

FM-753 3DG

Ekspansjonsbolt, 3DG coating

Heavy duty ekspansjonsbolt for medium laster, i str. M6-M20 til montering i ikke-sprukket betong C20/25 – C50/60.

Egenskaper

Materiale

- Stål
- Spesielt korrosjonsbeskyttende belegg 3DG med matt finish
- Rustfritt stål A4-klips

Fordeler

- Bredt sortiment
- Enkel installasjon
- Alsidig anvendelse
- Kaldformet stål
- Økt tykkelse av ekspansjons segmenter
- Seks tenner samt antislipp kant gir kontrollert montering

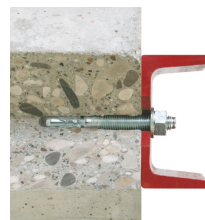
Anvendelse

Bruksområde

- Rekkverk
- Metall- og trearbeid
- Fasader

Egnet for

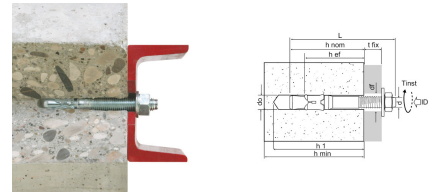
- Ikke-sprukket betong
- Stein



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Teknisk data

Product dimensions



Art. nr.	Product Reference	NOBB nr. [NOBB nr.]	Dimensions [ØxL] [mm]	Thread length	Festetykkelse [$t_{fix,max}$] med standard innfestedybde [$h_{ef,STD}$] [mm]	Feste tykkelse [$t_{fix,max}$] med redusert innstillingsdybde [$h_{ef,RED}$] [mm]	Hulldiameter i feste [d_f] [mm]	Hulldiameter [d_o] x dybde [h_1] i underlag [mm]	Min. support thickness [h_{min}] [mm]	ini
75320C0805000	FM-753 3DG	60743097	M8x50*	23	-	5	9	8x50	100	
75320C0806500		60743070	M8x65	38	7	(15)	9	8x60	100	
75320C0807500		60743098	M8x75	48	15	(25)	9	8x60	100	
75320C0809000		60743071	M8x90	63	30	(40)	9	8x60	100	
75320C0811500		60743099	M8x115	83	55	(65)	9	8x60	100	
75320C1006000		60743100	M10x60*	28	-	5	12	10x55	100	
75320C1007500		60743072	M10x75	43	5	(20)	12	10x70	100	
75320C1009000		60743073	M10x90	55	20	(35)	12	10x70	100	
75320C1010000		60743101	M10x100	60	30	(45)	12	10x70	100	
75320C1012000		60743102	M10x120	85	50	(65)	12	10x70	100	
75320C1014500		60743103	M10x145	85	75	(90)	12	10x70	100	
75320C1208000		60743104	M12x80*	40	-	7	14	12x70	100	
75320C1211000		60743074	M12x110	68	20	(35)	14	12x85	120	
75320C1213500		60743105	M12x135	93	45	(60)	14	12x85	120	
75320C1216000		60743106	M12x160	93	70	(85)	14	12x85	120	
75320C1218500		60743075	M12x185	93	100	(115)	14	12x85	120	
75320C1611000		60743107	M16x110*	53	-	15	18	16x95	130	
75320C1614500		60743076	M16x145	88	30	(50)	18	16x115	170	
75320C1617500		60743108	M16x175	88	60	(80)	18	16x115	170	

* Short series with reduced embedment depth

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Design capacities - single anchor - no edge distances

