EKSPLOATACINIŲ SAVYBIŲ DEKLARACIJA

HECO-DoP_ETA_15/0784_MMS-plus_1606_LT

1. Unikalus produkto tipo identifikacinis kodas:

MULTI-MONTI-plus (MMS-plus)

2. Tipo, partijos ar serijos numeris ar bet koks kitas elementas, pagal kurį galima identifikuoti statybos produktą, kaip reikalaujama pagal 11 straipsnio 4 dalį:

Identifikacinis Nr. ETA-15/0784 priedas Nr. A2, A3
Partijos numeris: žr. pakuotės įdėklą‘

3. Gamintojo numatyta statybos produkto naudojimo paskirtis ar paskirtys pagal taikomą darniąją techninę specifikaciją:

ETA-15/0784 priedas Nr. B1

Mūrvinės tipas	Sraigtinis inkaras
Skirtas naudoti su	Betonu C20/25 iki C50/60 (EN 206) - gniuždomu: Ø6, Ø7,5, Ø10 ir Ø12 - tempiamu: Ø6, Ø7,5, Ø10 ir Ø12
Parinktis / kategorija	Parinktis 1 seisminis: Eksploatacinių savybių kategorija C1
Apkrova	statinė, tariamai statinė, seisminė (Ø10 + Ø12), atspari ugniai
Medžiaga / modelis	Cinkuotas plienas: -skirtas naudoti sausose patalpose -skirtingos galvučių formos

4. Gamintojo pavadinimas, registruotas komercinis pavadinimas arba registruotas prekės ženklas ir kontaktinis adresas, kaip reikalaujama pagal 11 straipsnio 5 dalį:

HECO-Schrauben GmbH & Co. KG
Dr.-Kurt-Steim-Str. 28
78713 Schramberg (Germany)

5. Kai taikytina, įgaliotojo atstovo, kuriam suteikti įgaliojimai apima 12 straipsnio 2 dalyje nurodytas užduotis, pavadinimas ir kontaktinis adresas:

-

6. Statybos produkto eksploatacinių savybių pastovumo vertinimo ir tikrinimo sistema ar sistemos, kaip nustatyta V priede:

System 1

7. Eksploatacinių savybių deklaracijos, susijusios su statybos produktu, kuriam taikomas darnusis standartas, atveju:

-

8. Eksploatacinių savybių deklaracijos, susijusios su statybos produktu, kuriam buvo išduotas Europos techninis įvertinimas, atveju:

- Vertinimo institucija: Vokietijos Statybos Technikos Institutas (Deutsches Institut für Bautechnik, DIBt)
- Notifikuojanti įstaiga: Štutgarto institutas „Otto-Graf-Institut Stuttgart“, identifikacinis kodas 0672
- Vertinimo dokumentas: ETAG 001 dalis 1, 3 (2013 04)
- Atitikties liudijimas: 0672-CPR-0635

9. Deklaruojamos eksploatacinės savybės

Esminės charakteristikos	**Matavimo būdas**	**Veikimas**	**Harmonizuota techninė specifikacija**
Atsparumo išilginiam tempimui būdingosios reikšmės	ETAG 001, priedas C, metodas A CEN/TS 1992-4:2009, metodas A	ETA-15/0784: priedas C1	ETAG 001 Part 1, 3 ETAG 001, priedas E EOTA TR 020 (atsparumas ugniai)
	EOTA TR 045	ETA-15/0784: priedas C2	
	EOTA TR 020 (atsparumas ugniai) CEN/TS 1992-4: priedas D	ETA-15/0784: priedas C3	
Atsparumo skersiniam tempimui būdingosios reikšmės	ETAG 001, priedas: C, metodas A CEN/TS 1992-4:2009, metodas A	ETA-15/0784: priedas C1	
	EOTA TR 045	ETA-15/0784: priedas C2	
	EOTA TR 020 (atsparumas ugniai) CEN/TS 1992-4: priedas D	ETA-15/0784: priedas C3	
Montavimo parametrai		ETA-15/0784: priedas B2	
Tinkamumo naudoti ribinės būklės nuokrypiai	ETAG 001, priedas: C, metodas A CEN/TS 1992-4:2009, metodas A	ETA-15/0784: priedas C4	

10. 1 ir 2 punktuose nurodyto produkto eksploatacinės savybės atitinka 9 punkte deklaruojamas eksploatacines savybes. Ši eksploatacinių savybių deklaracija išduota tik 4 punkte nurodyto gamintojo atsakomybe.

