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DEKLARACJA WŁAŚCIWOŚCI UŻYTKOWYCH

DoP nr: **MKT-161 - pl**


- ✧ **Niepowtarzalny kod identyfikacyjny typu wyrobu:** **Kotwa do dużych obciążeń SLZ**
- ✧ **Zamierzone zastosowanie lub zastosowania:** Kołki rozporowe sterowane siłą (stal ocynkowana) w rozmiarze 14 / M10 do zakotwiczenia w betonie, patrz załącznik B /Annex B
- ✧ **Producent:** MKT Metall-Kunststoff-Technik GmbH & Co.KG
Auf dem Immel 2
67685 Weilerbach
- ✧ **System lub systemy oceny i weryfikacji stałości właściwości użytkowych:** 1
- ✧ **Europejski dokument oceny:** **EAD 330232-00-0601**
Europejska ocena techniczna: **ETA-09/0342, 01.03.2018**
Jednostka ds. oceny technicznej: DIBt, Berlin
Jednostka lub jednostki notyfikowane: NB 1343 – MPA, Darmstadt

✧ **Deklarowane właściwości użytkowe:**

Zasadnicze charakterystyki	Właściwości użytkowe
Nośność i stateczność (BWR 1)	
Odporności charakterystyczne (efekty statyczne i quasi-statyczne), Przesunięcia	Załącznik / Annex C1 – C2
Bezpieczeństwo pożarowe (BWR 2)	
Zachowanie ogień	Klasa A1
Odporność ogniowa	Załącznik / Annex C3

Właściwości użytkowe określonego powyżej wyrobu są zgodne z zestawem deklarowanych właściwości użytkowych. Niniejsza deklaracja właściwości użytkowych wydana zostaje zgodnie z rozporządzeniem (EU) nr 305/2011 na wyłączną odpowiedzialność producenta określonego powyżej.

W imieniu producenta podpisał(-a):


Stefan Weustenhagen
 (Kierownik)
Weilerbach, 01.03.2018

p.p. 
Dipl.-Ing. Detlef Bigalke
 (Kierownik Rozwoju Produktu)



Oryginał tej deklaracji właściwości użytkowych został sporządzony w języku niemieckim. W przypadku odchyień w tłumaczeniu obowiązuje wersja niemiecka.

Specifications of intended use

Anchorage subject to:

- Static or quasi-static action
- fire exposure

Base materials:

- Reinforced or unreinforced normal weight concrete according to EN 206-1:2000
- Strength classes C20/25 to C50/60 according to EN 206-1:2000
- Cracked and uncracked concrete

Use conditions (Environmental conditions):

- Structures subject to dry internal conditions (zinc plated steel).

Design:

- Anchorages 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.).
- Anchorages are designed according to FprEN 1992-4: 2016 and TR 055.

Installation:

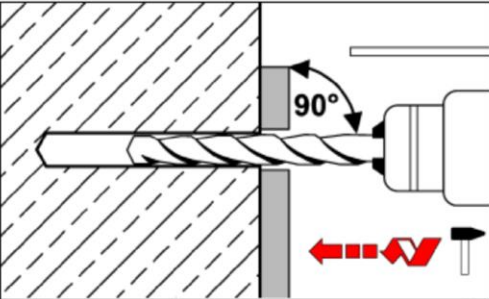
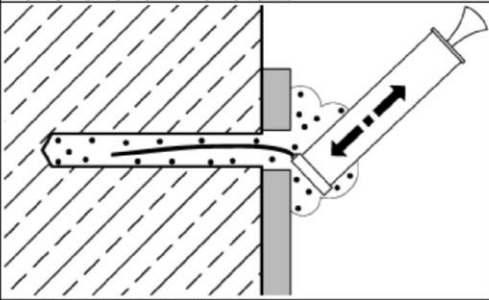
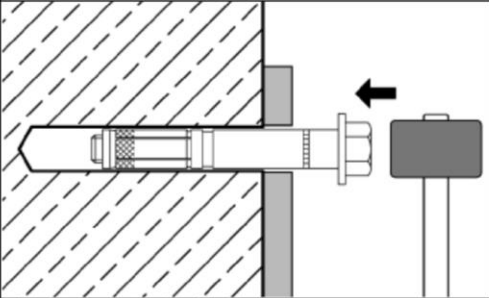
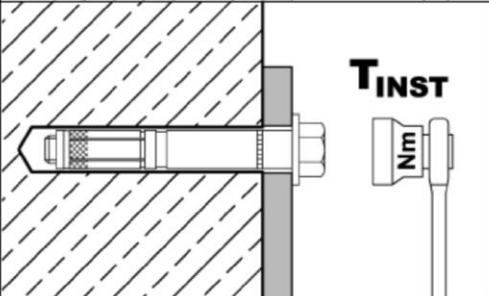
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- Positioning of the drill holes without damaging the reinforcement
- In case of aborted hole: new drilling at a minimum distance away of twice the depth of the aborted hole or smaller distance if the aborted drill hole is filled with high strength mortar and if under shear or oblique tension load it is not in the direction of load application.
- Anchor installation such that the effective anchorage depth is complied with. This compliance is ensured, when the embedment mark of the anchor does no more exceed the concrete surface
- Drilling by hammer drill bit (use of vacuum drill bit is admissible)

