

## The internally threaded anchor with rim for simple hammerset installation



### VERSIONS

- Zinc-plated steel
- Stainless steel

### BUILDING MATERIALS

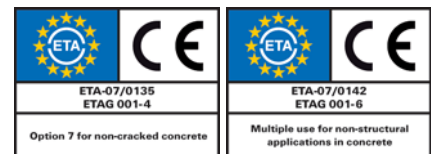
#### Approved for:

- Concrete C20/25 to C50/60, cracked, for the multiple fixings of non-load-bearing systems
- Concrete C20/25 to C50/60, non-cracked

#### Also suitable for:

- Concrete C12/15
- Natural stone with dense structure

### CERTIFICATES



### ADVANTAGES

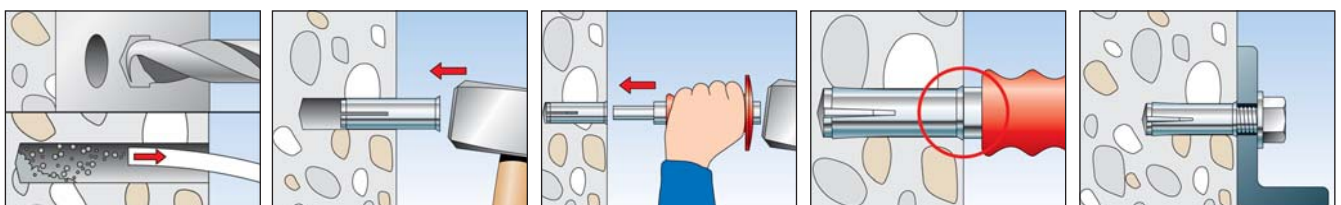
- The embossed rim prevents the anchor sleeve from slipping, thus ensuring a trouble-free hammerset installation.
- The metric internal thread means that it is possible to use standard screws or threaded rods for the ideal adaptation to suit the intended use.
- The EMS machine setting tool allows for effortless installation, particularly in the case of series installations.
- The embossing that is applied when expanding with the EHS Plus setting tool offers a simple control of the anchoring and provides increased safety.
- Fixing point at  $h_{ef}$  25 mm prevents anchor of falling out of the drill hole before being expanded.
- The black fixing point prevents the anchor from falling out of the drill hole during overhead installation.

### APPLICATIONS

- Pipelines and ventilation ducts
- Sprinkler systems
- Cable conduits and wires
- Gratings
- Steel constructions
- Machines
- Consoles
- Shuttering props
- Diamond or core drilling devices (EA II M12 D)

### FUNCTIONING

- The EA II is suitable for pre-positioned installation.
- Position the hammerset anchor in the drill hole and drive in flush to the surface of the anchor base using the hammer.
- The sleeve is then expanded by driving in the internal bolt with the EHS Plus setting tool (alternative: EMS machine setting tool), and expanded against the drill hole wall.
- The setting tools must sit on the rim of the anchor to ensure correct expansion.
- Use the special EA II M12 x 50 D / EA M 12 x 50 N D with thicker sleeve for fixing diamond and core drilling devices.



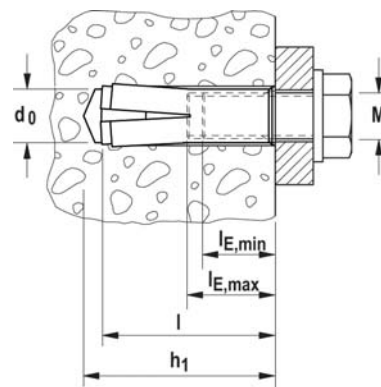
## TECHNICAL DATA



Hammer set anchor **EA II**, with reduced anchorage depth  $h_{ef}$  25 mm.



Hammer set anchor **EA II**. Not suitable for diamond drilling appliances and diamond saws.



