



EJOT® Chemical Anchoring Systems

High strength anchoring of threaded resin studs into masonry blocks, cracked and non-cracked concrete



The Quality Connection



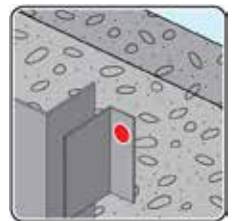
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EJOT Multifix VSF styrene free low-odour anchor mortar is a two-component chemical anchoring system based on a 'high reactivity' vinylester resin.



Features and Benefits

- ETA Approved for concrete
- Fire approved
- A+ Rating VOC content
- High bond strength with high load resistance
- Dynamic resistance
- High chemical resistance
- Used with all grades of threaded rod
- Used in non-cracked and cracked concrete
- Used in dry and wet concrete
- Use with potable water
- Fast gelling and curing
- Used in critical or overhead applications
- Used in corrosive environments
- Used for elevated temperatures - temperature ranges I, II and III
- Suitable underwater
- Low shrinkage enables large diameter installations
- Close edge distance and small spacing
- Manual cleaning up to 20mm diameter and embedment depths of 240mm



APPROVED
ETA 13/0918







Shelf Life and Storage

This product should be stored between +5°C & +25°C.

The Shelf life of the product is 18 months from the manufacture date.



Minimum Curing Time

 °C			
- 10°C*	50 min	4 hours	8 hours
-5°C*	40 min	3 hours	6 hours
5°C	20 min	1 hour 30 min	3 hours
15°C	9 min	1 hour	2 hours
25°C	5 min	30 min	1 hour
35°C	3 min	20 min	40 min

* Resin temperature must be at least 20°C

- Full cure 24 hours

- All specifications based on supplied mixer

NOTE: The information and data given is based on our own experience, research and testing and is believed to be reliable and accurate. However, as we cannot know the varied applications of use to which products may be applied, or the methods of application suitability of use should be confirmed by a structural engineer.

For further information please contact EJOT UK Customer Services: Telephone 01977 687040 Email info@ejot.co.uk



Installation Parameters

Concrete

Threaded Rod (Steel class 5.8, 8.8, 10.9)	M8	M10	M12	M16	M20	M24
Drill diameter d_0	10mm	12mm	14mm	18mm	24mm	28mm
Embedment depth $h_{ef\ min.}$	60mm	60mm	70mm	85mm	90mm	100mm
Embedment depth $h_{ef\ max.}$	160mm	200mm	240mm	320mm	400mm	480mm
Maximum torque $T_{max.}$	10Nm	20Nm	30Nm	60Nm	90Nm	140Nm
Minimum spacing $S_{min.}$	40mm	50mm	60mm	80mm	100mm	120mm
Minimum edge distance $C_{min.}$	40mm	50mm	60mm	80mm	100mm	120mm

Rebar

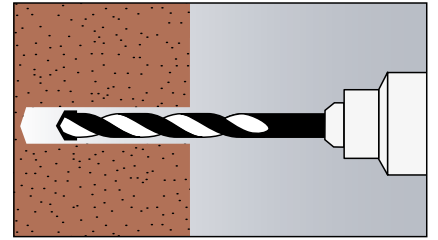
Rebar	8	10	12	14	18	20	25
Diameter of element	8mm	10mm	12mm	14mm	16mm	20mm	25mm
Embedment depth	60mm	60mm	70mm	75mm	80mm	90mm	100mm
Bore hole depth	160mm	200mm	240mm	280mm	320mm	400mm	500mm
Drill diameter	12mm	14mm	16mm	18mm	20mm	25mm	32mm
Min thickness of concrete member	$h_{ef} + 30mm \geq 100mm$			$h_{ef} + 2d_0$			
Minimum spacing	40mm	50mm	60mm	70mm	80mm	100mm	125mm
Minimum edge distance	40mm	50mm	60mm	70mm	80mm	100mm	125mm



Solid Wall Installation Parameters

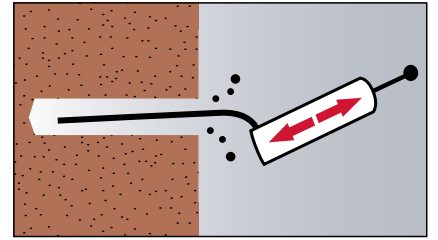
Drilling hole cleaning and installation

Drill hole in the substrate to the required embedment depth using the appropriately sized SDS drill bit.