Highload Anchor SLZ

Intended use
Specifications

Annex B1

Installation instructions

1		Drill hole perpendicular to concrete surface. Using a vacuum drill bit, proceed with step 3.
2		Blow out dust. Alternatively vacuum clean down to the bottom of the hole.
3		Drive in anchor.
4		Apply tightening torque T_{inst} by using torque wrench.

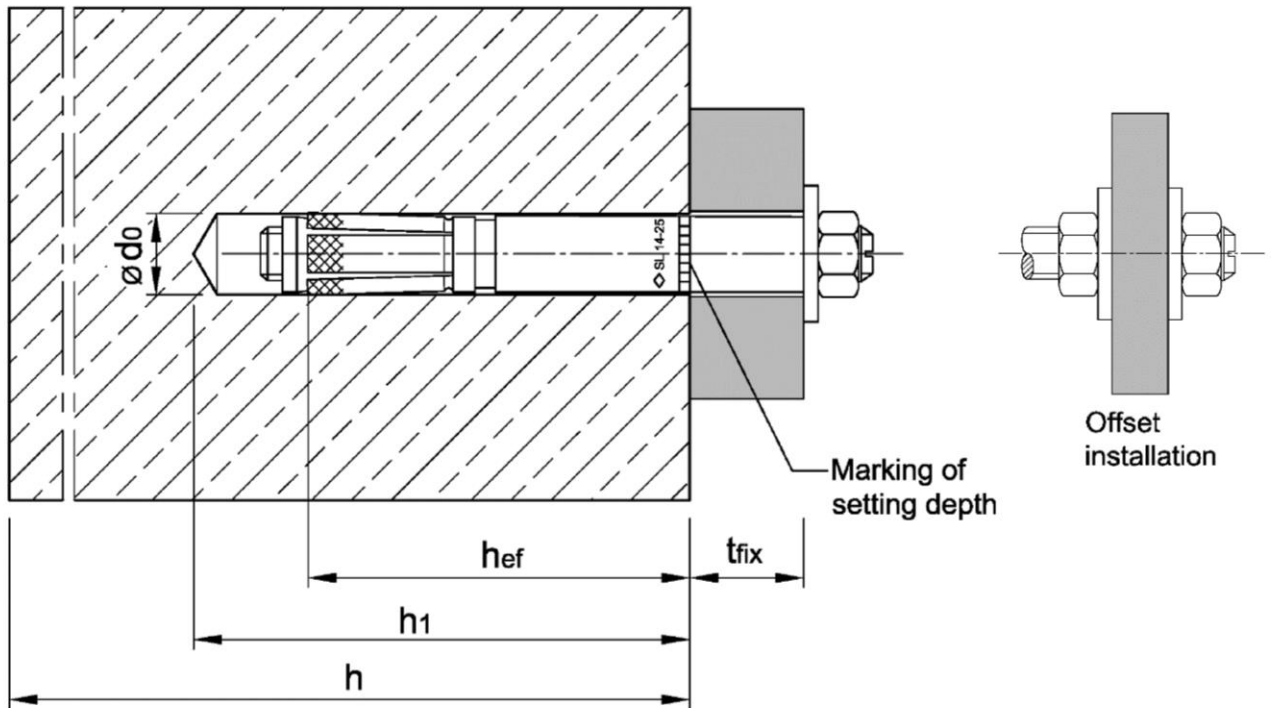
Highload Anchor SLZ

Intended use
Installation instructions

Annex B2

Table B1: Installation parameters

Anchor size			14/M10
Size of thread			M10
Effective anchorage depth	h_{ef}	[mm]	65
Nominal diameter of drill bit	d_0	[mm]	14
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	14,5
Depth of drill hole	$h_1 \geq$	[mm]	85
Diameter of clearance hole in the fixture mounted on distance sleeve	$d_f \leq$	[mm]	16
Diameter of clearance hole in the fixture mounted on threaded bolt	$d_f \leq$	[mm]	12
Installation torque	T_{inst}	[Nm]	50
Minimum thickness of member	h_{min}	[mm]	130
Minimum spacing	s_{min}	[mm]	60
	$c \geq$	[mm]	120
Minimum edge distance	c_{min}	[mm]	70
	$s \geq$	[mm]	130



