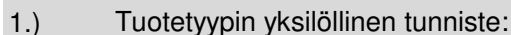


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2.) Aiottu käyttötarkoitus (aiotut käyttötarkoitukset):

3.) Valmistaja:

4.) Suoritustason pysyvyyden arvioinnissa ja varmentamisessa käytetty järjestelmä/käytetyt järjestelmät:

5.) Eurooppalainen arviointiasiakirja: **EAD 330232-00-0601**

Eurooppalainen tekninen arviointi: **ETA-22/0913**

Teknisestä arvioinnista vastaava laitos: **Instituto de Ciencias de la Construcción Eduardo Torroja CSIC**

Ilmoitettu laitos/ilmoitetut laitokset: 1219 - ETcc-CSIC

6.) Ilmoitettu suoritustaso/ilmoitetut suoritustasot:

a) Mekaaninen kestävyys ja vakavuus (BWR 1) sekä turvallisuus ja saavutettavuus (BWR 4)

[illegible]

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b) Turvallisuus tulipalon sattuessa (BWR 2)

Perusominaisuudet	Tuotteen suoritustaso
Reagointi tulipaloon	Kiinnityspisteet täyttävät A1-luokan vaatimukset

c) Hygienia, terveys ja ympäristö (BWR 3)

Perusominaisuudet	Tuotteen suoritustaso

d) Suojaus melua vastaan (BWR 5)

Perusominaisuudet	Tuotteen suoritustaso

e) Energiansäästö ja lämmöntalteenotto (BWR 6)

Perusominaisuudet	Tuotteen suoritustaso

f) Luonnonvarojen kestävä käyttö (BWR 7)

Perusominaisuudet	Tuotteen suoritustaso

Edellä yksilöidyn tuotteen suoritustaso on ilmoitettujen suoritustasojen joukon mukainen. Tämä suoritustasoilmoitus on asetuksen (EU) N:o 305/2011 mukaisesti annettu edellä ilmoitetun valmistajan yksinomaisella vastuulla.

Valmistajan puolesta allekirjoittanut:

Dr. Jens Weber

(nimi)

Bad Laasphe, 10.01.2023

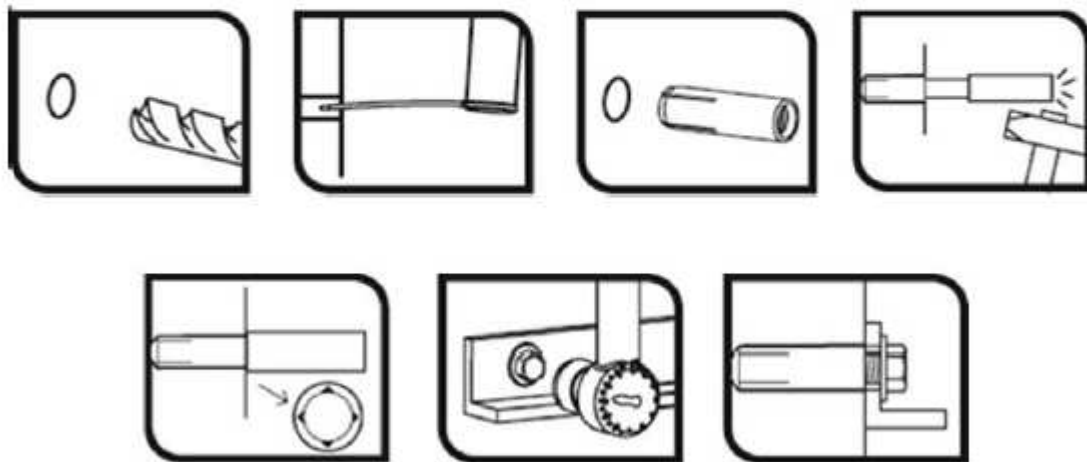
(paikka ja päivämäärä)

(allekirjoitus)

