Vetoanchor EG346

Epoxy resin twin cartridge anchoring grout

Uses

- Anchoring bolts, brickwork, threaded studs, hollow masonry sleeves, threaded inserts, and steel columns into rock, concrete, masonry.
- Permanent installation of reinforcement starter bars, foundation bolts, base plates, balustrading, barriers and safety fences, railway tracks, tie-back anchors, reinforcement doweling abutments, ground anchors for towers, cranes, dock sills, etc.

Product Description

Vetoanchor EG346 is a two-component, styrene-free, pure epoxy-based, high-strength adhesive anchoring system. The system includes injection adhesive in plastic cartridges, mixing nozzles, dispensing tools, and hole cleaning equipment. The product is designed for bonding threaded rod and reinforcing bar hardware into drilled holes in the concrete base and solid masonry materials. Vetoanchor EG346 is available in two packaging twin cartridge systems: 400 milliliters side-by-side cartridges that require a specifically designed injection gun.

Advantages

- High grip force, high adhesive force.
- Designed for use with threaded rod and reinforcing bar hardware elements.
- Special application to diamond drilled holes and large bore diameter.
- The product ingredients are odorless and non-toxic.
- Wide application temperature range (0 to 40 °C).
- Styrene free.
- Rapid strength gain.
- Cost-effective.
- Excellent physical and mechanical properties.

Design Criteria

The high strength of the cured resin permits strong anchors to be created. Ultimate strength is varied by:

- Strength of host material.
- Length of resin bond to bar.
- Hole preparation and formation.
- Type and dimension of the bar.

Check the attached tables for more information.

Technical Data

Vetoanchor EG346	Typical Values
Color	Grey
Density	1.39
Compressive Strength - ASTM D695 (MPa)	95
Tensile Strength - ASTM D638 (MPa)	20
Water Absorption @ 24 hours ASTM D570	Nil
Flexural Resistance - ASTM D790 (MPa)	60
VOC Content - ASTM D2369 (g/liter)	< 20

Substrate Temperature (°C)	Gel Time (min)	Curing Time (h)
10	45	24
20	25	12
30	14	8
40	8	4

Standards Compliance

- ASTM C881 as Type IV, Grade 3, Class C

Solid Substrate Bar Installation Details

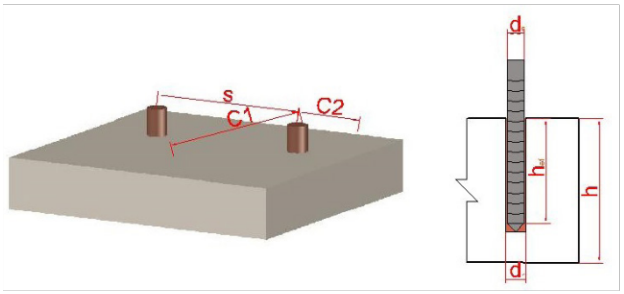
	Bar Diameter d_a	Hole Diameter dh	Embedment Depth Hef	Space S design	Edge Distance C design	Ultimate Fracture Strength Np,NRK, n	Safety Installation Strength ΦNu
Rebar Diameter	mm	mm	mm	mm	mm	KN	KN
	Φ8	12	80	160	80	43	24
	Φ10	14	90	180	90	52	29
	Φ12	16	120	240	120	82	45
	Φ14	18	130	260	130	94	52
	Φ16	20	140	280	140	106	58
	Φ18	22	160	320	160	131	72
	Φ20	25	170	340	170	144	79
	Φ22	28	200	400	200	188	103
	Φ25	32	230	460	230	235	129
	Φ28	35	250	500	250	269	148
	Φ30	37	270	540	270	304	167
	Φ32	40	290	580	290	341	188
	Φ36	45	330	660	330	420	231

Remarks

Concrete Strength f'c: 28MPa (4,000 psi) Thread Rod Strength
A) Φ10 to Φ14 fy = 280MPa (G40 Steel)
B) Φ16 to Φ36 fy = 420MPa (G60 Steel)
C) Strength Reduction factor for low strength concrete (21MPa,)(C21/25)=0.877
D) Strength Modification factor for high strength concrt(35MPa)(C35/45)=1.05
Strength values have been tested as per ASTM E488-96 and BS 5080 PT1 ,1993

Fixings per Set:

Anchor Size	Hole Diameter (mm)	Standard Hole Depth (mm)
Φ8	12	80
Φ10	14	90
Φ12	16	120
Φ14	18	130
Φ16	20	140
Φ18	22	160
Φ20	25	170
Φ22	28	200
Φ25	32	230
Φ28	35	250
Φ30	37	270
Φ32	40	290
Φ36	45	330