	Zinc-plated steel	Stainless steel	Approval	Drill hole diameter	Min. drill hole depth for pre-positioned installation	Anchor length	Internal thread	Min. bolt penetration	Max. bolt penetration	Sales unit
	Art.-No.	Art.-No.	ETA	$d_0$ [mm]	$h_1$ [mm]	$l$ [mm]	M	$l_{E,min}$ [mm]	$l_{E,max}$ [mm]	[pcs]
Item	gvz	A4								
EA II M 6 x 25	532230	—	■	8	27	25	M 6	6	14	100
EA II M 6 x 30	048264	048410	■	8	32	30	M 6	6	14	100
EA II M 8 x 25	532231	—	■	10	27	25	M 8	8	14	100
EA II M 8 x 30	048284	048411	■	10	33	30	M 8	8	14	100
EA II M 8 x 40	048323	048412	■	10	43	40	M 8	8	14	50
EA II M 10 x 25	532232	—	■	12	27	25	M 10	10	14	50
EA II M 10 x 30	048332	—	■	12	33	30	M 10	10	14	50
EA II M 10 x 40	048339	048414	■	12	43	40	M 10	10	17	50
EA II M 12 x 25	532233	—	■	15	27	25	M 12	12	14	25
EA II M 12 x 50	048406	048415	■	15	54	50	M 12	12	22	25
EA II M 16 x 65	048408	048416	■	20	70	65	M 16	16	28	20
EA II M 20 x 80	048409	048417	■	25	85	80	M 20	20	34	10

Associated setting tool for manual installation (EHS Plus), for installation with hammer drill (EMS)

## TECHNICAL DATA



Hammer set anchor **EA II M 12 x 50 D**. Suitable for diamond drilling appliances and diamond saws.



Hammer set anchor **EA M 12 x 50 N D**. Suitable for diamond drilling machines and diamond saws.

	Zinc-plated steel	Approval	Drill hole diameter	Min. drill hole depth	Anchor length	Internal thread	Min. bolt penetration	Max. bolt penetration	Sales unit
	Art.-No.	ETA	$d_0$ [mm]	$h_1$ [mm]	$l$ [mm]	M	$l_{E,min}$ [mm]	$l_{E,max}$ [mm]	[pcs]
Item	gvz								
EA II M 12 x 50 D	048407	■	16	54	50	M 12	12	22	25
EA M 12 x 50 N D	500872	—	16	54	50	M 12	12	22	50

Associated setting tool for manual installation (EHS Plus), for installation with hammer drill (EMS)

## ACCESSORIES



Stop drill **EBB**

Item	Art.-No.	Tool holder	Drill hole diameter [mm]	Drill hole depth [mm]	Match	Sales unit [pcs]
EBB 8 x 25	532607	SDS plus	8	27	EA II M 6 x 25	1
EBB 10 x 25	532608	SDS plus	10	27	EA II M 8 x 25	1
EBB 12 x 25	532609	SDS plus	12	27	EA II M 10 x 25	1
EBB 15 x 25	532610	SDS plus	15	27	EA II M 12 x 25	1

## ACCESSORIES



Machine setting tool **EMS**

Item	Art.-No.	Tool holder	Match	Sales unit [pcs]
<b>EMS M 6 x 25/30</b>	<b>048065</b>	SDS plus	EA II M 6 x 25, EA II M 6 x 30	1
<b>EMS M 8 x 25/30</b>	<b>048066</b>	SDS plus	EA II M 8 x 25, EA II M 8 x 30	1
<b>EMS M 8 x 40</b>	<b>048067</b>	SDS plus	EA II M 8 x 40	1
<b>EMS M 10 x 25/30</b>	<b>048068</b> 1)	SDS plus	EA II M 10 x 25, EA II M 10 x 30	1
<b>EMS M 10 x 40</b>	<b>048070</b>	SDS plus	EA II M 10 x 40	1
<b>EMS M 12 x 50</b>	<b>048071</b>	SDS plus	EA II M 12 x 50 D, EA II M 12 x 50, EA M 12 x 50 N D	1
<b>EMS M 16 x 65</b>	<b>048072</b> 1)	SDS max	EA II M 16 x 65	1
<b>EMS M 20 x 80</b>	<b>048073</b> 1)	SDS max	EA II M 20 x 80	1

1) Delivery time on request.