Table C1: Installation parameters for Drop in anchor J+ / JS+

Installation parameters			Performances					
			M6	M8	M10	M12	M16	M20
d_o	Nominal diameter of drill bit:	[mm]	8	10	12	15	20	25
D	Thread diameter:	[mm]	M6	M8	M10	M12	M16	M20
d_f	Fixture clearance hole diameter $\leq$	[mm]	7	9	12	14	18	22
T_{inst}	Maximum installation torque:	[Nm]	4	11	17	38	60	100
$l_{s,min}$	Minimum screwing depth:	[mm]	6	8	10	12	16	20
$l_{s,max}$	Maximum screwing depth:	[mm]	10	13	17	21	27	34
h_{min}	Minimum thickness of concrete member:	[mm]	100	100	100	100	130	160
h_s	Depth of drilled hole:	[mm]	27	33	43	54	70	86
h_{nom}	Overall anchor embedm. depth in the concrete:	[mm]	25	30	40	50	65	80
h_{ef}	Effective anchorage depth:	[mm]	25	30	40	50	65	80
s_{min}	Minimum allowable spacing:	[mm]	60	60	80	100	130	160
c_{min}	Minimum allowable distance:	[mm]	105	105	140	175	230	280

Installation process



Drop in anchor J+ / JS+

Performances

Installation parameters and installation procedure

Annex C1

Table C2: Characteristic values to tension loads of design method A according to EN 1992-4 for Drop in anchor J+ / JS+

Characteristic values of resistance to tension loads of design according to design method A			Performances					
			M6	M8	M10	M12	M16	M20
Tension loads: steel failure								
$N_{Rk,s}$	Tension steel char. resistance, steel class 4.6:	[kN]	8,0	14,6	23,2	33,7	62,8	98,0
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	2,0	2,0	2,0	2,0	2,0	2,0
$N_{Rk,s}$	Tension steel char. resistance, steel class 4.8:	[kN]	8,0	14,6	18,2	33,7	62,8	95,1
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,5	1,5	1,5	1,5	1,5	1,5
$N_{Rk,s}$	Tension steel char. resistance, steel class 5.6:	[kN]	10,1	18,3	18,2	42,2	78,5	122,5
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	2,0	2,0	1,5	2,0	2,0	2,0
$N_{Rk,s}$	Tension steel char. resistance, steel class 5.8:	[kN]	10,1	17,6	18,2	35,1	65,0	95,1
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,5	1,5	1,5	1,5	1,5	1,5
$N_{Rk,s}$	Tension steel char. resistance, steel class 6.8	[kN]	12,1	17,6	18,2	35,1	65,0	95,1
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,5	1,5	1,5	1,5	1,5	1,5
$N_{Rk,s}$	Tension steel char. resistance, steel class 8.8	[kN]	13,1	17,6	18,2	35,1	65,0	95,1
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,5	1,5	1,5	1,5	1,5	1,5
Tension loads: pull-out failure in concrete								
$N_{Rk,p,ucr}$	Tension characteristic resistance in C20/25 uncracked concrete	[kN]	__ 2)	__ 2)	__ 2)	__ 2)	__ 2)	__ 2)
ψ_c	Increasing factor for $N_{Rk,p}$:	C30/37 [-]	1,02	1,22	1,15	1,15	1,22	1,19
		C40/50 [-]	1,04	1,41	1,29	1,28	1,41	1,35
		C50/60 [-]	1,05	1,55	1,37	1,37	1,55	1,46
γ_{ins}	Installation safety factor:	[-]	1,2	1,2	1,4	1,4	1,4	1,4
Tension loads: concrete cone and splitting failure								
h_{ef}	Effective embedment depth:	[mm]	25	30	40	50	65	80
$k_{ucr,N}$	Factor for uncracked concrete:	[-]	11.0					
γ_{ins}	Installation safety factor:	[-]	1,2	1,2	1,4	1,4	1,4	1,4
$s_{cr,N}$	Concrete cone failure:	[mm]	3 x h_{ef}					
$c_{cr,N}$		[mm]	1.5 x h_{ef}					
$s_{cr,sp}$	Splitting failure:	[mm]	150	180	240	300	390	480
$c_{cr,sp}$		[mm]	75	90	120	150	195	240
Displacements under tension loads								
N	Service tension load in uncracked concrete C20/25 to C50/60:	[kN]	2,4	3,4	6,0	7,4	17,8	18,2
δ_{N0}	Short term displacement under tension loads:	[mm]	0,1	0,1	0,1	0,1	0,1	0,1
$\delta_{N\infty}$	Long term displacement under tension loads:	[mm]	0,3	0,3	0,3	0,3	0,3	0,3