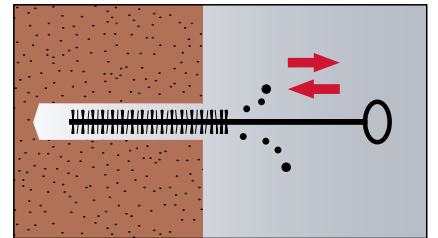


Bore hole cleaning

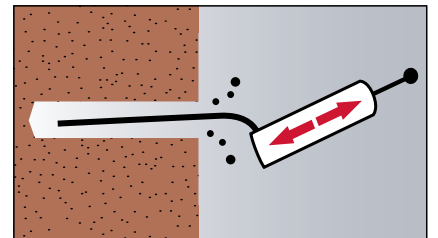
Just before setting an anchor, the bore hole must be free of dust and debris. The manual pump shall be used for blowing out bore holes up to diameters $d_o \leq 24\text{mm}$ and embedment depths up to $h_{ef} \leq 10d$. Blow out at least 4 times from the back of the bore hole, using an extension if needed.



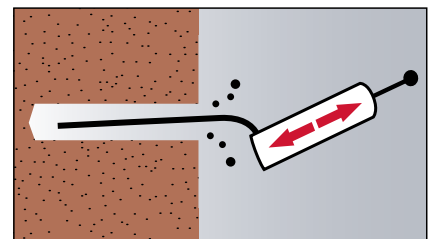
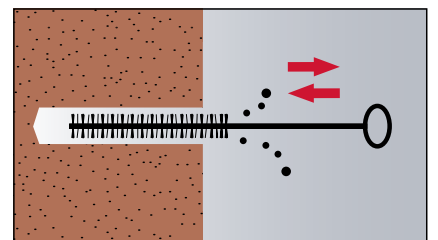
Brush 4 times with the specified brush size by inserting the steel brush to the back of the hole (if needed with an extension) in a twisting motion and removing it.



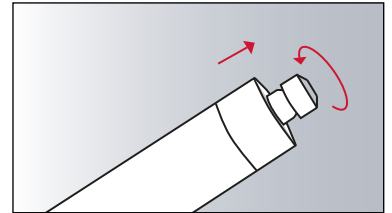
Blow out again with manual pump at least 4 times.



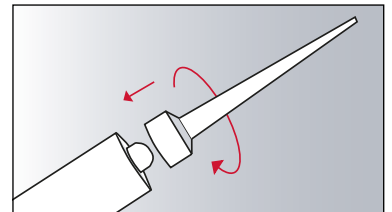
Repeat above process two more times.



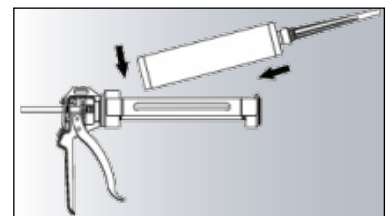
Remove the threaded cap from the cartridge.



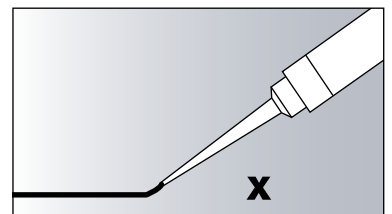
Tightly attach the mixing nozzle. Do not modify the mixer in any way. Ensure the mixing element is inside the mixer. Use only the supplied mixer.



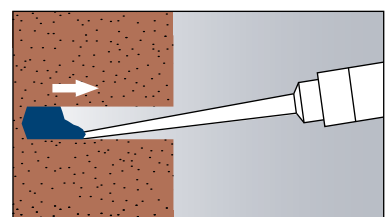
Insert the cartridge into the dispenser gun.



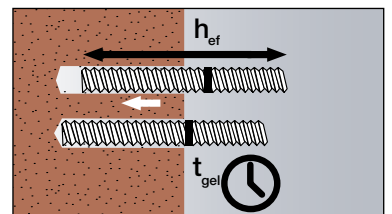
Discard the initial trigger pulls of adhesive.
Discard the first 10ml of resin until an even colour is achieved.



