

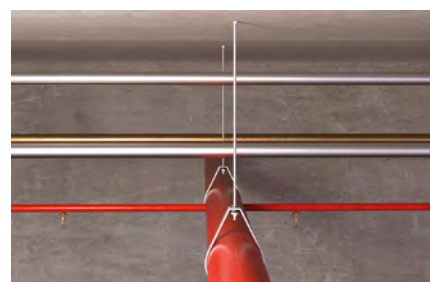
Hammer-set anchor EA II

The cost-effective hammer-set anchor with a rim for quick and easy installation.

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Pipelines



Sprinklers

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)

Advantages

- The embossed rim prevents the anchor from slipping, thus ensuring a trouble-free hammer-set 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 hef 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.

Certificates / Features



ETA-07/0135, in concrete
ETA-07/0142, for non-structural applications in concrete



from M10



from M8

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

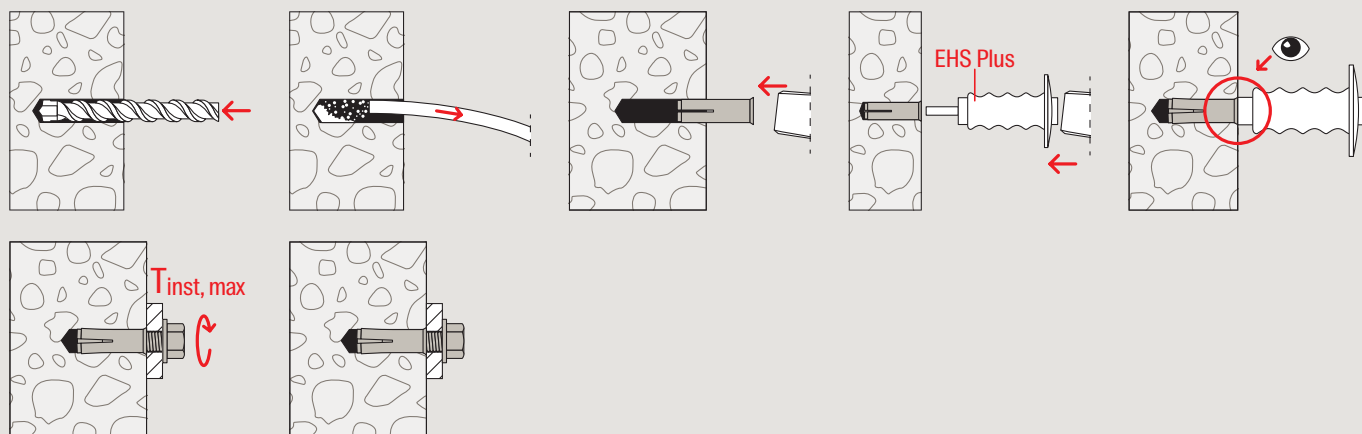
Versions

- Galvanised steel
- Stainless steel R

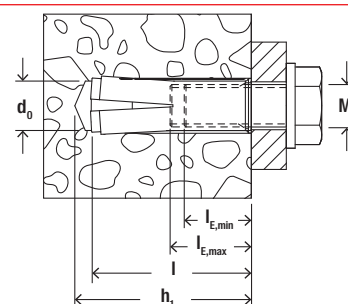
Functioning

- The EA II is suitable for pre-positioned installation.
- Position the hammer-set 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 M12 x 50 N D with thicker sleeve for fixing diamond and core drilling devices.