Art. nr.	Dimensions [ØxL] [mm]	Product Reference	Design capacities - single anchor - no edge distances								
			Designkapasitet – ikke-sprukket betong (3)								
			Spenning - NRd (1)				Skjær - VRd (1-2)				Bøyemoment 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]	
75320C0805000	M8x50*	FM-753 3DG	4	-	-	-	4.3	-	-	-	-
75320C0806500	M8x65	FM-753 3DG	8	-	-	-	5.4	-	-	-	-
75320C0807500	M8x75	FM-753 3DG	8	-	-	-	6.1	-	-	-	-
75320C0809000	M8x90	FM-753 3DG	8	-	-	-	6.1	-	-	-	-
75320C0811500	M8x115	FM-753 3DG	8	-	-	-	6.1	-	-	-	-
75320C1006000	M10x60*	FM-753 3DG	4	-	-	-	8.3	-	-	-	-
75320C1007500	M10x75	FM-753 3DG	8	-	-	-	9.3	-	-	-	-
75320C1009000	M10x90	FM-753 3DG	8	-	-	-	9.3	-	-	-	-
75320C1010000	M10x100	FM-753 3DG	8	-	-	-	9.3	-	-	-	-
75320C1012000	M10x120	FM-753 3DG	8	-	-	-	9.3	-	-	-	-
75320C1014500	M10x145	FM-753 3DG	8	-	-	-	9.3	-	-	-	-
75320C1208000	M12x80*	FM-753 3DG	8	-	-	-	9.9	-	-	-	-
75320C1211000	M12x110	FM-753 3DG	15.2	-	-	-	13.4	-	-	-	-
75320C1213500	M12x135	FM-753 3DG	15.2	-	-	-	13.4	-	-	-	-
75320C1216000	M12x160	FM-753 3DG	15.2	-	-	-	13.4	-	-	-	-
75320C1218500	M12x185	FM-753 3DG	15.2	-	-	-	13.4	-	-	-	-
75320C1611000	M16x110*	FM-753 3DG	17.2	-	-	-	28.4	-	-	-	-
75320C1614500	M16x145	FM-753 3DG	23.3	-	-	-	28.4	-	-	-	-
75320C1617500	M16x175	FM-753 3DG	23.3	-	-	-	28.4	-	-	-	-

1. The design 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 $s \geq 15$ cm (any diameter) or with a rebar spacing $s \geq 10$ 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 ($c \leq \max [10 \text{ hef}; 60d]$) 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 $\sigma_L + \sigma_R \leq 0$. In the absence of detailed verification $\sigma_R = 3 \text{ N/mm}^2$ can be assumed (σ_L equals the tensile stress within the concrete induced by external loads, anchors loads included).
- *Short series with reduced embedment depth

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Anbefalte kapasiteter – enkeltanker – ingen kantavstander

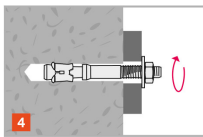
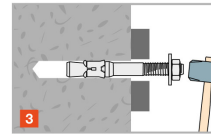
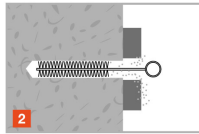
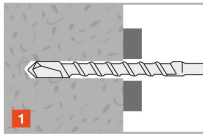
Art. nr.	Product Reference	Dimensions [ØxL] [mm]	Anbefalte belastninger – Ikke-sprukket betong								Bøyemoment M_{zul} [Nm]
			Spenning - N_{zul}				Skjær - V_{zul}				
			C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	C20/25 [kN]	C30/37 [kN]	C40/50 [kN]	C50/60 [kN]	
75320C0805000	FM-753 3DG	M8x50*	-	-	-	-	-	-	-	-	-
75320C0806500	FM-753 3DG	M8x65	5.7	6.1	6.5	6.8	4.4	4.4	4.4	4.4	11.4
75320C0807500	FM-753 3DG	M8x75	5.7	6.1	6.5	6.8	4.4	4.4	4.4	4.4	11.4
75320C0809000	FM-753 3DG	M8x90	5.7	6.1	6.5	6.8	4.4	4.4	4.4	4.4	11.4
75320C0811500	FM-753 3DG	M8x115	5.7	6.1	6.5	6.8	4.4	4.4	4.4	4.4	11.4
75320C1006000	FM-753 3DG	M10x60*	-	-	-	-	-	-	-	-	-
75320C1007500	FM-753 3DG	M10x75	5.7	6.3	6.8	7.4	6.6	6.6	6.6	6.6	23.3
75320C1009000	FM-753 3DG	M10x90	5.7	6.3	6.8	7.4	6.6	6.6	6.6	6.6	23.3
75320C1010000	FM-753 3DG	M10x100	5.7	6.3	6.8	7.4	6.6	6.6	6.6	6.6	23.3
75320C1012000	FM-753 3DG	M10x120	5.7	6.3	6.8	7.4	6.6	6.6	6.6	6.6	23.3
75320C1014500	FM-753 3DG	M10x145	5.7	6.3	6.8	7.4	6.6	6.6	6.6	6.6	23.3
75320C1208000	FM-753 3DG	M12x80*	-	-	-	-	-	-	-	-	-
75320C1211000	FM-753 3DG	M12x110	11.2	12.3	13.4	14.6	9.6	9.6	9.6	9.6	34.3
75320C1213500	FM-753 3DG	M12x135	11.2	12.3	13.4	14.6	9.6	9.6	9.6	9.6	34.3
75320C1216000	FM-753 3DG	M12x160	11.2	12.3	13.4	14.6	9.6	9.6	9.6	9.6	34.3
75320C1218500	FM-753 3DG	M12x185	11.2	12.3	13.4	14.6	9.6	9.6	9.6	9.6	34.3
75320C1611000	FM-753 3DG	M16x110*	-	-	-	-	-	-	-	-	-
75320C1614500	FM-753 3DG	M16x145	16.7	18.4	20	21.7	20.3	20.3	20.3	20.3	91.9
75320C1617500	FM-753 3DG	M16x175	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 $s \geq 15$ cm or $s \geq 10$ cm with a diameter of the reinforcing bars $d_s \geq 15$ cm.
rebar diameter $d_s \leq 10$ mm.

