



...eine starke Verbindung

ДЕКЛАРАЦИЯ ЗА ЕКСПЛОАТАЦИОННИ ПОКАЗАТЕЛИ

DoP № MKT-1.1-800_bg

- ✧ Уникален идентификационен код на типа продукт: **Болтова котва BL / BS**
- ✧ Предвидена употреба/употреби: **Механичен дюбел за използване в бетон, виж приложение Б /Annex B**
- ✧ Производител: **MKT Metall-Kunststoff-Technik GmbH & Co.KG
Auf dem Immel 2
67685 Weilerbach**
- ✧ Система или системи за оценяване и проверка на постоянството на експлоатационните показатели: **1**
- ✧ Европейски документ за оценяване: **EAD 330232-00-0601**
Европейска техническа оценка: **ETA-19/0041, 13.09.2019**
Орган за техническа оценка: **DIBt, Berlin**
отифициран орган/органи: **NB 2873 – Technische Universität Darmstadt**

✧ Декларирани експлоатационни показатели:

Съществени характеристики	Експлоатационни показатели
Механично съпротивление и устойчивост (BWR 1)	
характерна якост на опън (статична и квази-статична)	виж приложение / Annex C1
характерна напречна товароносимост (статична и квази-статична)	виж приложение / Annex C2
Характерни съпротивления за категориите на сеизмични показатели C1 + C2	Производителността не е оценена
Изместване	виж приложение / Annex C3
трайност	виж приложение / Annex B1
Безопасност в случай на пожар (BWR 2)	
на поведение при пожар	клас A1
пожароустойчивост	Производителността не е оценена

експлоатационните показатели на продукта, посочени по-горе, са в съответствие с декларираните експлоатационни показатели. Настоящата декларация за експлоатационни показатели се издава в съответствие с Регламент (EU) № 305/2011, като отговорността за нея се носи изцяло от посочения по-горе производител.

Подписано за и от името на производителя от:


Stefan Weustenhagen
(Управител)

Weilerbach, 01.01.2021

р.р. 
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Оригиналът на тази декларация за експлоатационни показатели е на немски език. В случай на отклонения в превода, немската версия е валидна.

Specifications of intended use

Wedge anchor	BL				BS			
	M8	M10	M12	M16	M8	M10	M12	M16
Static or quasi-static action		✓				✓		
Uncracked concrete		✓				✓		
Standard anchorage depth		✓				-		
Reduced anchorage depth		✓				✓		

Base materials:

- Compacted, reinforced or unreinforced normal weight concrete (without fibers) according to EN 206:2013 + A1:2016
- Strength classes C20/25 to C50/60 according to EN 206:2013 + A1:2016

Use conditions (Environmental conditions):

- Structures subject to dry internal conditions

Design:

- Fastenings are designed under the responsibility of an engineer experienced in anchorages and concrete work.
- Verifiable calculation notes and drawings are prepared taking account of the loads to be anchored. The position of the anchor is indicated on the design drawings (e.g. position of the anchor relative to reinforcement or to supports, etc.).
- Design according to EN 1992-4:2018 and Technical Report TR 055

Installation:

- Drilling by hammer drill bit or vacuum drill bit
- For anchorages with embedment depth $h_{ef} < 40\text{mm}$, the use is restricted to anchorages of statically indeterminate non-structural systems