Installation EA II



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Technical data

Hammerset anchor EA II




EA II with reduced anchorage depth hef 25 mm and a black fixing point which prevents the anchor from falling out of the drill hole




EA II not suitable for diamond drilling appliances and diamond saws

	Galvane- steel	Stainless steel	Ap- pro- val	Drill diameter	Min. drill hole depth for pre-positioned installation	Anchor length	Internal thread	Min. bolt penet- ration	Max. bolt penet- ration	Sales unit
	Item no. gvz	Item no. R	ETA	d ₀ [mm]	h ₁ [mm]	l [mm]	M	l _{E,min} [mm]	l _{E,max} [mm]	[pcs]
Item										
EA II M 6 x 25	532230	–	●	8	27	25	M6	6	14	100
EA II M 6 x 30	048264	048410	●	8	32	30	M6	6	14	100
EA II M 8 x 25	532231	–	●	10	27	25	M8	8	14	100
EA II M 8 x 30	048284	048411	●	10	33	30	M8	8	14	100
EA II M 8 x 40	048323	048412	●	10	43	40	M8	8	14	50
EA II M 10 x 25	532232	–	●	12	27	25	M10	10	14	50
EA II M 10 x 30	048332	–	●	12	33	30	M10	10	14	50
EA II M 10 x 40	048339	048414	●	12	43	40	M10	10	17	50
EA II M 12 x 25	532233	–	●	15	27	25	M12	12	14	25
EA II M 12 x 50	048406	048415	●	15	54	50	M12	12	22	25
EA II M 16 x 65	048408	048416	●	20	70	65	M16	16	28	20
EA II M 20 x 80	048409	048417	●	25	85	80	M20	20	34	10


Technical data

Hammer-set anchor EA II D									
									
EA II M12 x 50 D		EA M12 x 50 N D							
	Item no.	Ap- pro- val ETA	Drill diameter d ₀ [mm]	Min. drill hole depth for pre-posi- tioned installation h ₁ [mm]	Anchor length l [mm]	Internal thread M	Min. bolt penet- ration l _{E,min} [mm]	Max. bolt penet- ration l _{E,max} [mm]	Sales unit [pcs]
Item									
EA M12 x 50 N D gvz	500872	–	16	50	50	M12	12	22	50
EA II M12 x 50 D	048407	●	16	54	50	M12	12	22	25

Technical data


Stop drill EBB					
					
EBB					
	Item no.	Drill diameter d ₀ [mm]	Drill hole depth h ₀ [mm]	Match	Sales unit [pcs]
Item					
EBB 8 x 25	532607	8	27	EA II M 6 x 25	1
EBB 10 x 25	532608	10	27	EA II M 8 x 25	1
EBB 12 x 25	532609	12	27	EA II M 10 x 25	1
EBB 15 x 25	532610	15	27	EA II M 12 x 25	1

Technical data


Machine setting tool EMS				
				
EMS				
	Item no.	Tool holder	Match	Sales unit [pcs]
Item				
EMS M 6 x 25/30	048065	SDS-plus	EA II M 6 x 25, EA II M 6 x 30	1
EMS M 8 x 25/30	048066	SDS-plus	EA II M 8 x 25, EA II M 8 x 30	1
EMS M 8 x 40	048067	SDS-plus	EA II M 8 x 40	1
EMS M10 x 25/30	048068	SDS-plus	EA II M 10 x 25, EA II M 10 x 30	1
EMS M10 x 40	048070	SDS-plus	EA II M 10 x 40	1
EMS M12 x 50	048071	SDS-plus	EA II M 12 x 50 D, EA II M 12 x 50, EA M 12 x 50 N D	1
EMS M16 x 65	048072	SDS-max	EA II M 16 x 65	1
EMS M 20 x 80	048073	SDS-max	EA II M 20 x 80	1

Technical data

Setting tool EMS Plus



EHS Plus



EA-ST

		Match	Sales unit
	Item no.		[pcs]
Item			
EHS M 6 x 25/30 Plus	044630	EA II M 6 x 25, EA II M 6 x 30	1
EHS M 8 x 25/30 Plus	044631	EA II M 8 x 25, EA II M 8 x 30	1
EHS M 8 x 40 Plus	044632	EA II M 8 x 40	1

Technical data

Setting tool EMS Plus



EHS Plus

EA-ST

Item	Item no.	Match	Sales unit [pcs]
EHS M10 x 40 Plus	044633	EA II M 10 x 40	1
EHS M12 x 50 Plus	044634	EA II M 12 x 50, EA II M 12 x 50 D	1
EHS M16 x 65 Plus	044635	EA II M 16 x 65	1
EHS M 20 x 80 Plus	044636	EA II M 20 x 80	1
EHS M10 x 25/30 Plus	048487	EA II M 10 x 25, EA II M 10 x 30	1
EA-ST 12	504585	EA N M12, EA IM 1/2 N, EA I 1/2 N	1
EHS M12 x 25 Plus	532568	EA II M 12 x 25	1

Loads

Hammerset anchor EA II

Permissible loads of a single anchor¹⁾ in normal concrete of strength class C20/25.
For the design the complete current assessment ETA-07/0135 has to be considered.

