YTELSESERKLÆRING

Nr: DoP-120257 [NO]

Varetypens unike identifikasjonskode:

ESSVE Golden Anchor

Produsent:

ESSVE Produkter AB
BOX 7091
164 07 Kista
Sweden

info@essve.se

Europeisk teknisk bedømmelse (ETA)	Overflatebehandling	Dimensjon	Artikkelnummer
ETA-12/0257 (2017-12-14)	Blankforsinket	M8	306702, 306703, 306704, 306705
		M10	306711, 306713, 306714, 306715, 306717
		M12	306722, 306723, 306726, 306727
		M16	306734, 306735, 306737
	Varmforsinket	M8	306802, 306803, 306804, 306805
		M10	306811, 306813, 306814, 306815, 306817, 306819
		M12	306822, 306823, 306826, 306827, 306829, 306831
		M16	306834, 306835, 306837, 306839, 306841

Europeisk teknisk bedømmelse (ETA)	Tilsiktet bruksområde	Betongkvalitet
ETA-12/0257 (2017-12-14)	Torque-controlled expansion anchor for use in structural applications under static or quasi-static actions in non-cracked concrete.	Reinforced or unreinforced normal weight concrete according to EN 206-1:2000. • Strength classes C20/25 to C50/60 according to EN 206-1:2000

Europeisk teknisk bedømmelse (ETA)	System for vurdering og verifikasjon av byggevarers ytelser (AVCP)	Europeisk bedømmelsesdokument	Teknisk bedømmelsesorgan (TAB)	Teknisk(e) kontrollorgan (NB)
ETA-12/0257 (2017-12-14)	1	EAD 330232-00-0601, (2016-10)	RISE Research Institutes of Sweden AB (RISE)	1488 (FPC)

YTELSESERKLÆRING

Nr: DoP-120257 [NO]

Europeisk teknisk bedømmelse (ETA)	Dimensjon & Overflatebehandling	Egenskap	Ytelse
ETA-12/0257 (2017-12-14)	M8 - M16 Blankforsinket & Varmforsinket	Characteristic resistance to tension and shear loads	ETA-12/0257 Annex 4 and 5
		Durability	ETA-12/0257 Annex 2
		Characteristic resistance and displacements for seismic performance categories C1 or C2	No Performance Declared (NPD)
		Reaction to fire	Class A1
		Resistance to fire	No Performance Declared (NPD)

Ytelser for denne byggevaren som er anført ovenfor, er i overensstemmelse med de angitte ytelsene. Denne ytelseserklæringen er utarbeidet i overensstemmelse med forordning (EU) nr. 305/2011 under produsentens eneansvar, som anført ovenfor.

Underskrevet for produsenten og på dennes vegne:

Kista 2017-12-15

Viktor Bukowski
Product Developer/Technical expert – Fasteners

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of Sweden AB
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Designated according to Article 29 of Regulation (EU) No 305/2011

Member of EOTA

www.eota.eu

European Technical Assessment

ETA 12/0257
of 14/12/2017

General Part

Technical Assessment Body issuing the ETA:	RISE Research Institutes of Sweden AB
Trade name of the construction product	Golden Anchor
Product family to which the construction product belongs	Torque-controlled expansion anchor of sizes M8, M10, M12 and M16 for use in non-cracked concrete
Manufacturer	Essve Produkter AB Esbogatan 14 SE-164 74 Kista, Sweden www.essve.se
Manufacturing plant(s)	Essve Produkter AB plant no 369
This European Technical Assessment contains	8 pages including 5 Annexes which form an integral part of this assessment.
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	European Assessment Document 330232-00-0601, edition October 2016.
This ETA is a corrigendum to	ETA 12/0257 issued on 04/12/2017

Specific parts

1 Technical description of the product

The Golden Anchor is an anchor made of electro-galvanized steel or hot dip galvanized steel with one sleeve which is placed into a drilled hole and anchored by torque-controlled expansion. It is available in sizes of M8, M10, M12 and M16.

The installation data is shown in the figure in Annex 3.

2 Specification of the intended use(s) in accordance with the applicable European Assessment Document (hereinafter EAD)

The anchor is intended to be used for making structural fixings into concrete.

The anchor is for use only in structures of reinforced or unreinforced, non-cracked normal-weight concrete with a strength class in the range of C20/25 to C50/60 in accordance with EN 206:2000, and in dry, internal conditions and for anchorages subject to static or quasi-static loading.

The provisions made in this European Technical Assessment are based on an assumed working life of the anchor of 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

3.1 Essential characteristics and their performance

		Characteristic	**Performance**
BWR 1	Mechanical resistance and stability	Characteristic resistance	See Annex 4 and 5
		Durability	See Annex 2
BWR 2	Safety in case of fire	Reaction to fire	Class A1

4 Assessment and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base

According to the decision 96/582/EC, of the European Commission the system of assessment and verification of constancy of performance (see Annex V to the regulation (EU) No 305/2011) to be applied is 1.

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at RISE Research Institutes of Sweden AB.

