

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



Sprinklers



Pipelines

### VERSIONS

- zinc-plated steel
- stainless steel

### BUILDING MATERIALS

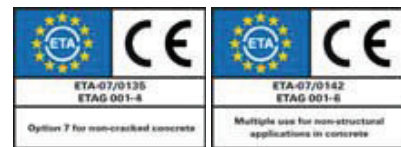
#### Approved for:

- 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

### ASSESSMENT/APPROVAL



### ADVANTAGES

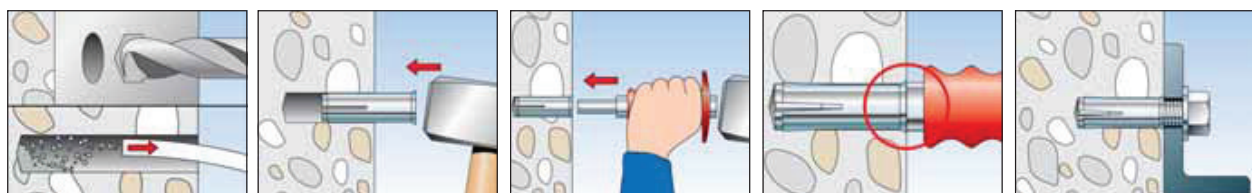
- The embossed rim prevents the anchor sleeve from slipping, thus ensuring a trouble-free hammerset installation.
- The metric internal thread means that it is possible to use standard screws or threaded rods for the ideal adaptation to suit the intended use.
- The EMS machine setting tool allows for 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.

### 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.



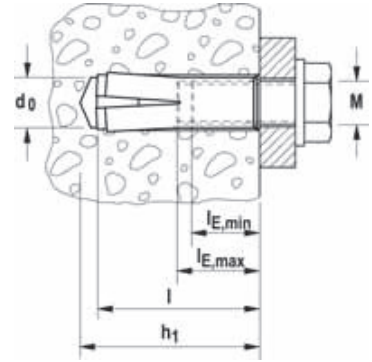
## TECHNICAL DATA



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



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



4 High performance steel anchors

	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]	A1	$l_{E,min}$ [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



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



Hammerset 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]	A1	$l_{E,min}$ [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	Drill hole depth	Match	Sales unit
			[mm]	[mm]		[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 25</b>	<b>532569</b>	SDS plus	EA II M 12 x 25	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 10 x 40 Plus</b>	<b>044633</b>	EA II M 10 x 40	1
<b>EHS M 12 x 25 Plus</b>	<b>532568</b>	EA II M 12 x 25	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 (screw/threaded rod property class  $\geq 4.6$ )

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

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

Type	Effective anchorage depth $h_{ef}$ [mm]	Minimum member thickness $h_{min}$ <sup>4)</sup> [mm]	Maximum torque moment $T_{inst,max}$ [Nm]	Cracked or non-cracked concrete		
				Permissible load $F_{perm}$ <sup>3)</sup> [kN]	Min. spacing $s_{min}$ <sup>2)</sup> [mm]	Min. edge distance $c_{min}$ <sup>2)</sup> [mm]
<b>EA II M 6 x 25</b>	25	80	4,0	1,0	30	60
<b>EA II M 6 x 30</b>	30	80	4,0	1,2	65	115
<b>EA II M 8 x 25</b>	25	80	8,0	1,4	50	100
<b>EA II M 8 x 30</b>	30	80	8,0	2,0	70	115
<b>EA II M 8 x 40</b>	40	80	8,0	2,0	70	115
<b>EA II M 10 x 25</b>	25	80	15,0	1,9	60	100
<b>EA II M 10 x 30</b>	30	80	15,0	2,0	85	140
<b>EA II M 10 x 40</b>	40	80	15,0	3,0	95	150
<b>EA II M 12 x 25</b>	25	80	35,0	1,9	100	110
<b>EA II M 12 x 50</b>	50	100	35,0	4,3	145	200

<sup>1)</sup> The partial safety factors for material resistance as regulated in the approval 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.

## LOADS

### Hammerset anchor EA II (screw property class 4.6)

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

Type	Bottom flange thickness [mm]	Effective anchorage depth $h_{ef}$ [mm]	Maximum torque moment $T_{inst,max}$ [Nm]	Pre-stressed hollow core slabs		
				Permissible load $F_{perm}^{3)}$ [kN]	Min. spacing $s_{min}^{2)}$ [mm]	Min. edge distance $c_{min}^{2)}$ [mm]
EA II M 6 x 25	≥ 35 <sup>5)</sup>	25	4,0	1,0	200	150
EA II M 8 x 25			8,0	1,4		
EA II M 10 x 25			15,0	1,9		
EA II M 12 x 25			35,0	1,9		

<sup>1)</sup> The partial safety factors for material resistance as regulated in the approval 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. Further 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> 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.