## ACCESSORIES



Setting tool **EHS Plus** with hand impact protection for your safety and embossing tool.



Setting tool **EA-ST**

Item	Art.-No.	Match	Sales unit [pcs]
<b>EHS M 6 x 25/30 Plus</b>	<b>044630</b>	EA II M 6 x 25, EA II M 6 x 30	1
<b>EHS M 8 x 25/30 Plus</b>	<b>044631</b>	EA II M 8 x 25, EA II M 8 x 30	1
<b>EHS M 8 x 40 Plus</b>	<b>044632</b>	EA II M 8 x 40	1
<b>EHS M 10 x 25/30 Plus</b>	<b>048487</b>	EA II M 10 x 25, EA II M 10 x 30	1
<b>EHS M 12 x 25 Plus</b>	<b>532568</b>	EA II M 12 x 25	1
<b>EHS M 10 x 40 Plus</b>	<b>044633</b>	EA II M 10 x 40	1
<b>EHS M 12 x 50 Plus</b>	<b>044634</b>	EA II M 12 x 50, EA II M 12 x 50 D	1
<b>EHS M 16 x 65 Plus</b>	<b>044635</b>	EA II M 16 x 65	1
<b>EHS M 20 x 80 Plus</b>	<b>044636</b>	EA II M 20 x 80	1
<b>EA-ST 12</b>	<b>504585</b>	EA M 12 x 50 N D	1

## LOADS

### Hammerset anchor EA II

zinc plated steel / stainless steel

Permissible loads of a single anchor in non-cracked normal concrete (concrete compression zone) of strength class C20/25 (~B25) <sup>1) 2) 3)</sup>										Minimum spacings while reducing the load	
Type	Screw material resp. screw surface	Minimum member thickness	Effective anchorage depth	Maximum installation torque	Permissible tensile load	Permissible shear load	Required edge distance (with one edge) for		Required spacing for	Min. spacing	Min. edge distance
							Max. tension load c	Max. shear load c			
		h <sub>min</sub> [mm]	h <sub>ef</sub> [mm]	T <sub>max</sub> [Nm]	N <sub>perm</sub> <sup>4)</sup> [kN]	V <sub>perm</sub> <sup>4)</sup> [kN]	[mm]	[mm]	[mm]	[mm]	[mm]
EA II M6 x 30 <sup>8)</sup>	5.8	80	30	4	3,9	2,9	150	150	90	70	150
	8.8										
	A4-70										
EA II M8 x 30 <sup>8)</sup>	5.8	80	30	8	3,9	4,9	150	150	90	110	150
	8.8										
	A4-70										
EA II M8 x 40	5.8	80	40	8	6,1	4,9	150	150	120	200	150
	8.8										
	A4-70										
EA II M10 x 40	5.8	100	40	15	6,1	6,2	180	180	120	150	180
	8.8										
	A4-70										
EA II M12	5.8	100	50	35	8,5	11,3	200	200	150	200	200
	8.8										
	A4-70										
EA II M16	5.8	160	65	60	12,6	18,3	240	240	195	180	240
	8.8										
	A4-70										
EA II M20	5.8	200	80	120	17,2	29,1	280	285	240	190	280
	8.8										
	A4-70										
						33,7		340			

For the design the complete assessment ETA-07/0135 has to be considered. <sup>7)</sup>

<sup>1)</sup> The partial safety factors for material resistance as regulated in the ETA-07/0135 as well as a partial safety factor for load actions of  $\gamma_L = 1,4$  are considered. As an single anchor counts e.g. an anchor with a spacing  $s \geq 3 \cdot h_{ef}$  and an edge distance  $c \geq 1,5 \cdot h_{ef}$ . Accurate data see ETA-07/0135.

<sup>2)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

<sup>3)</sup> Drill method hammer drilling.

<sup>4)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see ETA-07/0135.

<sup>5)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load.

<sup>6)</sup> Minimum possible spacing resp. edge distance while reducing the permissible load for the required minimum member thickness. The combination of minimum edge distance and minimum spacing is not possible. One of both values has to be increased acc. ETA-07/0135.