Technical Data ' Continued '

Single Edge Disance Reduction Factors:

Tensile Load												
Concrete Strength: 28 MPa												
Rebar Diameter												
Bar Size (mm)	10	12	14	16	18	20	22	25	28	30	32	36
Hef	90	120	130	140	16	17	200	230	250	270	290	320
Edge distance (mm)												
40	0.68											
50	0.74	0.67	0.65									
60	0.81	0.71	0.69	0.67								
70	0.87	0.76	0.73	0.71	0.68							
80	0.93	0.81	0.78	0.75	0.71	0.70						
90	1.00	0.85	0.82	0.79	0.75	0.73	0.69					
100		0.90	0.86	0.83	0.78	0.76	0.71	0.68				
110		0.95	0.91	0.87	0.82	0.79	0.74	0.70	0.68			
120		1.00	0.95	0.92	0.85	0.83	0.77	0.72	0.70	0.68		
130			1.00	0.96	0.89	0.86	0.80	0.75	0.72	0.70	0.68	
140				1.00	0.93	0.90	0.82	0.77	0.75	0.72	0.70	0.68
150					0.96	0.93	0.85	0.80	0.77	0.74	0.72	0.70
160					1.00	0.96	0.88	0.82	0.79	0.76	0.74	0.71
170						1.00	0.91	0.85	0.81	0.78	0.76	0.73
180							0.94	0.87	0.84	0.81	0.78	0.75
190							0.97	0.90	0.86	0.83	0.80	0.76
200							1.00	0.92	0.88	0.85	0.82	0.78
210								0.95	0.91	0.87	0.84	0.80
220								0.97	0.93	0.89	0.86	0.82
230								1.00	0.95	0.91	0.88	0.84
240									0.98	0.93	0.90	0.85
250									1.00	0.96	0.92	0.87
260										0.98	0.94	0.89
270										1.00	0.96	0.91
280											0.98	0.93
290											1.00	0.94
300												0.96
310												0.98
320												1.00
Note:	Edge distance reduction factor for pull put strenth When C1 ≤C design , C2=C design , splitting start when C=5da											
	As per product evaluation report and reliability test done by SAVETO technical team as per instruction of ACI355-4 2011 code 2011 and ETAG001part 5 code amended 2013											

Technical Data ' Continued '

Double Edge Disance Reduction Factors:

Tensile Load												
Concrete Strength: 28 MPa												
Rebar Diameter												
Bar Size (mm)	10	12	14	16	18	20	22	25	28	30	32	36
Hef	90	120	130	140	16	17	200	230	250	270	290	320
Edge distance (mm)												
40	0.47											
50	0.55	0.44	0.42									
60	0.65	0.71	0.48	0.45								
70	0.76	0.76	0.54	0.51	0.46							
80	0.87	0.81	0.60	0.57	0.51	0.48						
90	1.00	0.85	0.67	0.63	0.56	0.53	0.47					
100		0.90	0.75	0.69	0.61	0.58	0.51	0.46				
110		0.95	0.83	0.76	0.67	0.63	0.55	0.49	0.46			
120		1.00	0.91	0.84	0.73	0.69	0.59	0.52	0.49	0.47		
130			1.00	0.92	0.79	0.74	0.63	0.56	0.52	0.49	0.47	
140				1.00	0.86	0.80	0.68	0.60	0.56	0.52	0.49	0.46
150					0.93	0.87	0.73	0.64	0.59	0.55	0.52	0.48
160					1.00	0.93	0.78	0.68	0.62	0.58	0.55	0.51
170						1.00	0.83	0.72	0.66	0.62	0.58	0.53
180							0.88	0.76	0.70	0.65	0.61	0.56
190							0.94	0.80	0.74	0.68	0.64	0.58
200							1.00	0.85	0.78	0.72	0.67	0.61
210								0.90	0.82	0.76	0.70	0.64
220								0.95	0.86	0.79	0.74	0.67
230								1.00	0.91	0.83	0.77	0.70
240									0.95	0.87	0.81	0.73
250									1.00	0.91	0.84	0.76
260										0.96	0.88	0.79
270										1.00	0.92	0.82
280											0.96	0.86
290											1.00	0.89
300												0.93
310												0.96
320												1.00
Note:	Edge distance reduction factor for pull put strenth When C1=C2 both ≤Cdesign , splitting start when C=5da											
	As per product evaluation report and reliability test done by SAVETO technical team as per instruction of ACI355-4 2011 code 2011 and ETAG001part 5 code amended 2013											

HIGH PRECISION GROUT

Usage Instructions

Hole preparation

The optimum performance of Vetoanchor EG346 grouts requires rough-sided, dust-free holes. It is recommended to use rotary percussive drills with air pressure. Diamond drilled holes should be under-reamed.