## LOADS

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

**Highest permissible loads for a single anchor<sup>1)</sup>** for multiple use for non-structural applications in concrete C20/25 up to C50/60<sup>5)</sup>. For the design the complete approval ETA-07/0142 has to be considered.

Type	Effective anchorage depth $h_{ef}$ [mm]	Min. member thickness $h_{min}^{4)}$ [mm]	Max. torque moment $T_{inst,max}$ [Nm]	Cracked or non-cracked concrete		
				Permissible load $F_{perm}^{3)}$ [kN]	Min. spacing $s_{min}^{2)}$ [mm]	Min. edge distance $c_{min}^{2)}$ [mm]
EA II M 6 x 30 A4	30	80	4,0	1,2	65	115
EA II M 8 x 30 A4	30	80	8,0	2,0	70	115
EA II M 8 x 40 A4	40	80	8,0	2,0	70	115
EA II M 10 x 30 A4	30	80	15,0	2,0	85	140
EA II M 10 x 40 A4	40	80	15,0	3,0	95	150
EA II M 12 x 50 A4	50	100	35,0	4,3	145	200

<sup>1)</sup> The partial safety factors for material resistance as regulated in the approval 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 strength class C12/15 see approval.

## LOADS

### Hammerset anchor EA II (screw property class 8.8)

**Highest permissible loads for a single anchor<sup>1)</sup>** in concrete C20/25<sup>4)</sup>

For the design the complete approval ETA - 07/0135 has to be considered.

Type	Effective anchorage depth $h_{ef}$ [mm]	Min. member thickness $h_{min}$ [mm]	Max. torque moment $T_{inst,max}$ [Nm]	Non-cracked concrete			
				Permissible tensile load $N_{perm}^{3)}$ [kN]	Permissible shear load $V_{perm}^{3)}$ [kN]	Min. spacing $s_{min}^{2)}$ [mm]	Min. edge distance $c_{min}^{2)}$ [mm]
EA II M 6 x 30 <sup>5)</sup>	30	80	4,0	4,0	3,9	65	115
EA II M 8 x 30 <sup>5)</sup>	30	80	8,0	4,0	4,9	70	115
EA II M 8 x 40	40	80	8,0	6,1	4,9	70	115
EA II M 10 x 30 <sup>5)</sup>	30	80	15,0	4,0	6,2	85	140
EA II M 10 x 40	40	80	15,0	6,1	6,2	95	150
EA II M 12 x 50	50	100	35,0	8,5	11,3	145	200
EA II M 12D x 50	50	100	35,0	8,5	15,4	145	200
EA II M 16 x 65	65	160	60,0	12,6	18,3	180	240
EA II M 20 x 80	80	200	120,0	17,2	29,1	190	280

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

<sup>2)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load.

<sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see approval.

<sup>4)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

<sup>5)</sup> Only for multiple use for non-structural applications.

## LOADS

Hammerset anchor EA II A4 (screw property class A4-70)

Highest permissible loads for a single anchor<sup>1)</sup> in concrete C20/25<sup>4)</sup>

For the design the complete approval ETA - 07/0135 has to be considered.

Type	Effective anchorage depth $h_{ef}$ [mm]	Min. member thickness $h_{min}$ [mm]	Max. torque moment $T_{inst,max}$ [Nm]	Non-cracked concrete			
				Permissible tensile load $N_{perm}^{3)}$ [kN]	Permissible shear load $V_{perm}^{3)}$ [kN]	Min. spacing $s_{min}^{2)}$ [mm]	Min. edge distance $c_{min}^{2)}$ [mm]
EA II M 6 x 30 A4 <sup>5)</sup>	30	80	4,0	4,0	3,2	65	115
EA II M 8 x 30 A4 <sup>5)</sup>	30	80	8,0	4,0	5,6	70	115
EA II M 8 x 40 A4	40	80	8,0	6,1	5,6	70	115
EA II M 10 x 30 A4 <sup>5)</sup>	30	80	15,0	4,0	6,9	85	140
EA II M 10 x 40 A4	40	80	15,0	6,1	7,1	95	150
EA II M 12 x 50 A4	50	100	35,0	8,5	12,9	145	200
EA II M 12 D x 50 A4	50	100	35,0	8,5	13,5	145	200
EA II M 16 x 65 A4	65	160	60,0	12,6	21,1	180	240
EA II M 20 x 80 A4	80	200	120,0	17,2	33,7	190	280

<sup>1)</sup> The partial safety factors for material resistance as regulated in the approval 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  $s \geq 3 \times h_{ef}$  and an edge distance  $c \geq 1,5 \times h_{ef}$ .

<sup>2)</sup> Minimum possible axial spacings resp. edge distance while reducing the permissible load.

<sup>3)</sup> For combinations of tensile loads, shear loads, bending moments as well as reduced edge distances or spacings (anchor groups) see approval.

<sup>4)</sup> For higher concrete strength classes up to C50/60 higher permissible loads may be possible.

<sup>5)</sup> Only for multiple use for non-structural applications.