



...eine starke Verbindung

## YDEEVNEDEKLARATION

DoP Nr.: **MKT-2.5-100\_da**

- ✧ **Varetypens unikke identifikationskode:** **Komposit Anker V**
- ✧ **Tilsigtet anvendelse:** Komposit dyvler til forankring i beton, se bilag / Annex B,
- ✧ **Fabrikant:** MKT Metall-Kunststoff-Technik GmbH & Co.KG  
Auf dem Immel 2  
67685 Weilerbach
- ✧ **System eller systemer til vurdering og kontrol af konstansen af ydeevnen:** 1
- ✧ **Europæisk vurderingsdokument:** **EAD 330499-00-0601**  
Europæisk teknisk vurdering: **ETA-05/0231, 29.05.2018**  
Teknisk vurderingsorgan: DIBt, Berlin  
Notificeret organ/notificerede organer: NB 2873 – Technische Universität Darmstadt

✧ **Deklareret ydeevne/deklarerede ydeevner:**


Væsentlige funktioner	Ydeevne
<b>Mekanisk modstandsdygtighed og stabilitet (BWR 1)</b>	
Karakteristisk modstand under trækspænding (statiske og kvasi-statiske belastninger)	Bilag/Annex C1
Karakteristisk modstand under tværgående belastning (statiske og kvasi-statiske belastninger)	Bilag/Annex C2
Skift (statiske og kvasi-statiske belastninger)	Bilag/Annex C1 + C2

Ydeevnen for den vare, der er anført ovenfor, er i overensstemmelse med den deklarerede ydeevne. Denne ydeevnedeklaration er udarbejdet i overensstemmelse med forordning (EU) nr. 305/2011 på eneansvar af den fabrikant, der er anført ovenfor.

Underskrevet for fabrikanten og på dennes vegne af:

  
Stefan Weustenhagen  
(CEO)

Weilerbach, 01.01.2021

p.p.   
Dipl.-Ing. Detlef Bigalke  
(Leder af produktudvikling)



Originalen af denne erklæringserklæring blev skrevet på tysk. I tilfælde af afvigelser i oversættelsen er den tyske udgave gyldig.

## Specifications of intended use

Chemical Anchor V	Anchor rod V-A					
	M8	M10	M12	M16	M20	M24
Static or quasi-static action	✓					
Base materials	reinforced or unreinforced normal weight concrete without fibres acc. to EN 206:2013					
	strength classes C20/25 to C50/60, acc. to EN 206:2013					
	uncracked concrete					
Temperature Range I	-40°C to +40°C	max long term temperature +24°C and max short term temperature +40°C				
Temperature Range II	-40°C to +80°C	max long term temperature +50°C and max short term temperature +80°C				

### Use conditions (environmental conditions):

- Structures subject to dry internal conditions (zinc plated steel, stainless steel or high corrosion resistant steel)
- Structures subject to external atmospheric exposure (including industrial and marine environment) and to permanently damp internal condition, if no particular aggressive conditions exist (stainless steel or high corrosion resistant steel)
- Structures subject to external atmospheric exposure and to permanently damp internal condition, if other particular aggressive conditions exist (high corrosion resistant steel)

Note: Particular aggressive conditions are e.g. permanent, alternating immersion in seawater or the splash zone of seawater, chloride atmosphere of indoor swimming pools or atmosphere with extreme chemical pollution (e.g. in desulphurization plants or road tunnels where de-icing materials are used)

### Design:

- 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 under the responsibility of an engineer experienced in anchorages and concrete work
- Anchorages are designed in accordance with FprEN 1992-4:2016 and TR 055

**Chemical Anchor V**

**Intended use**  
Specifications

**Annex B1**

**Table B1: Installation parameters**

Anchor size			M8	M10	M12	M16	M20	M24
Nominal diameter of drill hole	$d_0$	[mm]	10	12	14	18	25	28
Cutting diameter of drill hole	$d_{cut} \leq$	[mm]	10,5	12,5	14,5	18,5	25,5	28,5
Depth of drill hole	$h_0$	[mm]	80	90	110	125	170	210
Effective anchorage depth	$h_{ef}$	[mm]	80	90	110	125	170	210
Diameter of clearance hole in the fixture	$d_f$	[mm]	9	12	14	18	22	26
Diameter of steel brush	$d_b$	[mm]	11	13	16	20	27	30
Maximum installation torque	$T_{inst}$	[Nm]	10	20	40	80	120	180

Steelbrush  $d_b$  

**Table B2: Minimum member thickness, edge distance and spacing**

Anchor size			M8	M10	M12	M16	M20	M24
Minimum member thickness	$h_{min}$	[mm]	110	120	140	160	220	260
Minimum edge distance	$c_{min}$	[mm]	40	45	55	65	85	105
Minimum spacing	$s_{min}$	[mm]	40	45	55	65	85	105

