



...eine starke Verbindung

## DICHIARAZIONE DI PRESTAZIONE

DoP N. MKT-261 - it

- ✧ **Codice di identificazione unico del prodotto-tipo:** **Ancorante SL per carichi pesanti**
- ✧ **Usi previsti:** Ancoraggio ad espansione controllato a coppia realizzato in acciaio zincato di dimensioni M10 per l'uso in calcestruzzo non incrinato, vedi allegato B /Annex B
- ✧ **Fabbricante:** MKT Metall-Kunststoff-Technik GmbH & Co.KG  
Auf dem Immel 2  
67685 Weilerbach
- ✧ **Sistemi di VVCP:** 1
- ✧ **Documento per la valutazione europea:** **EAD 330232-00-0601**  
Valutazione tecnica europea: **ETA-08/0230, 14.05.2018**  
Organismo di valutazione tecnica: DIBt, Berlin  
Organismi notificati: NB 1343 – MPA, Darmstadt

✧ **Prestazioni dichiarate:**

Caratteristiche essenziali	Prestazione
<b>Resistenza meccanica e stabilità (BWR1)</b>	
Resistenze caratteristiche per carichi statici e quasi statici, Spostamento	Allegato/Annex C1 – C2
Resistenze caratteristiche per le categorie di prestazioni sismiche C1 + C2, Spostamento	NPD (No Performance Determined) nessuna prestazione determinata
<b>Sicurezza in caso di incendio (BWR2)</b>	
Comportamento al fuoco	Classe A1
Resistenza al fuoco	NPD (No Performance Determined) nessuna prestazione determinata

La prestazione del prodotto sopra identificato è conforme all'insieme delle prestazioni dichiarate. La presente dichiarazione di responsabilità viene emessa, in conformità al regolamento (UE) n. 305/2011, sotto la sola responsabilità del fabbricante sopra identificato.

Firmato a nome e per conto del fabbricante da:

**Stefan Weustenhagen**  
(Direttore Generale)  
**Weilerbach, 14.05.2018**

p.p.

**Dipl.-Ing. Detlef Bigalke**  
(Direttore del Sviluppo del Prodotto)



L'originale di questa dichiarazione di prestazione è stata scritta in tedesco. In caso di deviazioni nella traduzione, la versione tedesca è valida.

## Specifications of intended use

### Anchorage subject to:

- Static or quasi-static action

### Base materials:

- Reinforced or unreinforced normal weight concrete without fibres of strength classes C20/25 to C50/60 according to EN 206:2013
- 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 EOTA Technical Report TR 055.

### Installation:

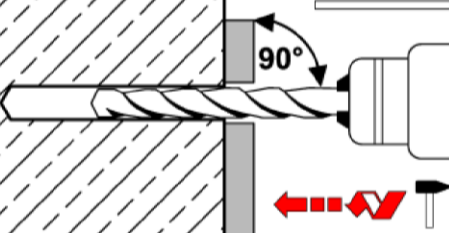
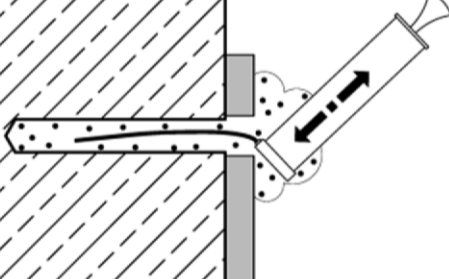
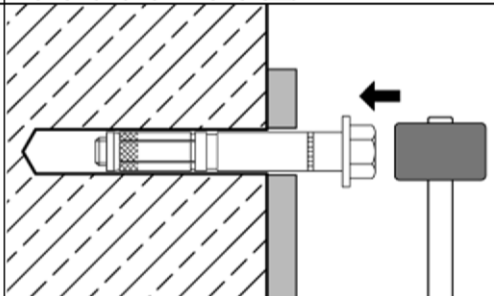
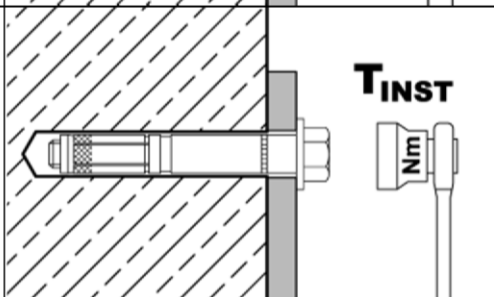
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- Positioning of the drill holes without damaging the reinforcement
- In case of aborted hole: new drilling at a minimum distance away of twice 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 SL