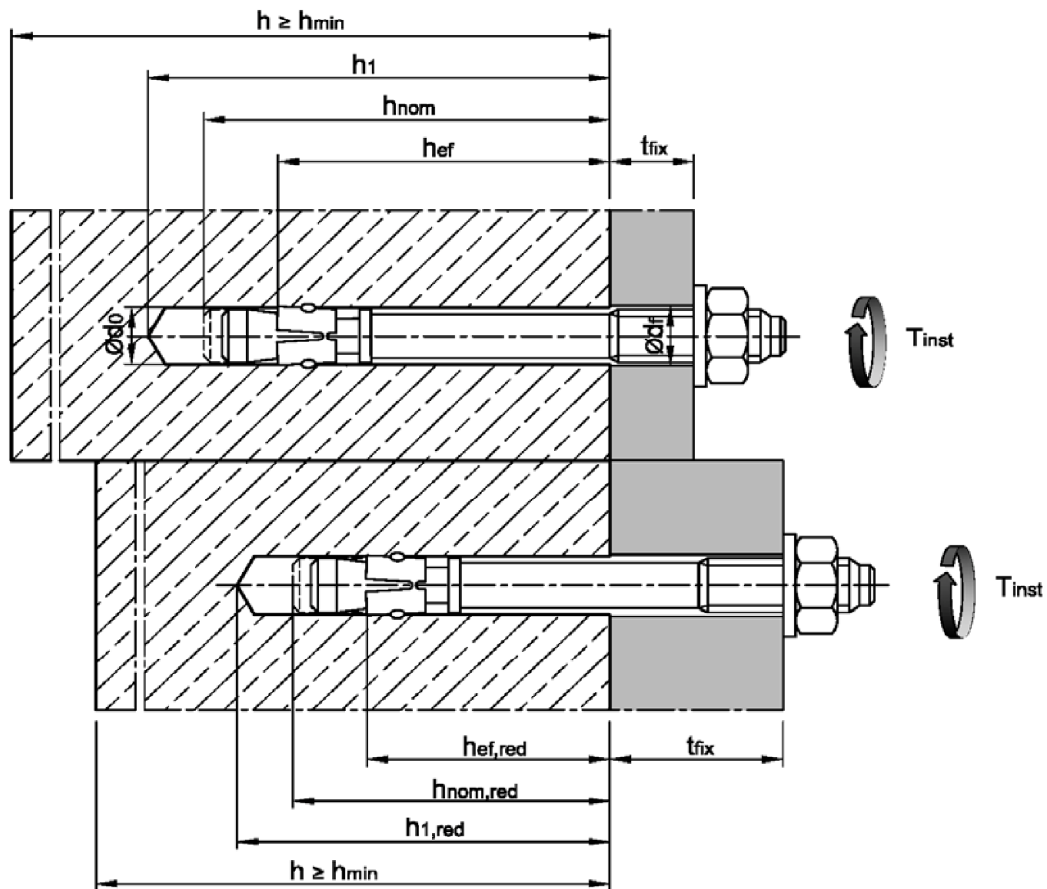
Wedge Anchor BL / BS

Intended use
Specifications

Annex B1

Table B1: Installation parameters

Fastener size		M8	M10	M12	M16
Nominal drill hole diameter	$d_0 =$ [mm]	8	10	12	16
Cutting diameter of drill bit	$d_{cut} \leq$ [mm]	8,45	10,45	12,50	16,50
Diameter of clearance hole in the fixture	$d_f \leq$ [mm]	9	12	14	18
Installation torque	$T_{inst} =$ [Nm]	15	30	50	100
Standard anchorage depth					
Effective anchorage depth	$h_{ef} \geq$ [mm]	44	48	65	82
Depth of drill hole	$h_1 \geq$ [mm]	65	70	90	110
Embedment depth	$h_{nom} \geq$ [mm]	56	62	82	102
Reduced anchorage depth					
Effective anchorage depth	$h_{ef,red} \geq$ [mm]	30	40	50	65
Depth of drill hole	$h_{1,red} \geq$ [mm]	50	60	75	95
Embedment depth	$h_{nom,red} \geq$ [mm]	42	54	67	85



Wedge Anchor BL / BS

Intended use
Installation data

Annex B2

Table B2: Minimum spacing and edge distances

Fastener size			M8	M10	M12	M16
Minimum member thickness	h_{min}	[mm]	100	100	130	170
Minimum spacing	s_{min}	[mm]	40	55	75	90
Minimum edge distance	c_{min}	[mm]	45	65	90	105

Installation instructions

1		Drill hole perpendicular to concrete surface by hammer drill bit or vacuum drill bit. If using a vacuum drill bit, proceed with step 3.
2		Blow out dust. Alternatively vacuum clean down to the bottom of the hole.
3		Check position of nut.
4		Drive in anchor, such that h_{ef} or $h_{ef,red}$ is met.
5		Apply installation torque T_{inst} as specified in Table B1.