**Table B3: Minimum curing time**

Temperature in the drill hole	Minimum curing time	
	dry concrete	wet concrete
$\geq 0^\circ\text{C}$	5 h	10 h
$\geq + 5^\circ\text{C}$	1 h	2 h
$\geq +20^\circ\text{C}$	20 min	40 min
$\geq +30^\circ\text{C}$	10 min	20 min

**Chemical Anchor V**

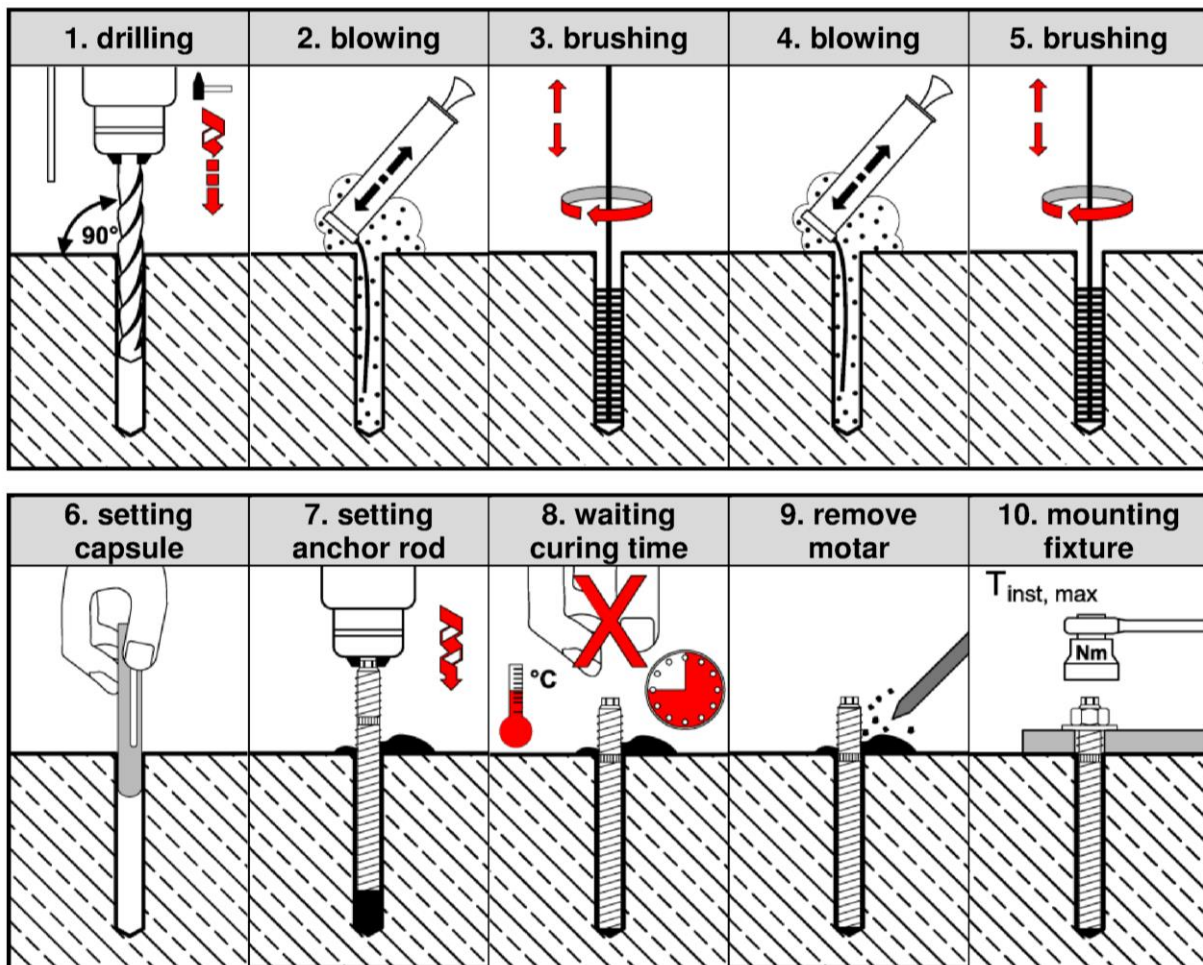
**Intended use**  
Installation parameters / Curing Time

**Annex B2**

## Installation

- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site
- Dry or wet concrete, all sizes
- Hole drilling by hammer drilling
- Cleaning the drill hole:
 

Removing possibly existing water in the drill hole completely and cleaning the drill hole by at least one blowing operation, by at least 1 x blowing / 1 x brushing / 1 x blowing / 1 x brushing operation by using the steel brush supplied by the manufacturer; before brushing cleaning the brush and checking whether the brush diameter according to Annex B2, Table B1 is still sufficient. The steel brush shall produce natural resistance as it enters the anchor hole. If this is not the case a new brush or a brush with a larger diameter must be used.
- Curing time must be observed prior to loading the anchor.
- Observe expiration date