Intended use  
Specifications

Annex B1

## Installation instructions

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

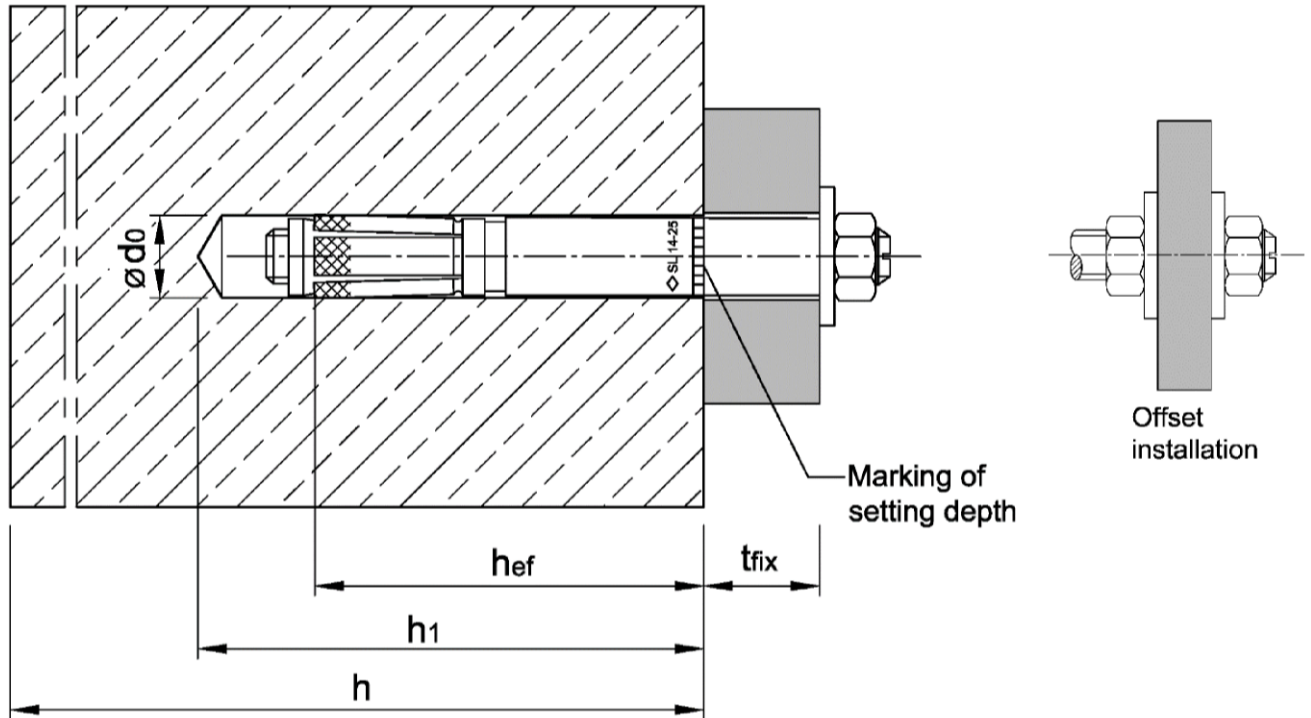
### Highload Anchor SL

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
Minimum edge distance	$c_{min}$	[mm]	120



**Highload Anchor SL**

Intended use  
Installation parameters

**Annex B3**

**Table C1: Characteristic values for tension loads**

Anchor size			14/M10
Installation factor	$\gamma_{inst}$	[-]	1,0
<b>Steel failure</b>			
Characteristic resistance	$N_{Rk,s}$	[kN]	46
Partial factor	$\gamma_{Ms}$	[-]	1,5
<b>Pull-out failure</b>			
Characteristic resistance in uncracked concrete C20/25	$N_{Rk,p}$	[kN]	20
Increasing factor for $N_{Rk,p}$	$\psi_C$	[-]	$\left(\frac{f_{ck}}{20}\right)^{0,5}$
<b>Concrete cone failure</b>			
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 $k_1$	$k_{ucr,N}$	[-]	11,0
<b>Splitting failure</b>			
Characteristic resistance in uncracked concrete	$N^0_{Rk,sp}$	[kN]	min [ $N_{Rk,p}; N^0_{Rk,c}$ ]
Spacing	$s_{cr,sp}$	[mm]	6 $h_{ef}$
Edge distance	$c_{cr,sp}$	[mm]	3 $h_{ef}$

**Table C2: Displacements under tension loads**

Anchor size			14/M10
Tension load in uncracked concrete	N	[kN]	9,5
Displacement	$\delta_{N0}$	[mm]	0,3
	$\delta_{N\infty}$	[mm]	0,6

**Highload Anchor SL**

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

**Annex C1**

**Table C3: Characteristic values for shear loads**

Anchor size			14/M10
<b>Steel failure without lever arm</b>			
Characteristic resistance, fixture mounted on distance sleeve with $t_{fix} \leq 75$ mm	$V^0_{Rk,s}$	[kN]	32,8
Characteristic resistance, fixture mounted on distance sleeve with $t_{fix} > 75$ mm	$V^0_{Rk,s}$	[kN]	23,2
Factor	$k_7$	[-]	1,0
Partial factor	$\gamma_{Ms}$	[-]	1,25
<b>Steel failure with lever arm</b>			
Characteristic resistance	$M^0_{Rk,s}$	[Nm]	60
Partial factor	$\gamma_{Ms}$	[-]	1,25
<b>Concrete pry-out failure</b>			
Factor	$k_8$	[-]	2,0
<b>Concrete edge failure</b>			
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 uncracked concrete	$V$	[kN]	13,2
Displacement	$\delta_{v0}$	[mm]	2,2
	$\delta_{v\infty}$	[mm]	3,3

**Highload Anchor SL**

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

**Annex C2**