Pasirašyta (gamintojas ir jo vardu):

Schramberg, 01.07.2016 p.p..

Andreas Hettich, Head of PM/Marketing

Specifications of intended use

Use of the anchoring:
- Static and quasi static loads: all sizes.
- Seismic category C1:
  MMS-plus all Versions, size 10 with maximum embedment depth (h_{nom2}) and size 12 with the embedment depth $h_{nom\ 1}$ and $h_{nom\ 2}$.
- Fire exposure: all sizes.

Base Materials:
- Reinforced or non-reinforced normal weight concrete according to EN 206-1:2000.
- Strength classes C20/25 to C50/60 according to EN 206-1:2000.
- Non-cracked and cracked concrete: all sizes.

Conditions of use (Environmental conditions):
- Structures subject to dry internal conditions.

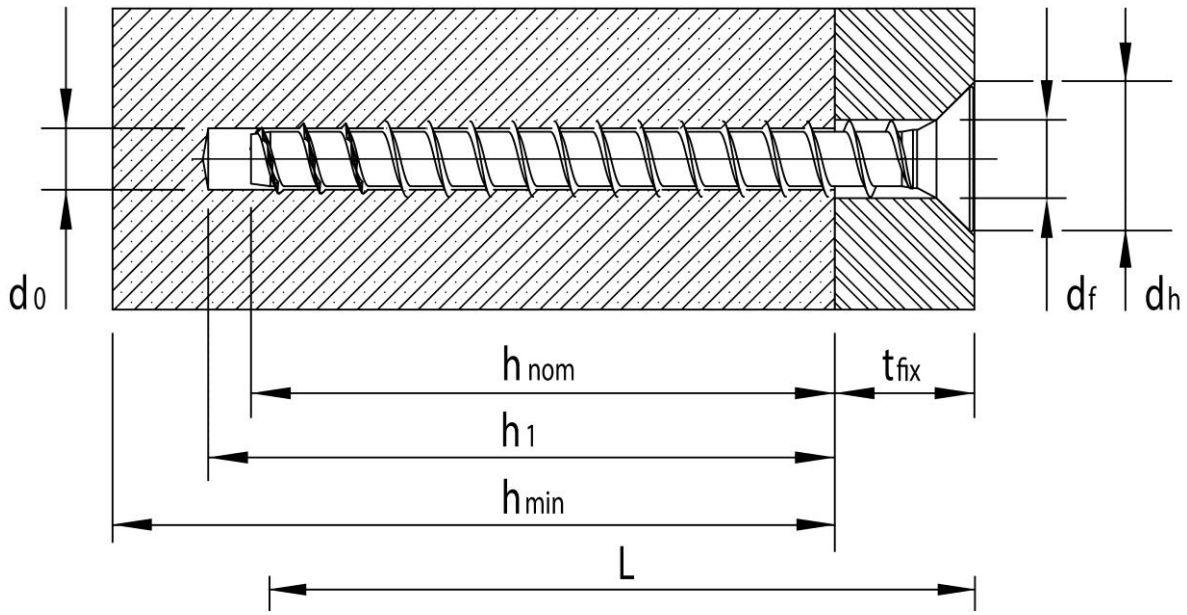
Design:
- Anchorages are designed under the responsibility of an engineer experienced in anchorages and concrete work.
- Verifiable calculation notes and drawings are prepared taking account of the loads to be anchored. The position of the anchor is indicated on the design drawings (e. g. position of the anchor relative to reinforcement or to supports, etc.).
- Anchorages under static or quasi-static actions are designed for design method A in accordance with:
  - ETAG 001, Annex C, edition august 2010 or
  - CEN/TS 1992-4:2009
- The design of the anchoring under seismic action have to be carried out in accordance with:
  - EOTA Technical Report TR 045, edition February 2013
  - Anchoring's have to be placed outside of critical places like plastic hinges.
  - A distance mounting or mounting with mortar layer is not allowed.
- The design of the anchoring under fire exposure have to be carried in accordance with:
  - EOTA Technical Report 020, edition Mai 2014 or
  - CEN/TS 1992-4:2009, Annex D
  - In case of requirements for resistance of fire exposure it must be ensured that local spalling of the concrete cover does not occur.

Installation:
- Hole drilling by hammer-drilling only.
- Anchor installation carried out by appropriately qualified personnel and under the supervision of the person responsible for technical matters of the site.
- 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 hole is filled with high strength mortar and if under shear or oblique tension load it is not the direction of the load application.
- The anchor may be used only once.
- After installation further turning of the anchor must not be possible.
- The head of the anchor must be supported on the fixture and is not damaged.