<sup>7)</sup> The given loads refer to the European Technical Assessment ETA-07/0135, issue date 09/12/2016. Design of the loads according ETAG 001, Annex C, Method A (for static resp. quasi-static loads).

<sup>8)</sup> Only approved for statically indeterminate systems.

## LOADS

### Hammerset anchor EA II galvanised / corrosion resistant steel A4

Highest permissible loads for a single anchor<sup>1)6)</sup> for multiple use for non-structural applications in cracked and non-cracked concrete C20/25 up to C50/60<sup>5)</sup>.

Type	Effective anchorage depth $h_{ef}$ [mm]	Min. member thickness $h_{min}^{4)}$ [mm]	Maximum torque moment $T_{inst,max}$ [Nm]	Permissible load $F_{perm}^{3)}$ [kN]	Required spacing for Max. Load s [mm]	Min. spacing $s_{min}^{2)}$ [mm]	Min. edge distance $c_{min}^{2)}$ [mm]
EA II M6 x 25	25	80	4,0	1,0	75	30	60
EA II M6 x 30	30	80	4,0	1,2	90	65	115
EA II M8 x 25	25	80	8,0	1,4	75	50	100
EA II M8 x 30	30	80	8,0	2,0	90	70	115
EA II M8 x 40	40	80	8,0	2,0	120	70	115
EA II M10 x 25	25	80	15,0	1,9	75	60	100
EA II M10 x 30	30	80	15,0	2,0	90	85	140
EA II M10 x 40	40	80	15,0	3,0	200	95	150
EA II M12 x 25	25	80	35,0	1,9	75	100	110
EA II M12 x 50	50	100	35,0	4,3	300	145	200

For the design the complete approval ETA-07/0142 has to be considered.

<sup>1)</sup> The required partial safety factors for material resistance as well as a partial safety factor for load actions of  $\gamma_L = 1,4$  are considered.

<sup>2)</sup> Minimum possible axial spacings resp. edge distances while increasing the member thickness. The combination of minimum axial spacing and minimum edge distance with the minimum member thickness is not possible. Exact data see approval.

<sup>3)</sup> Valid for tensile load, shear load and oblique load under any angle. For combinations of tensile loads, shear loads as well as bending moments see approval.

<sup>4)</sup> Minimum possible member thickness while increasing the axial spacings and edge distances. The combination of minimum axial spacing and minimum edge distance with the minimum member thickness is not possible. Exact data see approval.

<sup>5)</sup> Further data for concrete C12/15 see approval.

<sup>6)</sup> Screw property class 4.6 and A4-50.

## LOADS

### Hammerset anchor EA II (screw property class 4.6 and A4-50)

Highest permissible loads<sup>1)</sup> for a single anchor for multiple use for non-structural applications in pre-stressed hollow core slabs<sup>4)</sup>

Type	Bottom flange thickness [mm]	Effective anchorage depth $h_{ef}$ [mm]	Maximum torque moment $T_{inst,max}$ [Nm]	Permissible load $F_{perm}^{3)}$ [kN]	Min. spacing $s_{min}^{2)}$ [mm]	Min. edge distance $c_{min}^{2)}$ [mm]
EA II M6 x 25	$\geq 35^{5)}$	25	4,0	1,0	200	150
EA II M8 x 25			8,0	1,4		
EA II M10 x 25			15,0	1,9		
EA II M12 x 25			35,0	1,9		

For the design the complete approval ETA-07/0142 has to be considered.

<sup>1)</sup> The required partial safety factors for material resistance as well as a partial safety factor for load actions of  $\gamma_L = 1,4$  are considered.

<sup>2)</sup> Minimum possible axial spacings resp. edge distance. For further measures see approval.

<sup>3)</sup> Valid for tensile load, shear load and oblique load under any angle. For combinations of tensile loads, shear loads as well as bending moments see approval.

<sup>4)</sup> Concrete strength class C30/37 up to C50/60.

<sup>5)</sup> The anchor may be used in a flange thickness  $d_b = 30$  mm with the same characteristic resistance, but the drill hole must not cut a cavity.