¹⁾ In absence of other national regulations

²⁾ Pull out failure does not govern

Drop in anchor J+ / JS+

Performances

Characteristic values for tension loads

Annex C2

Table C3: Characteristic values to shear loads of design method A according to EN 1992-4 for Drop in anchor J+ / JS+

Characteristic values of resistance to shear loads of design according to design method A			Performances					
			M6	M8	M10	M12	M16	M20
Shear loads: steel failure without lever arm								
$V_{Rk,s}$	Shear steel char. resistance, steel class 4.6:	[kN]	4,0	7,3	11,6	16,8	31,4	49,0
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,67	1,67	1,67	1,67	1,67	1,67
$V_{Rk,s}$	Shear steel char. resistance, steel class 4.8:	[kN]	4,0	7,3	9,1	16,8	31,4	47,5
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,25	1,25	1,25	1,25	1,25	1,25
$V_{Rk,s}$	Shear steel char. resistance, steel class 5.6	[kN]	5,0	9,1	9,1	21,1	39,2	61,2
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,67	1,67	1,25	1,67	1,67	1,67
$V_{Rk,s}$	Shear steel char. resistance, steel class 5.8	[kN]	5,0	8,8	9,1	17,5	32,5	47,5
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,25	1,25	1,25	1,25	1,25	1,25
$V_{Rk,s}$	Shear steel char. resistance, steel class 6.8	[kN]	6,0	8,8	9,1	17,5	32,5	47,5
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,25	1,25	1,25	1,25	1,25	1,25
$V_{Rk,s}$	Shear steel char. resistance, steel class 8.8:	[kN]	6,5	8,8	9,1	17,5	32,5	47,5
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,25	1,25	1,25	1,25	1,25	1,25
Shear loads: steel failure with lever arm								
$M_{Rk,s}^0$	Characteristic bending moment, steel class 4.6	[Nm]	6,1	15,0	29,9	52,4	133,3	259,8
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,67	1,67	1,67	1,67	1,67	1,67
$M_{Rk,s}^0$	Characteristic bending moment, steel class 4.8	[Nm]	6,1	15,0	29,9	52,4	133,3	259,8
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,25	1,25	1,25	1,25	1,25	1,25
$M_{Rk,s}^0$	Characteristic bending moment, steel class 5.6	[Nm]	7,6	18,8	37,4	65,5	166,6	324,8
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,67	1,67	1,67	1,67	1,67	1,67
$M_{Rk,s}^0$	Characteristic bending moment, steel class 5.8	[Nm]	7,6	18,8	37,4	65,5	166,6	324,8
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,25	1,25	1,25	1,25	1,25	1,25
$M_{Rk,s}^0$	Characteristic bending moment, steel class 6.8	[Nm]	9,2	22,5	44,9	78,7	199,9	389,7
$\gamma_{Ms}^{(1)}$	Partial safety factor:	[-]	1,25	1,25	1,25	1,25	1,25	1,25
$M_{Rk,s}^0$	Characteristic bending moment, steel class 8.8	[Nm]	12,2	30,0	59,9	104,9	266,6	519,7
$\gamma_{Ms}^{(1)}$	Partial safety factor: ³⁾	[-]	1,25	1,25	1,25	1,25	1,25	1,25
Shear loads: concrete pryout failure								
k_s	Pryout factor:	[-]	1,0	1,0	1,0	1,0	2,0	2,0
γ_{Ins}	Installation safety factor:	[-]	1,0					
Shear loads: concrete edge failure								
l_e	Effective anchorage depth under shear loads:	[mm]	25	30	40	50	65	80
d_{nom}	Outside anchor diameter:	[mm]	8	10	12	15	20	25
γ_{Ins}	Installation safety factor:	[-]	1,0					
Displacements under shear loads								
V	Service shear load in uncracked concrete C20/25 to C50/60:	[kN]	3,8	5,0	5,2	10,1	18,6	27,2
δ_{V0}	Short term displacement under shear loads:	[mm]	2,4	2,4	2,4	1,3	1,0	1,0
$\delta_{V\infty}$	Long term displacement under shear loads:	[mm]	3,5	3,5	3,5	2,0	1,5	1,5

⁽¹⁾ In absence of other national regulations

Drop in anchor J+ / JS+

Performances

Characteristic values for shear loads

Annex C3