Type	Material/surface ²⁾	Screw material	Effective anchorage depth	Member thickness	Maximum installation torque	Non-cracked concrete			
			h_{ef} [mm]	h_{req} [mm]	$T_{inst,max}$ [Nm]	Permissible tension (N_{perm}) and shear loads (V_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads			
						$N_{perm}^{3)}$ [kN]	$V_{perm}^{3)}$ [kN]	$s_{min}^{3)}$ [mm]	$c_{min}^{3)}$ [mm]
EA II M8 x 40	gvz	5.8	40	100	8	5.9	4.9	70	115
	gvz	8.8	40	100	8	5.9	4.9	70	115
	R	A4-70	40	100	8	5.9	5.6	70	115
EA II M10 x 40	gvz	5.8	40	120	15	5.9	6.2	95	150
	gvz	8.8	40	120	15	5.9	6.2	95	150
	R	A4-70	40	120	15	5.9	7.1	95	150
EA II M12 x 50	gvz	5.8	50	120	35	8.3	11.3	145	200
	gvz	8.8	50	120	35	8.3	11.3	145	200
	R	A4-70	50	120	35	8.3	12.9	145	200
EA II M16 x 65	gvz	5.8	65	160	60	12.3	18.3	180	240
	gvz	8.8	65	160	60	12.3	18.3	180	240
	R	A4-70	65	160	60	12.3	21.1	180	240
EA II M20 x 80	gvz	5.8	80	200	120	16.8	29.1	190	280
	gvz	8.8	80	200	120	16.8	29.1	190	280
	R	A4-70	80	200	120	16.8	33.5	190	280

¹⁾ Design according to EN 1992-4:2018 (for static resp. quasi-static loads). The partial safety factors for material resistance as regulated in the ETA 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 $c \geq 1.5 \times h_{ef}$. Accurate data see ETA.

²⁾ For technical data on steel grade and variants, see ETA.

³⁾ In the case of combinations of tension and shear loads, bending moments with reduced or minimum spacing and edge distances (anchor groups), the design must be carried out in accordance with the provisions of the complete ETA and the provisions of the EN 1992-4:2018. We recommend using our anchor design software C-FIX.

Loads

Hammerseat anchor EA II

Permissible loads for a single anchor¹⁾ for multiple use of redundant non-structural applications* in normal concrete C20/25 up to C50/60.
For the design the complete current assessment ETA-07/0142 has to be considered.

Type	Material/ surface ²⁾	Screw material	Effective anchorage depth h_{ef} [mm]	Minimum member thick- ness $h_{min}^{3)}$ [mm]	Maximum installation torque $T_{inst,max}$ [Nm]	Cracked and non-cracked concrete		
						Permissible load (F_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads		
						$F_{perm}^{4)}$ [kN]	s_{min} [mm]	c_{min} [mm]
EA II M6 x 25	gvz	4.6	25	80	4	1.0	30	60
EA II M6 x 30	gvz	4.6	30	80	4	1.2	70	150
EA II M8 x 25	gvz	4.6	25	80	8	1.4	70	100
EA II M8 x 30	gvz	4.6	30	80	8	2.0	110	150
EA II M8 x 40	gvz	4.6	40	80	8	2.0	200	150
EA II M10 x 25	gvz	4.6	25	80	15	1.9	80	120
EA II M10 x 30	gvz	4.6	30	80	15	2.0	200	150
EA II M10 x 40	gvz	4.6	40	80	15	3.0	200	150
EA II M12 x 25	gvz	4.6	25	80	35	1.9	100	130
EA II M12 x 50	gvz	4.6	50	100	35	4.3	200	200

