

Mechanical Torque Controlled anchors VE 7 CE

Intended use of the construction product according to EAD 330232-00-0601	
Generic type	Torque controlled expansion anchor
Base material	Non cracked concrete C20/25 a C50/60 - EN 206-1:2003
Material	Zincplated steel
Durability	Internal dry condition
Loads	Static, quasi-static
Manufacturer information	
VORPA s.r.l. Vial San Leo, 5 – 47838 – Riccione (RN) – ITALY Tel. +39 0541/607111 vorpa@vorpa.com – www.vorpa.com	
Certificate information	
ETA 12/0291 issued by	INSTYTUT TECHNIKI BUDOWLANEJ (ITB) PL 00-611 WARSZAWA Ul. Filtrowa 1
On the basis of	EAD 330232-00-0601
Certificate of conformity 1488-CPR-0616/W	INSTYTUT TECHNIKI BUDOWLANEJ (ITB) PL 00-611 WARSZAWA Ul. Filtrowa 1
Issued by	Ul. Filtrowa 1
Under system	1

Declared performance according to EAD 330232-00-0601								
Essential Characteristic			Performance					
			M6	M8	M10	M12	M16	
Installation parameters								
d_0	Nominal diameter of drill bit	[mm]	6	8	10	12	16	
h_{ef}	Effective anchorage depth	[mm]	40	45	51	66	80	
h_{nom}	Minimum installation depth	[mm]	46	53	60	77	97	
h_{min}	Minimum thickness of the concrete member	[mm]	100	100	105	135	160	
T_{inst}	Setting torque	[Nm]	5	15	25	45	100	
s_{min}	Minimum spacing	[mm]	60	67.5	76.5	99	120	
c_{min}	Minimum edge distance	[mm]	60	67.5	76.5	99	120	
Tension – Steel failure								
$N_{Rk,s}$	Tension steel characteristic failure	[kN]	6.9	14.1	21.5	33.2	62.3	
$\gamma_{m,sN}$	Partial safety factor	[-]	1.5					
Pull-out failure								
$N_{Rk,p,ucr}$	Tension characteristic load in non-cracked concrete C20/25	[kN]	4.0	9.0	12.0	16.0	30.0	
γ_{mP}	Partial safety factor	[-]	1.0			1.2		
$s_{cr,N}$	Critical spacing	[mm]	120	135	155	200	240	
$c_{cr,N}$	Critical edge distance	[mm]	60	70	80	100	120	
ψ_c C30/37	Increasing factor for concrete C30/37	[-]	1.08					
ψ_c C40/50	Increasing factor for concrete C40/50	[-]	1.15					
ψ_c C50/60	Increasing factor for concrete C50/60	[-]	1.19					

Splitting failure							
$S_{cr,sp}$	Critical spacing (splitting)	[mm]	200	225	306	330	480
$C_{cr,sp}$	Critical edge distance (splitting)	[mm]	100	113	153	165	240
Displacement on Tension load							
N_{ucr}	Service tension load in non-cracked concrete	[kN]	2.7	6.5	8.0	8.1	15.8
$\delta_{N0,ucr}$	Short term displacement under tension load	[mm]	0.4	0.5	0.7	0.4	0.6
$\delta_{N\infty,ucr}$	Long term displacement under tension load	[mm]	0.9	0.9	0.9	0.9	0.9
Shear – Steel failure							
$V_{Rk,s}$	Shear characteristic failure	[kN]	4.0	7.3	11.6	16.9	31.4
$\gamma_{m,sV}$	Partial safety factor	[-]	1.25				
$K=K_2=K_7$	Factor considering ductility	[-]	0.8				
$M^0_{Rk,s}$	Bending moment characteristic failure	[Nm]	6.1	15.0	29.9	52.4	133.2
$\gamma_{m,sV}$	Partial safety factor	[-]	1.25				
Shear – Concrete edge failure							
l_{ef}	Effective anchorage length	[mm]	40	45	51	66	80
Displacement on shear load							
V	Service shear load in non-cracked concrete	[kN]	3.3	6.0	7.3	8.0	15.0
δ_{V0}	Short term displacement under shear load	[mm]	0.8	1.8	1.8	2.0	2.0
$\delta_{V\infty}$	Long term displacement under shear load	[mm]	1.2	2.7	2.7	3.0	3.0

The above performance apply for the following article numbers:

Code	d [mm]	Type (d_0/T_{fix-L}) [mm]
4637	6	6/10 – 55
4638		6/20 – 65
4640	8	8/1 – 65
4641		8/15 – 80
4642		8/30 – 95
4643		8/50 – 115
4644		8/65 – 130
4645		10/1 – 75
4646	10	10/15 – 90
4696		10/25 – 105
4647		10/45 – 120
4648		10/75 – 150
4649	12	12/10 – 90
4650		12/15 – 110
4651		12/25 – 120
4652		12/45 – 140
4653		12/65 – 160
4654		12/85 – 180
4655	16	16/5 – 125
4656		16/20 – 140
4657		16/30 – 150
4658		16/55 – 175
4659		16/100 – 220

The performances of the product identified by above identification code are in conformity with the declared performances.

This declaration of performance is issued on the basis of the European regulation (EU) N. 305/2011, under the sole responsibility of the indicated Manufacturer.

Signed for and in behalf of the manufacturer by:

Name and function	Place and date	Signature
Roberto Vorabbi Legale Rappresentante	Riccione, 08/01/2019	