Priedas B1

Table B1: Installation parameters MMS-plus

Size MMS-plus				6		7,5		10		12	
				h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}
Embedment depth in concrete			[mm]	35	45	35	55	50	65	75	90
Nominal drill diameter		d_0	[mm]	5		6		8		10	
Drill bit cutting diameter		$d_{cut} \leq$	[mm]	5,40		6,40		8,45		10,45	
Depth of borehole		$h_1 \geq$	[mm]	40	50	40	65	60	75	85	100
Diameter of clearance hole in the fixture		$d_f \leq$	[mm]	7		9		12		14	
Diameter Countersunk		d_h	[mm]	11,5		15,5		19,5		24	
Min. thickness of the concrete member		h_{min}	[mm]	100	100	100	100	100	115	125	150
cracked and uncracked concrete	min. spacing	s_{min}	[mm]	30	30	40	40	40	50	60	60
	min. edge distance	c_{min}	[mm]	30	30	40	40	40	50	60	60
Recommended installation tool			[Nm]	Impact screw driver, max. power output T_{max} according manufacturer information							
				75	100	100		200		250	
Torque moment for threaded version (type MMS-plus V)		T_{inst}	[Nm]	-		15		20		30	



Priedas B2

Table C1: Characteristic values for static and quasi-static tension MMS-plus

Size MMS-plus				**6**		**7,5**		**10**		**12**	
				h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}
Embedment depth in concrete		h_{nom}	[mm]	35 [1]	45	35 [1]	55	50	65	75	90
Steel failure for tension- and shear resistance											
Characteristic resistance		$N_{Rk,s}$	[kN]	10,8		17,6		32,1		49,9	
		$V_{Rk,s}$	[kN]	4,1		6,1		13,7		24,1	
		k_2 [2]	-	0,8							
		$M^0_{Rk,s}$	[Nm]	6,7		14,1		34,5		66,8	
Partial safety factor		γ_2	-	1,25							
Pullout											
Characteristic resistance in uncracked concrete C20/25		$N_{Rk,p}$	[kN]	4,0	6,0	4,0	9,0	12,0	16,0	20,0	25,0
Characteristic resistance in cracked concrete C20/25		$N_{Rk,p}$	[kN]	1,0	1,5	2,0	4,0	6,0	9,0	12,0	16,0
Increasing factor for concrete	C30/37	Ψ_c	-	1,22							
	C40/50			1,41							
	C50/60			1,55							
Concrete cone failure and splitting failure											
Effective anchorage depth		h_{ef}	[mm]	26	35	26	43	36	50	57	70
Factor for	cracked	k_{cr} [2]	-	7,2							
	uncracked	k_{unc} [2]	-	10,1							
Concrete cone	edge distance	$c_{cr,N}$	[mm]	1.5 h_{ef}							
	spacing	$s_{cr,N}$	[mm]	3 h_{ef}							
Splitting	edge distance	$c_{cr,sp}$	[mm]	1.8 h_{ef}							
	spacing	$s_{cr,sp}$	[mm]	3.6 h_{ef}							
Installation safety factor		γ_2 [3] = γ_{inst} [2]	-	1,0							
Concrete pryout failure											
k-factor		$k^{3)} = k_3$ [2]	-	1,0							2,0
Concrete edge failure											
Effective length of the anchor under shear loading		$l_{ef} = h_{ef}$	[mm]	26	35	26	43	36	50	57	70
Effective diameter of the anchor		d_{nom}	[mm]	5		6		8		10	

[1] Only for non-structural applications
[2] Parameter only relevant for the design according to CEN/TS 1992-4:2009
[3] Parameter only relevant for the design according to ETAG 001, Annex C

Priedas C1

Table C2: Characteristic values for seismic actions C1

Size MMS-plus			**10**	**12**	
Embedment depth in concrete [mm]	h_{nom}		h_{nom2} 65	h_{nom1} 75	h_{nom2} 90
Steel failure for tension- and shear resistance					
Characteristic resistance	$N_{Rk,s,seis}$	[kN]	24,1	37,4	
	$V_{Rk,s,seis}$	[kN]	9,6	16,9	
Pullout					
Characteristic in cracked concrete	$N_{Rk,p,seis}$	[kN]	6,8	9,0	12,0
Concrete cone failure					
Effective anchorage depth	h_{ef}	[mm]	50	57	70
concrete cone — edge distance	$c_{cr,N}$	[mm]	$1{,}5\ h_{ef}$		
concrete cone — spacing	$s_{cr,N}$	[mm]	$3\ h_{ef}$		
Installation safety factor	γ_2	-	1,0		
Concrete pryout failure					
k-factor	k	-	2,0	1,0	
Concrete edge failure					
Effective length of the anchor under shear loading	$l_{ef} = h_{ef}$	[mm]	50	57	70
Effective diameter of the anchor	d_{nom}	[mm]	8	10	

