



# PRESTANDEKLARATION

Nr: DoP-170568 [SV]

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Produkttypens unika identifikationskod:  
Spikexpander (Nail Anchor) ENA 6 / ENA 8 / ENA-K / ENA-M / ENA-O

## Tillverkare:

ESSVE Produkter AB  
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Europeisk teknisk bedömning (ETA)	Dimension & Material	Artikelnummer
ETA-17/0568 (2017-08-10)	ENA-K Blankförzinkad	Alla artikelnummer i produktgruppen omfattas av ETA:t.
	ENA-K A4	Alla artikelnummer i produktgruppen omfattas av ETA:t.
	ENA-M Blankförzinkad	Alla artikelnummer i produktgruppen omfattas av ETA:t.

Europeisk teknisk bedömning (ETA)	Avsedd användning	Betongkvalitet
ETA-17/0568 (2017-08-10)	Redundant flerpunktsinfästning, avsedd för icke-bärande konstruktioner utsatt för statiska eller kvasi-statiska laster, i sprucken eller osprucken betong.	Reinforced or unreinforced normal weight concrete according to EN 206-1:2000. <ul style="list-style-type: none"><li>Solid concrete C12/15 to C50/60</li></ul>

Europeisk teknisk bedömning (ETA)	System för bedömning och fortlöpande kontroll av prestanda (AVCP)	Europeiskt bedömningsdokument	Tekniskt bedömningsorgan (TAB)	Anmält organ (NB)
ETA-17/0568 (2017-08-10)	2+	ETAG 001 Part 6, (2011-01)	DEUTSCHES INSTITUT FÜR BAUTECHNIK (DiBt)	1343 (FPC)



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Europeisk teknisk bedömning (ETA)	Väsentliga egenskaper	Prestanda
ETA-17/0568 (2017-08-10)	Characteristic resistance	Table C1
	Reaction to fire	Class A1
	Resistance to fire	Table C2

Prestandan för ovanstående produkt överensstämmer med den angivna prestandan. Denna prestandadeklARATION har utfärdats i enlighet med förordning (EU) nr 305/2011 på eget ansvar av den tillverkare som anges ovan.

Undertecknat på tillverkarens vägnar av:

Viktor Bukowski  
Product Developer/Technical expert – Fasteners

Kista ~~2017-08-21~~, reviderad 2018-10-10<sup>1</sup>

<sup>1</sup>Tabell med artikelnummer



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Table C1 - Characteristic and design resistance for a fixing point <sup>1)</sup>, design method C

Anchor types			ENA 6	ENA 8 ENA-K ENA-M	ENA-O	ENA 6	ENA 8 ENA-K ENA-M	ENA-O
Effective anchorage depth	$h_{ef} \geq$	[mm]	25			30		
Partial safety factor for any direction	$\gamma_M$	-	1,5					
<b>Optimized for maximum load</b>								
Characteristic resistance <b>C12/15</b>	$F_{Rk}$	[kN]	3,0	3,0 <sup>4)</sup>	1,5	4,0	4,0 <sup>4)</sup>	1,5
Characteristic resistance <b>C20/25 to C50/60</b>			4,5	4,5 <sup>4)</sup>		5,9	5,9 <sup>4)</sup>	
Design resistance <b>C12/15</b>	$F_{Rd}$	[kN]	2,0	2,0 <sup>4)</sup>	1,0	2,7	2,7 <sup>4)</sup>	1,0
Design resistance <b>C20/25 to C50/60</b>			3,0	3,0 <sup>4)</sup>		3,9	3,9 <sup>4)</sup>	
Respective spacing between fixing points <sup>1) 2)</sup>	$s_{cr}$	[mm]	100					
	for $c_{cr} \geq$		200					
Respective edge distance <sup>2)</sup>	$c_{cr}$	[mm]	100					
	for $s_{cr} \geq$		200					
<b>Optimized for minimum edge distance</b>								
Characteristic resistance <b>C12/15</b>	$F_{Rk}$	[kN]	1,5	1,5 <sup>4)</sup>	1,5	2,0	2,0 <sup>4)</sup>	1,5
Characteristic resistance <b>C20/25 to C50/60</b>			2,0	2,0 <sup>4)</sup>		2,5	2,5 <sup>4)</sup>	
Design resistance <b>C12/15</b>	$F_{Rd}$	[kN]	1,0	1,0 <sup>4)</sup>	1,0	1,3	1,3 <sup>4)</sup>	1,0
Design resistance <b>C20/25 to C50/60</b>			1,3	1,3 <sup>4)</sup>		1,7	1,7 <sup>4)</sup>	
Respective spacing between fixing points <sup>1)</sup>	$c_{cr}$	[mm]	50					
	for $s_{cr} \geq$		100					
<b>Shear load with lever arm</b>								
Characteristic resistance, <b>steel zinc plated</b>	$M^0_{Rk,s}$	[Nm]	9,2	12,7	<sup>3)</sup>	9,2	12,7	<sup>3)</sup>
Characteristic resistance, <b>stainless steel A4/HCR</b>			9,2	13,5	<sup>3)</sup>	9,2	13,5	<sup>3)</sup>
Partial safety factor	$\gamma_{Ms}$	-	1,25					