Highload Anchor SLZ

Intended use
Installation parameters

Annex B3

Table C1: Characteristic values for tension loads

Anchor size			14/M10
Installation safety factor	γ_{inst}	[-]	1,0
Steel failure			
Characteristic resistance	$N_{RK,s}$	[kN]	46
Partial safety factor	γ_{Ms}	[-]	1,5
Pull-out failure			
Characteristic resistance in cracked concrete C20/25	$N_{RK,p}$	[kN]	12
Characteristic resistance in uncracked concrete C20/25	$N_{RK,p}$	[kN]	20
Increasing factors for $N_{RK,p}$	ψ_C	[-]	$\left(\frac{f_{ck}}{20}\right)^{0,5}$
Concrete cone failure			
Effective Anchorage depth	h_{ef}	[mm]	65
Spacing	$s_{cr,N}$	[mm]	3 h_{ef}
Edge distance	$c_{cr,N}$	[mm]	1,5 h_{ef}
Factor k_1 for cracked concrete	$k_{cr,N}$	[-]	7,7
Factor k_1 for uncracked concrete	$k_{ucr,N}$	[-]	11,0
Splitting failure			
Characteristic resistance in uncracked concrete	$N^0_{RK,sp}$	[kN]	min [$N_{RK,p}; N^0_{RK,c}$]
Spacing	$s_{cr,sp}$	[mm]	390
Edge distance	$c_{cr,sp}$	[mm]	195

Table C2: Displacements under tension loads

Anchor size			14/M10
Tension load in cracked concrete	N	[kN]	5,7
Displacement	δ_{N0}	[mm]	0,8
	$\delta_{N\infty}$	[mm]	1,5
Tension load in uncracked concrete	N	[kN]	9,5
Displacement	δ_{N0}	[mm]	0,3
	$\delta_{N\infty}$	[mm]	1,2

Highload Anchor SLZ

Performance
 Characteristic values and displacements under **tension load**

Annex C1

Table C3: Characteristic values for shear loads

Anchor size			14/M10
Steel failure without lever arm			
Characteristic resistance, fixture mounted on distance sleeve with $t_{fix} \leq 75$ mm	$V_{RK,s}^0$	[kN]	32,8
Characteristic resistance, fixture mounted on distance sleeve with $t_{fix} > 75$ mm	$V_{RK,s}^0$	[kN]	23,2
Factor	k_7	[-]	1,0
Partial safety factor	γ_{Ms}	[-]	1,25
Steel failure with lever arm			
Characteristic resistance	$M_{RK,s}^0$	[Nm]	60
Partial safety factor	γ_{Ms}	[-]	1,25
Concrete pry-out failure			
Factor	k_8	[-]	2,0
Concrete edge failure			
Effective length of anchor in shear loading	l_f	[mm]	65
Outside diameter of anchor	d_{nom}	[mm]	14

Table C4: Displacements under shear loads

Anchor size			14/M10
Shear load in non-cracked concrete	V	[kN]	13,2
Displacement	δ_{V0}	[mm]	2,2
	$\delta_{V\infty}$	[mm]	3,3

Highload Anchor SLZ

Performance
 Characteristic values and displacements under **shear load**

Annex C2

Table C5: Characteristic values under fire exposure in concrete C20/25 to C50/60

Anchor size			14/M10	
Tension load				
Steel failure				
Characteristic resistance	R30	$N_{Rk,s,fi}$	[kN]	0,9
	R60			0,8
	R90			0,6
	R120			0,5
Shear load				
Steel failure without lever arm				
Characteristic resistance	R30	$V_{Rk,s,fi}$	[kN]	0,9
	R60			0,8
	R90			0,6
	R120			0,5
Steel failure with lever arm				
Characteristic resistance	R30	$M^0_{Rk,s,fi}$	[Nm]	1,1
	R60			1,0
	R90			0,7
	R120			0,6

Highload Anchor SLZ

Performance
Characteristic values under **fire exposure**

Annex C3