Priedas C2

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Geschäftsführer: Stefan Hettich, Guido Hettich, UST-ID-Nr. DE 142646601
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Bankverbindungen	**BLZ**	**Konto-Nr.**	**S.W.I.F.T.-Code**	**I.B.A.N.-Code**
Kreissparkasse Rottweil	642 500 40	556 509	SOLADES1RWL	DE90642500400000556509
Volksbank Schwarzwald Neckar eG	642 920 20	41 980 000	GENODES1SBG	DE27642920200041980000
Deutsche Postbank	600 100 70	135 70-700	PBNKDEFF600	DE07600100700013570700
Commerzbank VS-Villingen	694 400 07	1 571 629	COBADEFF694	DE75694400070157162900

Table C3: Characteristic values under fire exposure

Size MMS-plus				**6**		**7,5**		**10**		**12**	
				h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}
Embedment depth in concrete		h_{nom}	[mm]	35	45	35	55	50	65	75	90
Steel failure for tension- and shear resistance ($F_{Rk,fi} = N_{Rk,fi} = V_{Rk,fi}$)											
Characteristic resistance	R30	$F_{Rk,fi}$	[kN]	0,25	0,4	0,5	1,0	1,5	2,3	3,0	3,0
	R60	$F_{Rk,fi}$	[kN]	0,25	0,4	0,5	0,8	1,4	1,4	2,1	2,1
	R90	$F_{Rk,fi}$	[kN]	0,25	0,4	0,5	0,5	1,0	1,0	1,5	1,5
	R120	$F_{Rk,fi}$	[kN]	0,2	0,3	0,4	0,4	0,8	0,8	1,2	1,2
	R30	$M^0_{Rk,s,fi}$	[Nm]	0,5		1,1		2,7		5,3	
	R60	$M^0_{Rk,s,fi}$	[Nm]	0,3		0,6		1,5		2,8	
	R90	$M^0_{Rk,s,fi}$	[Nm]	0,2		0,4		1,1		2,0	
	R120	$M^0_{Rk,s,fi}$	[Nm]	0,2		0,3		0,9		1,6	
Edge distance											
	R30 to R120	$c_{cr,fi}$	[mm]	2 h_{ef}							
Spacing											
	R30 to R120	$s_{cr,fi}$	[mm]	2 $c_{cr,fi}$							

Priedas C3

Table C4: Displacements under tension loads

Size MMS-plus				6		7,5		10		12	
				h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}
Embedment depth in concrete		h_{nom}	[mm]	35	45	35	55	50	65	75	90
Cracked concrete C20/25 to C50/60	tension	N	[kN]	1,9	3,0	1,9	5,3	5,7	7,9	10,7	12,8
	displacement	δ_{N0}	[mm]	0,11	0,11	0,06	0,12	0,06	0,07	0,05	0,19
		$\delta_{N\infty}$	[mm]	0,30	0,28	0,38	1,03	0,75	0,72	0,74	0,60
Uncracked concrete C20/25 to C50/60	tension	N	[kN]	0,5	0,7	0,9	2,0	2,9	4,3	5,7	6,4
	displacement	δ_{N0}	[mm]	0,01	0,02	0,03	0,04	0,03	0,09	0,05	0,02
		$\delta_{N\infty}$	[mm]	0,14	0,09	0,12	0,11	0,08	0,09	0,07	0,22

Table C5: Displacements under shear loads

Size MMS-plus				6		7,5		10		12	
				h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}	h_{nom1}	h_{nom2}
Embedment depth in concrete		h_{nom}	[mm]	35	45	35	55	50	65	75	90
Cracked and uncracked concrete C20/25 to C50/60	shear load	V	[kN]	2	2	4	4	8	8	12	12
	displacement	δ_{N0}	[mm]	0,14	0,13	0,09	0,11	0,18	0,13	0,18	0,18
		$\delta_{N\infty}$	[mm]	0,20	0,19	0,13	0,16	0,27	0,20	0,27	0,27

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