

IZJAVA O LASTNOSTIH  
DoP Nr. MKT-211 - sl

1. Enotna identifikacijska oznaka tipa proizvoda: **MKT Bolzenanker B**
2. Tip, serijska ali zaporedna številka ali kateri koli drug element, na podlagi katerega je mogoče prepoznati gradbene proizvode, v skladu s členom 11(4):

**ETA-01/0013, dodatek A2, A3**  
**Serijska številka je odtisnjena na nalepki ali embalaži**

3. Predvidena uporaba ali predvidene vrste uporabe gradbenega proizvoda v skladu z veljavno harmonizirano tehnično specifikacijo, kot jih predvideva proizvajalec:

<b>generični tip</b>	Navor nadzoruje širitev sidra (tip vijak)
<b>za uporabo v</b>	Beton z razpokami C20/25 - C50/60 (EN 206)
<b>opcija / kategorija</b>	7
<b>obremenitev</b>	Statično in skoraj statično
<b>material</b>	<u>pocinkano jeklo:</u> samo pod pogoji suhe notranjosti velikosti: M6, M8, M10, M12, M16, M20 <u>vroče cinkano jeklo</u> samo pod pogoji suhe notranjosti velikosti: M8, M10, M12, M16, M20 <u>nerjaveče jeklo (oznaka A4):</u> notranja in zunanja uporaba brez posebnih agresivnih pogojev velikosti: M6, M8, M10, M12, M16, M20 <u>zelo korozijsko odporno jeklo (oznaka HCR)</u> notranja in zunanja uporaba pod agresivnimi pogoji velikosti: M6, M8, M10, M12, M16, M20
<b>temperaturno območje</b>	--

4. Ime, registrirano trgovsko ime ali registrirana blagovna znamka in naslov proizvajalca v skladu s členom 11(5):

**MKT Metall-Kunststoff-Technik GmbH & Co. KG**  
**Auf dem Immel 2**  
**D - 67685 Weilerbach**

5. Po potrebi ime ali naslov pooblaščenega zastopnika, katerega pooblastilo zajema naloge, opredeljene v členu 12(2):  
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6. Sistem ali sistemi ocenjevanja in preverjanja nespremenljivosti lastnosti gradbenega proizvoda, kot je določeno v Prilogi V: **sistem 1**
7. Za izjavo o lastnostih glede gradbenega proizvoda, za katerega velja harmoniziran standard:  
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8. Za izjavo o lastnostih glede gradbenega proizvoda, za katerega je bila izdana evropska tehnična ocena:

**Deutsches Institut für Bautechnik, Berlin**

izdal:

**ETA-01/0013**

na podlagi

**ETAG 001-2**

Prijavljeni proizvod certifikacijski organ 1343-CPR je treba uvesti v sistem 1:

- i) določitve tipa proizvoda na podlagi preskušanja tipa (vključno z vzorčenjem), izračuna tipa, vrednosti iz preglednice ali opisne dokumentacije proizvoda;
- ii) začetnega pregleda proizvodnega obrata in tovarniške kontrole proizvodnje;
- iii) stalnega nadzora, ocenjevanja in vrednotenja tovarniške kontrole proizvodnje.

in izdal: Potrdilo o nespremenljivosti lastnosti 1343-CPR-M 550-3

9. Navedena lastnost:

Bistvene značilnosti	Metoda ocenjevanja	Lastnost		Harmonizirane tehnične specifikacije
		pocinkana	A4 / HCR	
karakteristična únosnost' v řahu	ETAG 001, dodatek C CEN/TS 1992-4	dodatek C1	dodatek C2	ETAG 001
karakteristična únosnost' v řmyku	ETAG 001, dodatek C CEN/TS 1992-4	dodatek C3	dodatek C3	
odstopanja v dovoljenih mejah uporabnosti	ETAG 001, dodatek C CEN/TS 1992-4	dodatek C4	dodatek C4	

Zahteve, ki jih izpolnjuje produkt, kadar se je v skladu s členoma 37 in 38 uporabila specifična tehnična dokumentacija: --

10. Lastnosti proizvoda, navedenega v točki 1 in 2, so v skladu z navedenimi lastnostmi iz točke 9.

Za izdajo te izjave o lastnostih je odgovoren izključno proizvajalec, naveden v točki 4:

Podpisal za in v imenu proizvajalca:



**Lore Weustenhagen**

(Vodja)

**Weilerbach, 30.01.2015**

i.V.   
**Dipl.-Ing. Detlef Bigalke**  
(Vodja razvoja izdelkov)



**Table C1: Characteristic values for tension loads, steel zinc plated**

Anchor size			M6	M8	M10	M12	M16	M20
Installation safety factor	$\gamma_2 = \gamma_{inst}$	[-]	1,0					
<b>Steel failure</b>								
Characteristic resistance	$N_{Rk,s}$	[kN]	8,7	15,3	26	35	65	107
Partial safety factor	$\gamma_{Ms}$	[-]	1,5				1,6	
<b>Pull-out</b>								
<b>Standard anchorage depth <math>h_{ef}</math></b>								
Characteristic resistance in non-cracked concrete C20/25	$N_{Rk,p}$	[kN]	9	12	16	1)	1)	1)
<b>Reduced anchorage depth <math>h_{ef,red}</math></b>								
Characteristic resistance in non-cracked concrete C20/25	$N_{Rk,p}$	[kN]	6 <sup>2)</sup>	1)2)	1)	1)	1)	1)
Increasing factor for $N_{Rk,p}$	$\psi_C$	[-]	$\left(\frac{f_{ck,cube}}{25}\right)^{0,5}$					
<b>Splitting</b>								
<b>Standard anchorage depth <math>h_{ef}</math></b>								
Spacing	$S_{cr,sp}$	[mm]	160	220	240	330	410	500
Edge distance	$C_{cr,sp}$	[mm]	80	110	120	165	205	250
<b>Reduced anchorage depth <math>h_{ef,red}</math></b>								
Spacing	$S_{cr,sp}$	[mm]	180	210	230	240	320	400
Edge distance	$C_{cr,sp}$	[mm]	90	105	115	120	160	200
<b>Concrete cone failure</b>								
<b>Standard anchorage depth <math>h_{ef}</math></b>								
Effective anchorage depth	$h_{ef} \geq$	[mm]	40	44	48	65	82	100
Spacing	$S_{cr,N}$	[mm]	3 $h_{ef}$					
Edge distance	$C_{cr,N}$	[mm]	1,5 $h_{ef}$					
<b>Reduced anchorage depth <math>h_{ef,red}</math></b>								
Effective anchorage depth	$h_{ef,red} \geq$	[mm]	30 <sup>2)</sup>	35 <sup>2)</sup>	42	50	64	78
Spacing	$S_{cr,N}$	[mm]	3 $h_{ef,red}$					
Edge distance	$C_{cr,N}$	[mm]	1,5 $h_{ef,red}$					
Factor according to CEN/TS 1992-4	$k_{ucr}$	[-]	10,1					

<sup>1)</sup> Pullout failure is not decisive

<sup>2)</sup> Use restricted to anchorages of indeterminate structural components