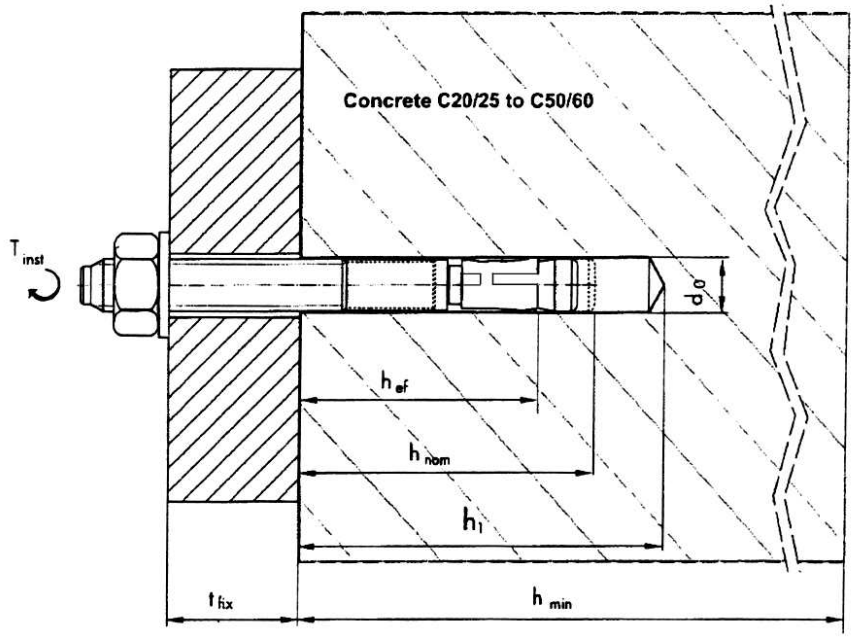
Issued in Borås on 14.12.2017
By RISE Research Institutes of Sweden AB

Johan Åkesson
Certification Manager

Annexes

Example of marking **SV M12/15**

Marking	**Designation**
SV	Identification of producer
M12	Nominal diameter
15	The maximum thickness of the fixture



Product and intended use **Essve Golden Anchor**	**Annex 1** of European Technical Assessment **ETA-12/0257**

Table 1 Dimensions

				M8	M10	M12	M16
Bolt	Nominal diameter	d_{nom}	(mm)	8	10	12	16
	Neck diameter	d_s	(mm)	5,8	7,8	9,3	12,8
	Fixture thickness	t_{fix} max	(mm)	35	140	150	160
	Thread length	l_g min	(mm)	39	45	54	67
		l_g max	(mm)	80	200	210	240
	Total length	l min	(mm)	75	90	110	150
		l max	(mm)	150	250	300	350
Expansion sleeve	Length	l_s	(mm)	11,0	13,4	16,5	18,0
Flange nut	Diameter	d_u	(mm)	17	21	25	34

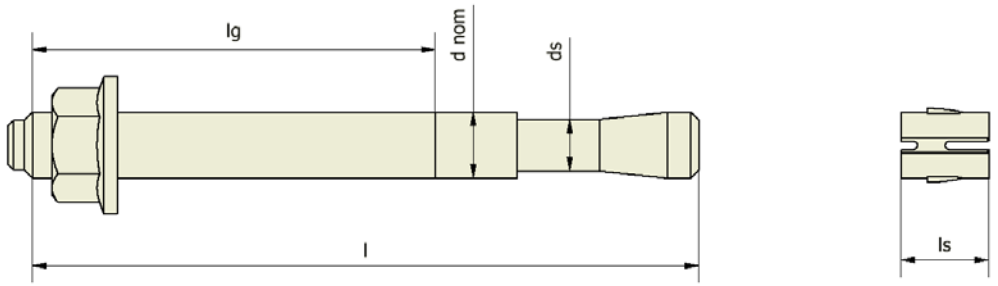


Table 2 Materials

Part	Designation	Material	Coating
1	Bolt	Cold formed carbon steel, f_{uk} min. 500 MPa, f_{yk} min. 400 MPa	Electroplated 5 µm
			Hot dip galvanized 25 µm
2	Expansion sleeve	Stainless steel A2 in accordance with EN 10088	
3	Flange nut	Grade 8 in accordance with ISO 898-2	Electroplated 5 µm
			Hot dip galvanized 25 µm

Materials and dimensions of anchors **Essve Golden Anchor**	**Annex 2** of European Technical Assessment **ETA-12/0257**