Cast holes should preferably be inverse dovetail configuration. If parallel-sided holes are cast, they should be rough to provide adequate keying.

Brushing the holes and air blowing is a must for all holes; the concrete needs to be dry with a relative humidity of less than 75% before application.

Application

Open the cartridge and remove the red stopper on top. Use Good nozzles after removing the red stopper from the cartridge, and attach the mixing nozzles screwing down tightly. Assemble cartridge into the caulking gun and dispense 2-3 trigger pulls of adhesive to waste until grey color appears with no streaks.

Open the valve and squeeze the handle, so the material is dispensed out of the nozzle until an even, uniform grey color is achieved. Before a new cartridge is introduced into the hole, dispense the first 10 ml or so to waste until the mix is even on color. Initial flow should be disposed of into empty packaging or similar materials. Inject resin into the hole, starting from the bottom of the hole. The material must be injected without creating air pockets.

Insert studs or anchors by pushing the stud into the hole using a slow twisting motion. Wipe away the excess material. Anchor or stud needs to be clean and oil-free. Do not touch studs or anchor until the mixture gels. Do not load the anchor until curing is completed as per the curing timetable.

Limitations

Do not install anchors when the substrate temperature is less than 0°C.

Do not install anchors when Vetoanchor EG346 temperature is less than 15°C.

At temperatures below 15°C, the product should be warmed or stored in temperatures between 10 and 35 °C for 24 hours before use to improve product flow and cure.

If the gelling time is superseded, use a new static mixer.

Do not cut or shorten nozzles.

If the cartridge is not finished, clean the opening, then put the plug back and cap tightly. To use the cartridge set again, replace the static mixer.

Do not dilute the material with any solvents and/or other chemicals.

Not suitable for use in diamond-cored holes without roughening.

Please ensure the spiral mixer in nozzles.

Do not install into uncured concrete.

Use Good Use nozzles; other nozzles may cause ineffective mixing and adversely affect the material.

Packaging & Coverage

Product	Pack Size
Vetoanchor EG346	400 ml twin cartridge sets

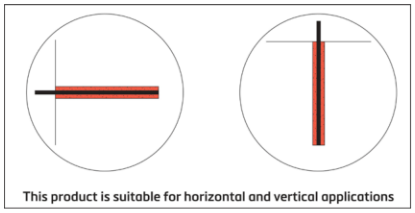
Shelf Life & Storage

The Original sealed cartridge of Vetoanchor EG346 has a shelf life of 24 months, provided it is stored clear of ground in a dry and shaded temperature-controlled place less than 35°C.

Number of anchors installed consume 400ml twin Set cartride													
da (mm)	8	10	12	14	16	18	20	22	25	28	30	32	36
dh (mm)	10	13	16	18	20	22	25	28	32	35	37	40	45
Hef (mm)	80	90	120	130	140	160	170	200	220	250	270	290	330
Embedment depth	**Anchor /cartridge**												
4 da	265	111	57	43	33	27	17	12	8	6	5	4	3
8 da	133	55	28	21	17	13	8	6	4	3	3	2	1
Design hef	133	61	28	23	19	15	10	6	4	3	3	2	2
20 da	53	22	11	9	7	5	3	2	2	1	1	1	

Note: Based on continuous installation without interruptions or nozzle changes. Provided as a guide and will vary with temperature.

The cured resin is resistant to fresh and saltwater, petrol, oils, grease, most acids, alkalies, and solvents.



This product is suitable for horizontal and vertical applications

Health & Safety

Avoid contact with the skin as certain sensitive skins may be affected if contacted with epoxy resin. In case of resin contact, wash the skin immediately with soap and water - do not use solvent.

When handling these products, wear gloves and use barrier creams.

Wash eye contamination immediately with plenty of water, and seek medical treatment.

Vetoanchor EG346 is not Flammable.

Additional Information

Saveto manufactures a wide range of construction chemicals and specialty products for various applications.

For further information on these products and systems kindly check our website or contact your local Saveto representative.

Saveto also provides various technical information such as CAD details, detailed method statements, specification clauses, application manuals, product selectors and technical support both in contractors and consultants offices as well as construction sites.