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_o] x depth [h_1] in substrate [mm]	Min. support thickness [hmin] [mm]	Min. setting depth [h_{ef}] [mm]	Installation torque [Tinst] [Nm]
75320C1007500	FM-753 3DG	60743072	M10x75	43	5	(20)	12	10x70	100	50	25
75320C1210000		-	M12x100	58	10	(25)	14	12x85	120	60	50
75320C1614500		60743076	M16x145	88	30	(50)	18	16x115	170	85	100

**Short series with reduced embedment depth*

Design capacities - single anchor - no edge distances

References	Dimensions [ØxL] [mm]	Product Reference	Design capacities - single anchor - no edge distances								
			Design capacity - Non-cracked concrete (3)								
			Tension - NRd (1)				Shear - VRd (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]	
75320C1007500	M10x75	FM-753 3DG	8	-	-	-	9.3	-	-	-	-
75320C1210000	M12x100	FM-753 3DG	15.2	-	-	-	13.4	-	-	-	-
75320C1614500	M16x145	FM-753 3DG	23.3	-	-	-	28.4	-	-	-	-

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).
*Short series with reduced embedment depth

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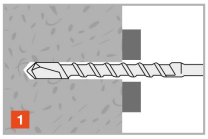
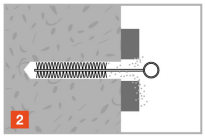
Recommended capacities - single anchor - no edge distances

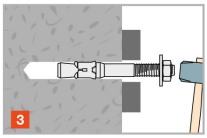
References	Product Reference	Dimensions [ØxL] [mm]	Recommended loads - Non-cracked concrete								
			Tension - N_{zul}				Shear - V_{zul}				Bending moment M_{zul} [Nm]
			C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	
75320C1007500	FM-753 3DG	M10x75	5.7	6.3	6.8	7.4	6.6	6.6	6.6	6.6	23.3
75320C1210000	FM-753 3DG	M12x100	11.2	12.3	13.4	14.6	9.6	9.6	9.6	9.6	34.3
75320C1614500	FM-753 3DG	M16x145	16.7	18.4	20	21.7	20.3	20.3	20.3	20.3	91.9

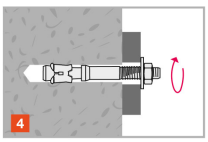
1) In case of interaction of tension and shear loads (lever arm) as well as in case of anchor groups and/or edge influence, a design according to ETAG 001, Annex C, Design Method A (Aug. 2010) or
CEN/TS 1992-4-4 shall be carried out taking into account the entire European Technical Assessment ETA-13/0367.
2) The load data take into account the partial safety factors of the resistances given in the European Technical Assessment ETA-13/0367 and a partial safety factor of the
The values given assume unreinforced or normally reinforced concrete with a spacing of the reinforcing bars s ≥ 15 cm or s ≥ 10 cm with a diameter of the reinforcing bars ds ≥ 15 cm.
rebar diameter ds ≤ 10 mm.

Installation









Spacing, and Edge Distances

References	Spacing and edge distances					
	Product Reference	Dimensions [ØxL] [mm]	Min. edge distance [cmin] [mm]	Min. spacing [smin] [mm]	Characteristic spacing(5) - Scr,N [scr,N] [mm]	Characteristic edge distance [ccr,N] [mm]
75320C1007500	FM-753 3DG	M10x75	55	55	150	75
75320C1210000	FM-753 3DG	M12x100	90	90	180	90
75320C1614500	FM-753 3DG	M16x145	130	130	255	130

* Not included in the approval

Installation data

References	Installation data								
	Product Reference	Dimensions [ØxL] [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]
75320C1007500	FM-753 3DG	M10x75	10	70	12	17	25	50	100
75320C1210000	FM-753 3DG	M12x100	12	85	14	19	50	60	120
75320C1614500	FM-753 3DG	M16x145	16	115	18	24	100	85	170

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