Table 3 Installation data

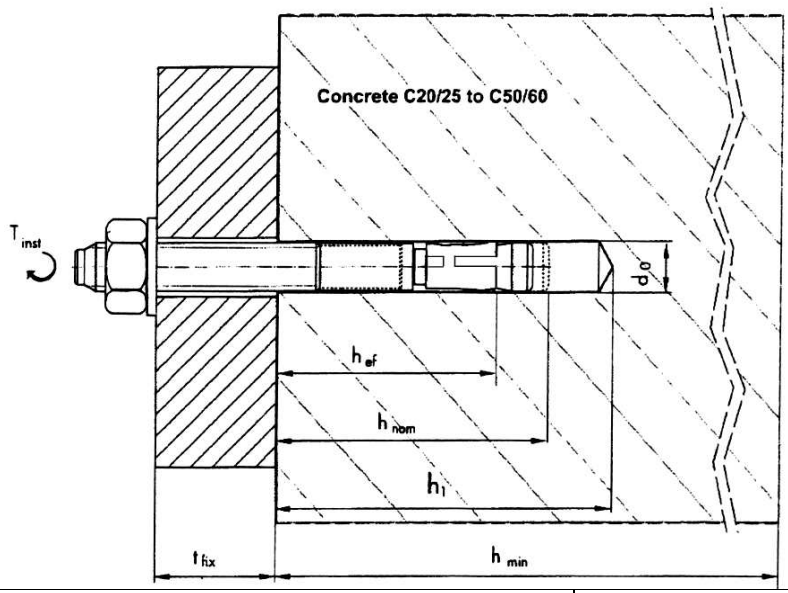
				M8	M10	M12	M16
Nominal drill hole diameter	d_0		(mm)	8	10	12	16
Cutting diameter of drill bit	d_{cut}	≤	(mm)	8,45	10,45	12,5	16,5
Torque moment	T_{inst}		(Nm)	23	35	55	120
Depth of drill hole	h_1	≥	(mm)	70	90	100	130
Anchor embedment depth	h_{nom}		(mm)	66	84	96	117
Effective anchorage depth	h_{ef}		(mm)	55	70	80	95
Diameter of clearance hole in fixture	d_f		(mm)	9	12	14	18
Member thickness	h_{min}	≥	(mm)	110	160	160	230
Spacing	s_{min}		(mm)	50	60	70	90
	s_{cr}	≥	(mm)	165	210	240	285
Edge distance	c_{min}		(mm)	40	50	60	80
	c_{cr}	≥	(mm)	83	105	120	143

s_{min} Minimum allowable spacing

s_{cr} Spacing for ensuring the transmission of the characteristic resistance of a single anchor

c_{min} Minimum allowable edge distance

s_{cr} Edge distance for ensuring the transmission of the characteristic resistance of a single anchor



Installation data **Essve Golden Anchor**	**Annex 3** of European Technical Assessment **ETA-12/0257**

Table 4 Characteristic values of resistance to tensile loads

			M8	M10	M12	M16
Steel failure						
Characteristic resistance	$N_{Rk,s}$	(kN)	13,2	23,9	34,0	64,4
Partial safety factor	γ_{Ms}		1,5			
Pull-out failure						
Characteristic resistance in non-cracked concrete C20/25 to C50/60	$N_{Rk,p}$	(kN)	16	16	30	40
Partial safety factors	γ_2		1,4		1,0	
	γ_{Mp}		1,5			
Concrete cone failure and splitting failure						
Effective anchorage depth	h_{ef}	(mm)	55	70	80	95
Spacing	$s_{cr,N}$	(mm)	$3 \cdot h_{ef}$			
	$s_{cr,sp}$	(mm)	$6 \cdot h_{ef}$			
Edge distances	$c_{cr,N}$	(mm)	$1{,}5 \cdot h_{ef}$			
	$c_{cr,sp}$	(mm)	$3 \cdot h_{ef}$			
Partial safety factors	γ_2		1,4		1,0	
	$\gamma_{Mc} = \gamma_{M,sp}$		1,5			

Table 5 Displacements under tension loads

			M8	M10	M12	M16
Tension load in non-cracked concrete C20/25 to C50/60		(kN)	7,6	7,6	14,3	19,0
Displacement	δ_{N0}	(mm)	0,3	1,6		
	$\delta_{N\infty}$	(mm)	2,1	2,9		

Characteristic values of resistance to tensile loads; displacements (design method A) **Essve Golden Anchor**	**Annex 4** of European Technical Assessment **ETA-12/0257**

Table 6 Characteristic values of resistance to shear loads

			M8	M10	M12	M16
Steel failure without lever arm						
Characteristic resistance	$V_{Rk,s}$	(kN)	9,2	14,5	21,1	39,2
Partial safety factor	γ_{Ms}		1,25			
Steel failure with lever arm						
Characteristic resistance	$M_{Rk,s}$	(Nm)	18,8	37,3	65,5	165,8
Partial safety factor	γ_{Ms}		1,25			
Concrete pryout failure						
Factor in Equation (5.6) of ETAG Annex C, 5.2.3.3	k		1,0	2,0		
Partial safety factor	γ_{Mc}		1,5			
Concrete edge failure						
Effective length of anchor in shear loading	l_f	(mm)	55	70	80	95
Diameter	d_{nom}	(mm)	8	10	12	16
Partial safety factor	γ_{Mc}		1,5			

Table 7 Displacements under shear loads

			M8	M10	M12	M16
Shear load in non-cracked concrete C20/25 to C50/60		kN	5,3	8,3	12,1	22,4
Displacement	δ_{V0}	(mm)	1,0			
	$\delta_{V\infty}$	(mm)	1,5			

Characteristic values of resistance to shear loads; displacements (design method A) **Essve Golden Anchor**	**Annex 5** of European Technical Assessment **ETA-12/0257**