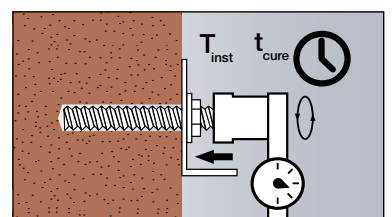
Inject the adhesive starting at the back of the hole, slowly withdrawing the mixer with each trigger pull. Fill holes approximately 2/3 full, to ensure that the annular gap between the anchor and the concrete is completely filled with adhesive along the embedment depth.



Before use, verify that the threaded rod is dry and free of contaminants. Install the threaded rod to the required embedment depth according to the working time shown in the table on page 2 of this guide.



The anchor can be loaded after the required curing time shown in the same table. For recommended torque please refer to the chart on page 3.



The working time is given in the table on page 2.

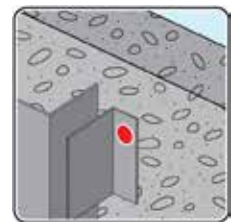
The anchor can be loaded after the required curing time (see table on page 2).

The applied torque shall not exceed the values given in the table on page 3.

EJOT Super Epoxy SE 800 is an epoxy injection mortar for solid base materials. It works in dry, wet and flooded holes.

Features and Benefits

- ETA approved
- Fire approved
- A+ rating VOC content
- For very high loads
- High chemical and temperature resistance
- Dynamic and long term loads resistance
- Can be used with diamond drilled holes
- Anchors used for post-installed rebar connection designed according EN 1992-1-1
- Anchor for use in non carbonated concrete C12/15 – C50/60 according EN206-1
- Service temperature range from -40°C to +80°C with a max long term temperature +50°C and with a max short term temperature +80°C
- Suitable for warm/hot regions
- Installation in dry, wet or flooded concrete
- No shrinkage - Can be used in oversized holes
- Styrene free, very low odour
- Thixotropic, can be applied in both vertical and horizontal directions



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Shelf Life and Storage

This product should be stored between +5°C & +25°C.

The Shelf life of the product is 18 months from the manufacture date.



Working and Hardening Times

				
5°C	60 min	16 hours	33 hours	50 hours
10°C	50 min	12 hours	24 hours	36 hours
20°C	30 min	3 hours	6 hours	9 hours
30°C	15 min	2 hours	4 hours	6 hours
40°C	8 min	1.5 hours	3 hours	4 hours

The minimum temperature for injection is +10°C

The minimum concrete temperature for injection is +5°C and maximum +40°C

*Time to reach 25% maximum load

NOTE: The information and data given is based on our own experience, research and testing and is believed to be reliable and accurate. However, as we cannot know the varied applications of use to which products may be applied, or the methods of application suitability of use should be confirmed by a structural engineer.

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Installation Parameters

Anchorage preparation

Threaded Rod (Steel class 8.8)	M8	M10	M12	M16	M20
Drill diameter	10mm	12mm	14mm	18mm	24mm
Embedment depth	80mm	90mm	110mm	125mm	170mm
Standard anchor distance	240mm	270mm	330mm	375mm	510mm
Standard edge distance	120mm	135mm	165mm	188mm	255mm
Service tension load	9.4kN	13.2kN	19.3kN	29.3kN	42.8kN

Rebar

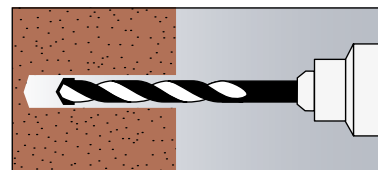
Rebar (mm)	8	10	12	14	16	20	25	28	32
Nominal drill hole (mm)	12	14	16	18	20	25	30	35	40
Min anchorage length (mm)	175	215	260	300	345	430	535	600	685
Max anchorage depth (mm)	700	900	1000	1000	1400	1800	2000	2000	2000



Solid Wall Installation Parameters

Drilling the hole

Drill the hole to the correct diameter and depth using diamond core drilling system or rotary percussive machine. Check the perpendicularity of the hole during the drilling operation.