**Wedge Anchor B**

**Performance**  
Characteristic values for tension loads, steel zinc plated

**Annex C1**

**Table C2: Characteristic values for tension loads, stainless steel A4/HCR**

Anchor size			M6	M8	M10	M12	M16	M20	
Installation safety factor	$\gamma_2 = \gamma_{inst}$	[-]	1,0						
<b>Steel failure</b>									
Characteristic resistance	$N_{RK,s}$	[kN]	10	18	30	44	88	134	
Partial safety factor	$\gamma_{Ms}$	[-]	1,50						1,68
<b>Pull-out</b>									
<b>Standard anchorage depth <math>h_{ef}</math></b>									
Characteristic resistance in non-cracked concrete C20/25	$N_{RK,p}$	[kN]	7,5	12	16	25	1)	1)	
<b>Reduced anchorage depth <math>h_{ef,red}</math></b>									
Characteristic resistance in non-cracked concrete C20/25	$N_{RK,p}$	[kN]	6 <sup>2)</sup>	9 <sup>2)</sup>	12	1)	1)	1)	
<b>Splitting</b> For the proof against splitting $N^0_{RK,c}$ has to be replaced by $N^0_{RK,sp}$ .									
<b>Standard anchorage depth <math>h_{ef}</math></b>									
The higher one of the decisive resistances of Case 1 and Case 2 is applicable.									
<b>Case 1</b>									
Characteristic resistance in non-cracked concrete C20/25	$N^0_{RK,sp}$	[kN]	6	9	12	20	30	40	
Spacing	$S_{cr,sp}$	[mm]	3 $h_{ef}$						
Edge distance	$C_{cr,sp}$	[mm]	1,5 $h_{ef}$						
<b>Case 2</b>									
Characteristic resistance in non-cracked concrete C20/25	$N^0_{RK,sp}$	[kN]	7,5	12	16	25	1)	1)	
Spacing	$S_{cr,sp}$	[mm]	160	220	240	340	410	560	
Edge distance	$C_{cr,sp}$	[mm]	80	110	120	170	205	280	
<b>Reduced anchorage depth <math>h_{ef,red}</math></b>									
Characteristic resistance in non-cracked concrete C20/25	$N^0_{RK,sp}$	[kN]	6 <sup>2)</sup>	9 <sup>2)</sup>	12	1)	1)	1)	
Spacing	$S_{cr,sp}$	[mm]	180	210	230	300	320	400	
Edge distance	$C_{cr,sp}$	[mm]	90	105	115	150	160	200	
Increasing factor for $N_{RK,p}$ and $N^0_{RK,sp}$	$\psi_C$	[-]	$\left(\frac{f_{ck,cube}}{25}\right)^{0,5}$						
<b>Concrete cone failure</b>									
<b>Standard anchorage depth</b>									
Effective anchorage depth	$h_{ef}$	[mm]	40	44	48	65	80	100	
Spacing	$S_{cr,N}$	[mm]	3 $h_{ef}$						
Edge distance	$C_{cr,N}$	[mm]	1,5 $h_{ef}$						
<b>Reduced anchorage depth</b>									
Effective anchorage depth	$h_{ef,red}$	[mm]	30 <sup>2)</sup>	35 <sup>2)</sup>	42	50	64	78	
Spacing	$S_{cr,N}$	[mm]	3 $h_{ef}$						
Edge distance	$C_{cr,N}$	[mm]	1,5 $h_{ef}$						
Factor according to CEN/TS 1992-4	$K_{ucr}$	[-]	10,1						

<sup>1)</sup> Pullout failure is not decisive.

<sup>2)</sup> Use restricted to anchorages of indeterminate structural components.

**Wedge Anchor B**

**Performance**  
Characteristic values for **tension loads, stainless steel A4/HCR**

**Annex C2**

**Table C3: Characteristic values for shear loads, steel zinc plated**

Anchor size			M6	M8	M10	M12	M16	M20
Installation safety factor	$\gamma_2 = \gamma_{inst}$	[-]	1,0					
<b>Steel failure without lever arm</b>								
Characteristic shear resistance	$V_{Rk,s}$	[kN]	5	11	17	25	44	69
Factor for ductility	$k_2$	[-]	1,0					
<b>Steel failure with lever arm</b>								
Characteristic resistance	$M^0_{Rk,s}$	[Nm]	9	23	45	78	186	363
Partial safety factor for $V_{Rk,s}$ and $M^0_{Rk,s}$	$\gamma_{Ms}$	[-]	1,25				1,33	
<b>Concrete pry-out failure</b>								
Factor k acc. ETAG 001, Annex C or $k_3$ acc. CEN/TS 1992-4 for $h_{ef}$	$k_{(3)}$	[-]	1,0	1,0	1,0	2,0	2,0	2,0
Factor k acc. ETAG 001, Annex C or $k_3$ acc. CEN/TS 1992-4 for $h_{ef,red}$	$k_{(3)}$	[-]	1,0 <sup>1)</sup>	1,0 <sup>1)</sup>	1,0	1,0	2,0	2,0
<b>Concrete edge failure</b>								
Effective length of anchor in shear loading for $h_{ef}$	$l_f$	[mm]	40	44	48	65	82	100
Effective length of anchor in shear loading for $h_{ef,red}$	$l_{f,red}$	[mm]	30 <sup>1)</sup>	35 <sup>1)</sup>	42	50	64	78
Outside diameter of anchor	$d_{nom}$	[mm]	6	8	10	12	16	20

<sup>1)</sup> Use restricted to anchorages of indeterminate structural components

