

Horse HM-500

High Performance Injectable Epoxy Anchor Adhesive

Description

HM-500 injectable chemical anchor is a fast curing, multi-purpose, two components modified epoxy resin anchor system for threaded bars and reinforcing bars in both cracked and uncracked concrete.

Application Range

- Planting steel bars and bolts in concrete structure
 - Curtain wall & stone dry hanging brackets' reinforcement
 - Building structure reinforcement&framework anchoring
 - Various equipments' basic fixation
 - Steel structures and concrete structures anchoring connection
 - Reinforcement for highway, bridges, water conservancy projects rebuilding
 - Reinforcement for advertisement boards,the noise barriers&barricades
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Advantages

- Modified epoxy resin, no styrene
 - High strength & modulus, good toughness
 - Aging resistance & thermal resistance
 - Moisture tolerant, stable in a humid environment
 - Acid & alkali resistance
 - Seismic resistance, no expansion forces
 - Excellent thixotropy, suitable for side and top anchoring
 - Binocular straight mixed package, with special electric caulking gun and static mixer
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Package	13.32oz (390 ml) / piece, 30 pieces / carton
Shelf Life	When stored correctly, the shelf life will be at least 12 months from the date of manufacture.
Storage Conditions	Cartridges should be stored in their original packaging, the correct way up, in cool conditions (+50°F to +77°F) and out of direct sunlight.

Operable time & curing time

Ambient temperature(°C)	-5	0	10	20	≥30
Operable time(min)	60	45	30	15	20
Curing time(h)	72	48	24	12	6

Technical Parameters

Performance Parameters

Appearance A Part (Epoxy)	White paste
Appearance B Part (Hardener)	Red or black paste
Viscosity of mixture	18-22 pa·s
Density after curing	1.5±0.1 g/cm ³
Mixture ratio (weight ratio)	3:1

Performance Indexes

Colloidal performance	Tensile strength (ASTM D638)	≥55Mpa
	Tensile modulus (ASTM D638)	≥3500Mpa
	Elongation at break (ASTM D638)	≥1.7%
	Flexural strength (ASTM D790)	≥70Mpa
	Compressive strength (ASTM D695)	≥82Mpa
	Thixotropy index	≥4.0

Colloidal performance	Sagging mobility (25°C)	$\leq 2.0\text{mm}$
	Distortion temperature	$\geq 65^\circ\text{C}$
Adhesion performance	Steel-steel tensile anti-shear strength	$\geq 16\text{Mpa}$
	Under the constraint drawing condition, ribbed steel bars and C30, $\Phi 25$, L=150mm tensile strength	$\geq 11\text{Mpa}$
	Boding strength with concrete C60, $\Phi 25$, L=125mm	$\geq 17\text{Mpa}$
	Steel-steel T impact stripping length	$\leq 25\text{mm}$
Non-volatile matter content (solid content)		$\geq 99\%$
Long-term performance	Wet and heat ageing	Compared with the short-term results at room temperature, the decrease rate of shear strength: $\leq 12\%$
	Heat aging resistance	Compared with the short-term results at same temperature 10min, the decrease rate of shear strength: $\leq 5\%$
	Freezing and thawing	Compared with room temperature, short-term results, the shear strength decrease rate is not greater than 5%
	Fatigue stress	After 2×10^6 times continuous sine wave fatigue loads, specimen does not destroy
	Resistance to stress	Steel - steel tensile shear specimens does not destroy, and creep deformation value is less than 0.4 mm
Resistance to corrosion medium	Resistance to salt	Compared with the control group, the strength decrease rate: $\leq 5\%$, and shall not have cracks or come unglued
	Alkaline medium	Compared with the control group, the strength does not decrease, and as the concrete damage, and shall not have cracks or come unglued
	Acid medium	Concrete damage, and shall not have cracks or degumming

Construction Process



1. Drill Hole



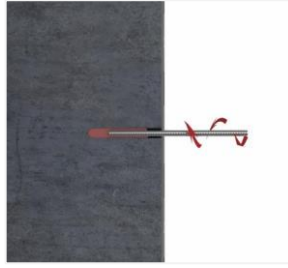
2. Brush



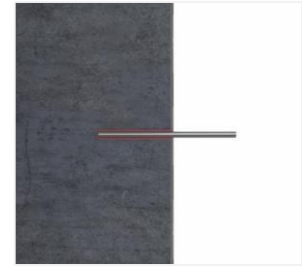
3. Blow



4. Inject



5. Plant



6. Curing

The Detailed Construction Process of HM-500 Structure Anchor Adhesive

1. Mark Up Hole Position and Drill Hole:

Drill holes in designed position. The depth and diameter of the hole should meet the requirements in order to meet bonding area and ensure the pulling strength.

2. Clean Hole:

Clean and blow holes. Brush and blow for three times at least is recommended.

3. Glue Preparation:

HM-500 is equipped with a special static mixer and dispenser. Squeeze out the glue without fully mixed in the front part of the cartridge.

4. Injection:

Inject the glue from the bottom of the hole until fill the two-third of the hole.

5. Rust Removal of Steel Rebar:

Polish the steel bar or anchor bolt before inserted through the hole.

6. Anchoring:

Inserting in one single direction until to the bottom of the hole.

7. Standing and Curing:

Keep stand for maintenance before curing.

Note:

HM-500 Anchoring Adhesive can be equipped with the following materials: screw thread steel, round steel, lead screw, threaded rod, anti-crack anchor.

***The anchoring adhesion when planting steel bars**

The screw & Hole diameter	The buried depth(mm)	Characteristic value		Designed value	
		Tensile resistance(kN)	Shearing resistance(kN)	Tensile resistance(kN)	Shearing resistance(kN)
M8 10mm	80	15.8	8.5	7.5	5
M10 12mm	90	22.9	13.7	12.5	8
M12 14mm	110	46.9	20	19	11.8
M16 18mm	125	65.6	37.8	29	22.2
M20 25mm	170	85.3	59	42.5	34.7
M24 28mm	210	170	85	59.7	50
M30 35mm	280	206	135.9	89	79.4

The table of gule use amount of HM-500 epoxy anchor adhesive

the steel bar diameter	pore size	pore depth	the injecting glue volume	theoretic number	note
mm	mm	mm	ml(2/3v)	piece	
8	12	80	6.03	64.67	10d
8	12	120	9.04	43.14	15d
8	12	160	12.06	32.33	20d
10	14	100	10.26	38.01	10d
10	14	150	15.08	25.86	15d
10	14	200	20.52	19.01	20d
12	16	120	16.09	24.23	10d
12	16	180	24.12	16.16	15d
12	16	240	32.18	12.11	20d
14	18	140	23.73	16.43	10d
14	18	210	35.61	10.95	15d
14	18	280	47.46	8.321	20d
16	22	160	40.52	9.62	10d
16	22	240	60.79	6.41	15d
16	22	320	81.04	4.81	20d
18	25	180	58.87	6.62	10d
18	25	270	88.31	4.41	15d
18	25	360	117.74	3.31	20d
20	28	200	82.06	4.75	10d
20	28	300	123.09	3.16	15d
20	28	400	164.12	2.37	20d
22	30	220	103.62	3.76	10d
22	30	330	155.43	2.5	15d
22	30	440	207.24	1.88	20d
25	32	250	133.97	2.91	10d
25	32	375	200.96	1.94	15d
25	32	500	267.95	1.45	20d

For more information, please visit our website at www.horseen.com



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