* In addition to the load table above, the following must be considered for multiple fastening of non-structural redundant systems:

A multiple fixing (redundant system) according to EN 1992-4 and CEN/TR 17079 is defined by

- at least 3 fixing points (per attached element) with at least one anchor at each fixing point and a permissible load per fixing point of 1.4 kN

- or by at least 4 fixing points with at least one anchor each fixing point and a permissible load per fixing point of 2.1 kN

- Additionally, it has to be proven that the stiffness of the attached element shall be large enough to ensure that in case of excessive slip or failure of a fastener the load on this fastener or fixing point can be transferred to neighbouring fixing points without significantly violating the requirements on the attached element in the serviceability and ultimate limit state.

For further details see EN 1992-4 section 7.3 and CEN/TR 17079.

¹⁾ Design according to EN 1992-4:2018 (for static resp. quasi-static loads). The partial safety factors for material resistance as regulated in the ETA as well as a partial safety factor for load actions of $\gamma_L = 1.4$ are considered.

²⁾ For details of steel grade, variants and further concrete classes, see ETA.

³⁾ Minimum possible member thickness while increasing the spacing and edge distances at the same time. The combination of minimum spacing and edge distances with the minimum member thickness is not possible. Exact data see ETA.

⁴⁾ Valid for tensile load, shear load and oblique load under any angle. In the case of combinations of tensile, shear loads and bending moments, the design must be carried out in accordance with the provisions of the complete ETA and the provisions of the EN 1992-4:2018.

Loads

Hammerseat anchor EA II

Permissible loads for a single anchor¹⁾ for multiple use of redundant non-structural applications* in pre-stressed hollow core slabs of concrete C30/37 up to C50/60.
For the design the complete current assessment ETA-07/0142 has to be considered.

Type	Material/ surface ²⁾	Screw material	Effective anchorage depth h_{ef} [mm]	Bottom flange thickness ⁴⁾ d_b [mm]	Maximum installation torque $T_{inst,max}$ [Nm]	Cracked and non-cracked concrete		
						Permissible load (F_{perm}); minimum spacing (s_{min}) and edge distances (c_{min}) with reduced loads		
						$F_{perm}^{3)}$ [kN]	s_{min} [mm]	c_{min} [mm]
EA II M6 x 25	gvz	4.6	25	≥ 35	4	1.0	200	150
EA II M8 x 25	gvz	4.6	25	≥ 35	8	1.4	200	150
EA II M10 x 25	gvz	4.6	25	≥ 35	15	1.9	200	150
EA II M12 x 25	gvz	4.6	25	≥ 35	35	1.9	200	150

* In addition to the load table above, the following must be considered for multiple fastening of non-structural redundant systems:

A multiple fixing (redundant system) according to EN 1992-4 and CEN/TR 17079 is defined by

- at least 3 fixing points (per attached element) with at least one anchor at each fixing point and a permissible load per fixing point of 1.4 kN

- or by at least 4 fixing points with at least one anchor each fixing point and a permissible load per fixing point of 2.1 kN

- Additionally, it has to be proven that the stiffness of the attached element shall be large enough to ensure that in case of excessive slip or failure of a fastener the load on this fastener or fixing point can be transferred to neighbouring fixing points without significantly violating the requirements on the attached element in the serviceability and ultimate limit state.

For further details see EN 1992-4 section 7.3 and CEN/TR 17079.

¹⁾ Design according to EN 1992-4:2018 (for static resp. quasi-static loads). The partial safety factors for material resistance as regulated in the ETA as well as a partial safety factor for load actions of $\gamma_L = 1.4$ are considered.

²⁾ For details of steel grade and variants, see ETA.

³⁾ Valid for tensile load, shear load and oblique load under any angle. In the case of combinations of tensile, shear loads and bending moments, the design must be carried out in accordance with the provisions of the complete ETA and the provisions of the EN 1992-4:2018.

⁴⁾ 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.