**Table C4: Characteristic values for shear loads, stainless steel A4/HCR**

Anchor Size			M6	M8	M10	M12	M16	M20
Installation safety factor	$\gamma_2 = \gamma_{inst}$	[-]	1,0					
<b>Steel failure without lever arm</b>								
Characteristic shear resistance	$V_{Rk,s}$	[kN]	7	12	19	27	50	86
Factor for ductility	$k_2$	[-]	1,0					
<b>Steel failure with lever arm</b>								
Characteristic bending moment	$M^0_{Rk,s}$	[Nm]	10	24	49	85	199	454
Partial safety factor for $V_{Rk,s}$ and $M^0_{Rk,s}$	$\gamma_{Ms}$	[-]	1,25				1,4	
<b>Concrete pry-out failure</b>								
Factor k acc. ETAG 001, Annex C or $k_3$ acc. CEN/TS 1992-4 for $h_{ef}$	$k_{(3)}$	[-]	1,0	1,0	1,0	2,0	2,0	2,0
Factor k acc. ETAG 001, Annex C or $k_3$ acc. CEN/TS 1992-4 for $h_{ef,red}$	$k_{(3)}$	[-]	1,0 <sup>1)</sup>	1,0 <sup>1)</sup>	1,0	1,0	2,0	2,0
<b>Concrete edge failure</b>								
Effective length of anchor in shear loading with $h_{ef}$	$l_f$	[mm]	40	44	48	65	80	100
Effective length of anchor in shear loading with $h_{ef,red}$	$l_{f,red}$	[mm]	30 <sup>1)</sup>	35 <sup>1)</sup>	42	50	64	78
Outside diameter of anchor	$d_{nom}$	[mm]	6	8	10	12	16	20

<sup>1)</sup> Use restricted to anchorages of indeterminate structural components

**Wedge Anchor B**

**Performance**  
Characteristic values for **shear loads**

**Annex C3**

**Table C5: Displacements under tension loads, steel zinc plated**

Anchor size			M6	M8	M10	M12	M16	M20
<b>Standard anchorage depth</b>								
Tension load	N	[kN]	4,3	5,8	7,6	11,9	16,7	23,8
Displacement	$\delta_{N0}$	[mm]	0,4	0,5				
	$\delta_{N\infty}$	[mm]	0,7	2,3				
<b>Reduced anchorage depth</b>								
Tension load	N	[kN]	2,9	5,0	6,5	8,5	12,3	16,6
Displacement	$\delta_{N0}$	[mm]	0,3	0,4				
	$\delta_{N\infty}$	[mm]	0,6	1,8				

**Table C6: Displacements under tension loads, stainless steel A4/HCR**

Anchor size			M6	M8	M10	M12	M16	M20
<b>Standard anchorage depth</b>								
Tension load	N	[kN]	3,6	5,7	7,6	11,9	17,2	24,0
Displacement	$\delta_{N0}$	[mm]	0,7	0,9	0,5	0,6	0,9	2,1
	$\delta_{N\infty}$	[mm]	1,8					4,2
<b>Reduced anchorage depth</b>								
Tension load	N	[kN]	2,9	4,3	5,7	8,5	12,3	16,6
Displacement	$\delta_{N0}$	[mm]	0,4	0,7	0,4	0,4	0,6	1,5
	$\delta_{N\infty}$	[mm]	1,3					2,9

**Table C7: Displacements under shear loads, steel zinc plated**

Anchor size			M6	M8	M10	M12	M16	M20
Shear load	V	[kN]	2,9	6,3	9,7	14,3	23,6	37,0
Displacement	$\delta_{V0}$	[mm]	1,2	1,5	1,6	2,6	3,1	4,4
	$\delta_{V\infty}$	[mm]	2,4	2,2	2,4	3,9	4,6	6,6

**Table C8: Displacements under shear loads, stainless steel A4/HCR**

Anchor Size			M6	M8	M10	M12	M16	M20
Shear load	V	[kN]	4,0	6,9	10,9	15,4	28,6	43,7
Displacement	$\delta_{V0}$	[mm]	1,1	2,0	1,2	2,0	2,2	2,1
	$\delta_{V\infty}$	[mm]	1,7	3,0	1,8	3,0	3,3	3,2

**Wedge Anchor B**

Performance  
Displacements

**Annex C4**