<sup>1)</sup> A fixing point is defined as:

- Single anchor,
- Double anchor group with a minimum spacing  $s$  of  $50 \text{ mm} \leq s < s_{cr}$  or
- Quadruple anchor group with a minimum spacing  $s$  of  $50 \text{ mm} \leq s < s_{cr}$

If the spacing in a fixing point is greater than or equal to the respective spacing in this table, the characteristic resistances apply to every single anchor.

<sup>2)</sup> Intermediate values can be linearly interpolated.

<sup>3)</sup> Proof against failure due to shear load with lever arm is not required.

<sup>4)</sup> When applying a shear load to anchor version ENA-M, shear load with lever arm must be proven.



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Table C2 - Characteristic resistance for a fixing point <sup>1)</sup> under fire exposure in concrete C20/25 to C50/60, design method C

Fire resistance class		ENA 6 ENA 8	ENA-K	ENA-M <sup>3)</sup>	ENA-O	ENA 6 ENA 8	ENA-K	ENA-M <sup>3)</sup>	ENA-O	
Effective anchorage depth	$h_{ef} \geq$ [mm]	25				30				
<b>Load in any direction</b>										
R 30	Characteristic resistance, <b>steel zinc plated</b>	$F_{Rk,fi}$ [kN]	0,6	0,6	0,6	0,2	0,9	0,9	0,8	-
R 60			0,6	0,6	0,6	0,2	0,7	0,8	0,7	-
R 90			0,5	0,6	0,6	0,1	0,5	0,6	0,6	-
R120			0,4	0,5	0,5	0,1	0,4	0,5	0,6	-
R 30	Characteristic resistance, <b>stainless steel A4 / HCR</b>	$F_{Rk,fi}$ [kN]	0,6	0,6	0,6	0,2	0,9	0,9	0,8	0,2
R 60			0,6	0,6	0,6	0,2	0,9	0,9	0,7	0,2
R 90			0,5	0,6	0,6	0,1	0,9	0,9	0,6	0,1
R120			0,4	0,5	0,5	0,1	0,7	0,7	0,6	0,1
R 30 – R 120	Edge distance	$c_{cr,fi}$ [mm]	50							
	Spacing	$s_{cr,fi}$ [mm]	100							
<b>Shear load with lever arm</b>										
R 30	Characteristic resistance, <b>steel zinc plated</b>	$M^0_{Rk,fi}$ [Nm]	0,7	1,0	0,7	<sup>2)</sup>	0,7	1,0	0,7	-
R 60			0,5	0,8	0,7	<sup>2)</sup>	0,5	0,8	0,7	-
R 90			0,4	0,5	0,6	<sup>2)</sup>	0,4	0,5	0,6	-
R120			0,3	0,4	0,5	<sup>2)</sup>	0,3	0,4	0,5	-
R 30	Characteristic resistance, <b>stainless steel A4 / HCR</b>	$M^0_{Rk,fi}$ [Nm]	1,4	2,1	0,7	<sup>2)</sup>	1,4	2,1	0,7	<sup>2)</sup>
R 60			1,1	1,5	0,7	<sup>2)</sup>	1,1	1,5	0,7	<sup>2)</sup>
R 90			0,7	1,0	0,6	<sup>2)</sup>	0,7	1,0	0,6	<sup>2)</sup>
R120			0,5	0,7	0,5	<sup>2)</sup>	0,5	0,7	0,5	<sup>2)</sup>
If the fire attack is from more than one side, the edge distance shall be $\geq 300$ mm.										

<sup>1)</sup> A fixing point is defined as:

- Single anchor,
- Double anchor group with a minimum spacing  $s$  of  $50 \text{ mm} \leq s < s_{cr}$  or
- Quadruple anchor group with a minimum spacing  $s$  of  $50 \text{ mm} \leq s < s_{cr}$

If the spacing in a fixing point is greater than or equal to the respective spacing in this table, the characteristic resistances apply to every single anchor.

<sup>2)</sup> Proof against failure due to shear load with lever arm is not required.

<sup>3)</sup> Only in connection with threaded rods M8, M10 or M12 minimum strength class 5.8. When applying shear load to this anchor version, shear load with lever arm must be proven.