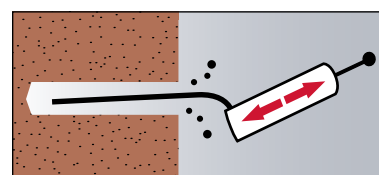


Cleaning the hole (compressed air and mechanical brush):

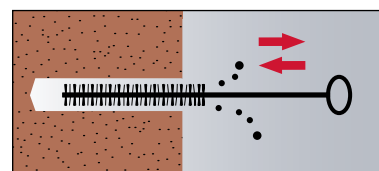
For rotary percussive machine or diamond core drilling with a dry cutting system

Clean the hole from drilling dust, core fragments, oil, water, grease and other contaminants prior to mortar injection. The hole shall be cleaned by at least:

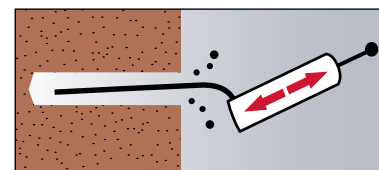
2 x blowing operations, 5 seconds for single operation with compressed air, from the bottom of the hole



2 x brushing operations, before brushing, clean the brush and check the brush diameter. Starting from the top of the hole moving downwards to the bottom of the hole, then move upwards to the top of the hole.



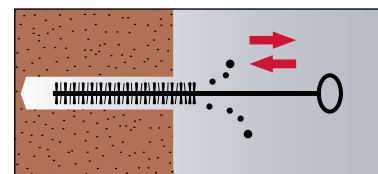
2 x blowing operations, 5 seconds for single operation with compressed air, from the bottom of the hole.



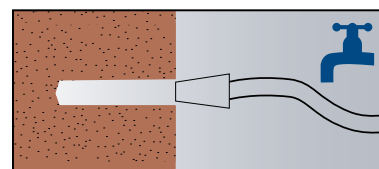
For diamond core drilling with a wet cutting system

Flush the drill hole with tap water, starting from the bottom, until clean water gets out of the drill hole.

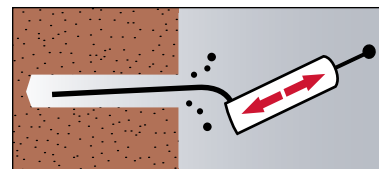
2 x brushing operations, before brushing clean the brush and check the brush diameter. Starting from the top of the hole moving downwards to the bottom of the hole, then move upwards to the top of the hole.



Flush again the drill hole with tap water, starting from the bottom, until clean water gets out of the drill hole.



Blow out the hole twice from the bottom with oil free compressed air, until free of dust



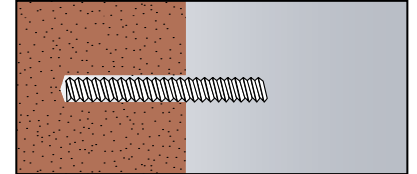
Injection (pneumatic injection pump preferably):

The rebar should be free of dirt, grease, oil or other foreign material.

The position of the anchorage length shall be marked on the rebar. Then insert the rebar in the empty hole in order to verify the correct hole depth.

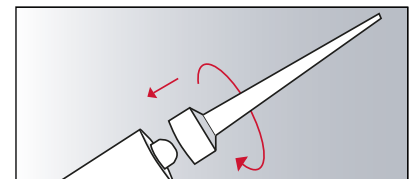
If additional mixer extension is required check that the length is appropriate to the drill hole depth.

If additional piston plug is required check that its diameter is the same than the drill hole diameter.



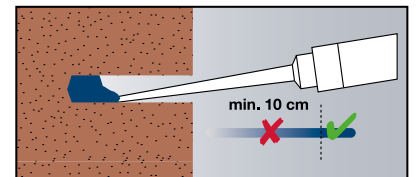
Unscrew the front cup of the cartridge, screw on the mixer and insert the cartridge in the gun.

Before starting to use a new cartridge discard the first swings until an homogeneous colour is achieved.



Fill the drilled hole uniformly starting from the drilled hole bottom, in order to avoid entrapment of the air, remove the mixer slowly bit by bit during pressing-out.

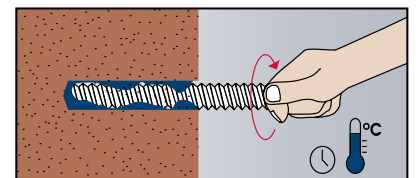
Fill the drill hole with a quantity of the injection mortar corresponding to 2/3 of the drill hole depth.



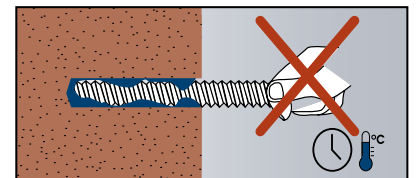
Immediately insert the rebar, marked according to the proper anchorage depth, slowly and with a slight twisting motion.