### Chemical Anchor V

Intended use  
Installation

Annex B3

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

Anchor size			M8	M10	M12	M16	M20	M24	
<b>Steel failure</b>									
Characteristic resistance	Steel, zinc plated property class 5.8	$N_{Rk,s}$	[kN]	18	29	42	78	123	177
	Steel, zinc plated property class 8.8	$N_{Rk,s}$	[kN]	29	46	67	126	196	282
	Stainless steel A4 property class 70	$N_{Rk,s}$	[kN]	26	40	59	110	172	247
	Stainless steel A4 property class 80	$N_{Rk,s}$	[kN]	29	46	67	126	196	282
	High corrosion resistant steel HCR	$N_{Rk,s}$	[kN]	26	40	59	110	172	247
<b>Combined pull-out and concrete failure</b>									
Characteristic resistance in uncracked concrete C20/25 to C50/60									
Temperature range I	$\tau_{Rk}$	[N/mm <sup>2</sup> ]	10	11	9,5	9,5	8,5	7,5	
Temperature range II	$\tau_{Rk}$	[N/mm <sup>2</sup> ]	10	11	9,5	8,0	7,0	5,5	
<b>Concrete cone failure</b>									
Factor for $k_1$	$k_{Ucr,N}$	[-]	11,0						
Edge distance	$c_{cr,N}$	[mm]	1,5 $h_{ef}$						
Spacing	$s_{cr,N}$	[mm]	3 $h_{ef}$						
<b>Splitting</b>									
Characteristic resistance	$N^0_{Rk,sp}$	[kN]	min [ $N^0_{Rk,p}$ ; $N^0_{Rk,c}$ ]						
Edge distance	$c_{cr,sp}$	[mm]	1,5 $h_{ef}$	1 $h_{ef}$					
Spacing	$s_{cr,sp}$	[mm]	3 $h_{ef}$	2 $h_{ef}$					
Installation factor	$\gamma_{inst}$	[-]	1,2						

**Table C2: Displacements under tension load**

Anchor size			M8	M10	M12	M16	M20	M24
Tension load	N	[kN]	8	12	16	20	30	38
Displacement	$\delta_{N0}$	[mm]	0,1	0,2	0,2	0,2	0,5	0,4
	$\delta_{N\infty}$	[mm]	0,5					

**Chemical Anchor V**

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

**Annex C1**

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

Anchor size				M8	M10	M12	M16	M20	M24
<b>Steel failure without lever arm</b>									
Characteristic shear resistance	Steel, zinc plated property class 5.8	$V_{Rk,s}^0$	[kN]	9	14	21	39	61	88
	Steel, zinc plated property class 8.8	$V_{Rk,s}^0$	[kN]	15	23	33	63	98	141
	Stainless steel A4 property class 70	$V_{Rk,s}^0$	[kN]	13	20	29	55	86	124
	Stainless steel A4 property class 80	$V_{Rk,s}^0$	[kN]	15	23	33	62	98	141
	High corrosion resistant steel HCR	$V_{Rk,s}^0$	[kN]	13	20	29	55	86	124
Ductility factor	$k_7$	[-]	0,8						
<b>Steel failure with lever arm</b>									
Characteristic bending moment	Steel, zinc plated property class 5.8	$M_{Rk,s}^0$	[Nm]	19	37	65	166	325	561
	Steel, zinc plated property class 8.8	$M_{Rk,s}^0$	[Nm]	30	60	105	266	519	898
	Stainless steel A4 property class 70	$M_{Rk,s}^0$	[Nm]	26	52	92	233	454	785
	Stainless steel A4 property class 80	$M_{Rk,s}^0$	[Nm]	30	60	105	266	519	898
	High corrosion resistant steel HCR	$M_{Rk,s}^0$	[Nm]	26	52	92	233	454	785
<b>Pry-out failure</b>									
Factor	$k_8$	[-]	2,0						
<b>Concrete edge failure</b>									
Effective length of anchor	$l_f$	[mm]	80	90	110	125	170	210	
Effective diameter of anchor	$d_{nom}$	[mm]	10	12	14	18	25	28	
Installation factor	$\gamma_{inst}$	[-]	1,0						

**Table C4: Displacements under shear load**

Anchor size				M8	M10	M12	M16	M20	M24
Shear load	$V$	[kN]	5	8	12	22	35	50	
Displacement	$\delta_{V0}$	[mm]	2	3	3	4	5	5	
	$\delta_{V\infty}$	[mm]	4	5	5	6	7	7	

**Chemical Anchor V**

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

**Annex C2**