Wedge Anchor BL / BS

Intended use
Minimum spacing and edge distances, Installation instructions

Annex B3

Table C1: Characteristic values for tension loads

Fastener size			M8	M10	M12	M16
Installation factor	γ_{inst}	[-]	1,0			
Steel failure						
Characteristic resistance	$N_{Rk,s}$	[kN]	18,1	30,4	41,6	84,0
Partial factor	γ_{Ms}	[-]	1,5			
Pull-out						
Characteristic resistance in uncracked concrete C20/25 (Standard anchorage depth)	$N_{Rk,p}$	[kN]	12	14	32	38
Characteristic resistance in uncracked concrete C20/25 (Reduced anchorage depth)	$N_{Rk,p}$	[kN]	7,5	10	19	26
Increasing factor for $N_{Rk,p}$	ψ_C	[-]	$\left(\frac{f_{ck}}{20}\right)^{0,5}$			
Splitting						
Characteristic resistance in uncracked concrete C20/25	$N^0_{Rk,sp}$	[kN]	min [$N_{Rk,p}$; $N^0_{Rk,c}$]			
Spacing	$s_{cr,sp}$	[mm]	3 h_{ef}			
Edge distance	$c_{cr,sp}$	[mm]	1,5 h_{ef}			
Concrete cone failure						
Effective anchorage depth (Standard anchorage depth)	$h_{ef} \geq$	[mm]	44	48	65	82
Effective anchorage depth (Reduced anchorage depth)	$h_{ef,red} \geq$	[mm]	30 ¹⁾	40	50	65
Spacing	$s_{cr,N}$	[mm]	3 h_{ef}			
Edge distance	$c_{cr,N}$	[mm]	1,5 h_{ef}			
Factor for k_1	$k_{ucr,N}$	[-]	11,0			

¹⁾ Use restricted to dry internal exposure and statically indeterminate structural components, when in case of failure the load may be distributed to other fasteners.

Wedge Anchor BL / BS

Performance
Characteristic values for **tension loads**

Annex C1

Table C2: Characteristic values for shear loads

Fastener size			M8	M10	M12	M16
Installation factor	γ_{inst}	[-]	1,0			
Steel failure without lever arm						
Characteristic shear resistance	$V_{RK,s}^0$	[kN]	10,3	16,2	23,6	44,0
Partial factor	γ_{Ms}	[-]	1,25			
Ductility factor	k_7	[-]	1,0			
Steel failure with lever arm						
Characteristic bending resistance	$M_{RK,s}^0$	[Nm]	21	42	73	186
Partial factor	γ_{Ms}	[-]	1,25			
Concrete pry-out failure						
Pry-out factor for h_{ef} (Standard anchorage depth)	k_8	[-]	1,0	1,0	2,0	2,0
Pry-out factor for $h_{ef,red}$ (Reduced anchorage depth)	k_8	[-]	1,0	1,0	1,0	2,0
Concrete edge failure						
Effective length of fastener in shear loading for h_{ef} (Standard anchorage depth)	l_f	[mm]	44	48	65	82
Effective length of fastener in shear loading for $h_{ef,red}$ (Reduced anchorage depth)	$l_{f,red}$	[mm]	30 ¹⁾	40	50	65
Outside diameter of fastener	d_{nom}	[mm]	8	10	12	16

¹⁾ Use restricted to dry internal exposure and statically indeterminate structural components, when in case of failure the load may be distributed to other fasteners.

Wedge Anchor BL / BS

Performance
Characteristic values for **shear loads**

Annex C2

Table C3: Displacements under tension load

Fastener size			M8	M10	M12	M16
Tension load	N	[kN]	5,71	6,67	12,29	17,38
Displacement	δ_{N0}	[mm]	0,32	0,18	0,64	1,81
	$\delta_{N\infty}$	[mm]	3,65			

Table C4: Displacements under shear load

Fastener size			M8	M10	M12	M16
Shear load	V	[kN]	5,86	9,28	13,49	25,12
Displacement	δ_{V0}	[mm]	1,70	1,02	1,75	1,93
	$\delta_{V\infty}$	[mm]	2,55	1,53	2,63	2,90

Wedge Anchor BL / BSPerformance
Displacements**Annex C3**