Excessive injection mortar must come out of the drill hole, otherwise pull out rebar.

Remove excess mortar from around the rebar. If necessary, support the rebar and secure it from falling until mortar started to harden.



Do not move or load the anchor until the curing time has fully passed.





EJOT® Resin Stud

Approved for polyester and vinylester composite mortar

Thread	Length	Minimum embedment depth concrete	Minimum embedment depth solid brick	Drill hole diameter concrete solid brick	PU	Description	Article Number
Zinc-plated steel							
M8	110mm	60mm	80mm	10mm	10	AST M8x110-V	9 900 105 177
M10	130mm	70mm	85mm	12mm	10	AST M10x130-V	9 900 105 178
M12	160mm	80mm	95mm	14mm	10	AST M12x160-V	9 900 105 179
M16	190mm	100mm	-	18mm	10	AST M16x190-V*	9 900 105 180
A4 Stainless steel							
M8	110mm	60mm	80mm	10mm	10	AST M8x110-E	9 900 105 173
M10	130mm	70mm	85mm	12mm	10	AST M10x130-E	9 900 105 174
M12	160mm	80mm	95mm	14mm	10	AST M12x160-E	9 900 105 175
M16	190mm	100mm	-	18mm	10	AST M16x190-E*	9 900 105 176

*No approval for embedment in solid brick masonry. All stud supplied with nut and washer.
Order information: Further lengths and threads upon request.

Application area

- For embedment in concrete and solid brick
- For installation in perforated brick in connection with mesh sleeve

Properties AST steel

- Anchor rod: strength grade 5.8 or 6.8 acc. to EN ISO 898-1
- Nut: strength grade 5 or 6 acc. to EN 20898-2
- Washer: acc. to EN ISO 7089

Properties AST stainless steel A4 (1.4401 / 1.4571)

- Anchor rod: EN 10088; strength grade 70 (A4-70) acc. to EN ISO 3506
- Nut: EN 10088; strength grade 70 (A4-70) acc. to EN ISO 3506
- Washer: acc. to EN 10088

Note: To determine the characteristic load-carrying capacity in concrete the approvals ETA-15/0287 and ETA-15/0282 have to be considered. To determine the characteristic load-carrying capacity in masonry the approval ETA-15/0342 has to be considered.



EJOT® Sleeves

Drill Hole diameter	Hole depth ≤	For threaded rod	PU	Description	Number
12mm	55mm	M8	10	Sleeve 12x50	9 570 012 050
12mm	85mm	M8	10	Sleeve 12x80	9 570 012 080
16mm	90mm	M10	10	Sleeve 16x85	9 570 016 085
16mm	135mm	M10	10	Sleeve 16x130	9 570 016 130
20mm	90mm	M12	10	Sleeve 20x85	9 570 020 085

Application area

- Indispensable for hollow masonry applications.

Note:

For approved combinations ETA-15/0342 has to be considered.

Characteristics

- Once the resin has been injected, the cap holds the fixing centered.





Spare Mixer Nozzles

Order Description	PU	Article Number
Round Mixer Nozzle	1	9 900 105 446



Applicator Gun

Order Description	PU	Article Number
Applicator Gun 400ml (SE 800)	1	9 570 010 400
Applicator Gun 410ml	1	9 570 001 410



Cleaning Brush

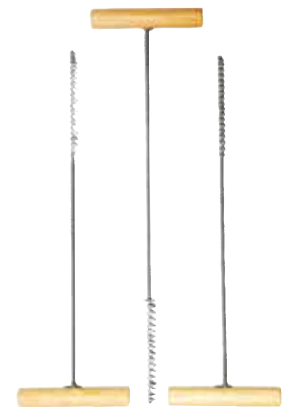
Order Description	for drill-hole diamter	PU	Article Number
Wire Cleaning brush 8	8mm	1	9 150 300 008
Wire Cleaning brush 13	10mm & 12mm	1	9 900 105 422

Application area

- For cleaning the drill hole in concrete and masonry

Advantages:

- Easy handling
- High cleaning effect
- Robust design



EJOT® Blow-out Pump

Order Description	PU	Article Number
Blow-out pump	1	9 150 300 000

Application Range

- For cleaning drill holes in concrete and solid brick masonry

Advantages:

- Easy handling
- High cleaning effect
- All-purpose





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