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Montering



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Avstand og kantavstand

Art. nr.	Avstand og kantavstand					
	Product Reference	Dimensions [ØxL] [mm]	Min. edge distance [cmin] [mm]	Min. spacing [smin] [mm]	Karakteristisk avstand (5) - Scr,N [scr,N] [mm]	Characteristic edge distance [ccr,N] [mm]
75320C0805000	FM-753 3DG	M8x50*	45	45	90	45
75320C0806500	FM-753 3DG	M8x65	55	55	120	60
75320C0807500	FM-753 3DG	M8x75	55	55	120	60
75320C0809000	FM-753 3DG	M8x90	55	55	120	60
75320C0811500	FM-753 3DG	M8x115	55	55	120	60
75320C1006000	FM-753 3DG	M10x60*	50	50	105	55
75320C1007500	FM-753 3DG	M10x75	55	55	150	75
75320C1009000	FM-753 3DG	M10x90	55	55	150	75
75320C1010000	FM-753 3DG	M10x100	55	55	150	75
75320C1012000	FM-753 3DG	M10x120	55	55	150	75
75320C1014500	FM-753 3DG	M10x145	55	55	150	75
75320C1208000	FM-753 3DG	M12x80*	80	120	135	80
75320C1211000	FM-753 3DG	M12x110	90	90	180	90
75320C1213500	FM-753 3DG	M12x135	90	90	180	90
75320C1216000	FM-753 3DG	M12x160	90	90	180	90
75320C1218500	FM-753 3DG	M12x185	90	90	180	90
75320C1611000	FM-753 3DG	M16x110*	100	140	195	100
75320C1614500	FM-753 3DG	M16x145	130	130	255	130
75320C1617500	FM-753 3DG	M16x175	130	130	255	130

* Not included in the approval

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Installation data

Art. nr.	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]
75320C0805000	FM-753 3DG	M8x50*	8	50	9	13	15	30	100
75320C0806500	FM-753 3DG	M8x65	8	60	9	13	15	40	100
75320C0807500	FM-753 3DG	M8x75	8	60	9	13	15	40	100
75320C0809000	FM-753 3DG	M8x90	8	60	9	13	15	40	100
75320C0811500	FM-753 3DG	M8x115	8	60	9	13	15	40	100
75320C1006000	FM-753 3DG	M10x60*	10	55	12	17	25	35	100
75320C1007500	FM-753 3DG	M10x75	10	70	12	17	25	50	100
75320C1009000	FM-753 3DG	M10x90	10	70	12	17	25	50	100
75320C1010000	FM-753 3DG	M10x100	10	70	12	17	25	50	100
75320C1012000	FM-753 3DG	M10x120	10	70	12	17	25	50	100
75320C1014500	FM-753 3DG	M10x145	10	70	12	17	25	50	100
75320C1208000	FM-753 3DG	M12x80*	12	70	14	19	50	45	100
75320C1211000	FM-753 3DG	M12x110	12	85	14	19	50	60	120
75320C1213500	FM-753 3DG	M12x135	12	85	14	19	50	60	120
75320C1216000	FM-753 3DG	M12x160	12	85	14	19	50	60	120
75320C1218500	FM-753 3DG	M12x185	12	85	14	19	50	60	120
75320C1611000	FM-753 3DG	M16x110*	16	95	18	24	100	65	130
75320C1614500	FM-753 3DG	M16x145	16	115	18	24	100	85	170
75320C1617500	FM-753 3DG	M16x175	16	115	18	24	100	85	170

