

BYGlue-001

Modified epoxy resin structural adhesive



Product Description ■ Modified epoxy resin structural adhesive BYGlue-001, used for Impregnate carbon fibers and bond carbon fibers Fabric to the concrete surface.

Application Range ■ This product is high performance epoxy adhesive, which can be used for the effective penetration bonding to many substrate materials such as concrete, steel material, ceramic, stone, wood component, and many fiber fabrics, e.g. carbon fiber, glass fiber, basalt fiber, and aramid fiber. It is mainly used for the strengthening and reinforcement of structural systems.

Packing ■ The components A and B of this product are packaged together Separate barrels. Group A is 10 kilograms per container Group B is 10 kilograms per container.

PRODUCT SPECIFICATIONS	UNIT OF MEASURE	DATA	EXPLANATION
Component A: viscous liquid Component B: viscous liquid A:B=2:1 The following are the parameters of the product:			
Operable time	min	70	
Touch dry time	25°C, h	1~2	
Operable temperature	°C	5~40	
Curing time	25°C, day	3~7	
Ultimate elongation	%	≥1.5	
Thixotropic index		≥3.0	
Distortion temperature	°C	≥65	
Steel - steel T impact stripping length	mm	≤20	
Consumption for 300GSM	kg/sqm	0.6-0.9	
Consumption for 600GSM	kg/sqm	1.0-1.2	
Nonvertical mobility	(25° C,mm)		
Non-volatile matter content	%	≥99	
Steel-steel adhesive tensile strength	≥40	Mpa	

Adhesive Performance

Tensile Strength	MPa	60	ASTM D638
Tensile Elastic Modulus	Mpa	3100	ASTM D638
Elongation at Break	%	6	ASTM D638
Flexural Strength	Mpa	240	ASTM D790
Compressive Strength	Mpa	95	ASTM D695

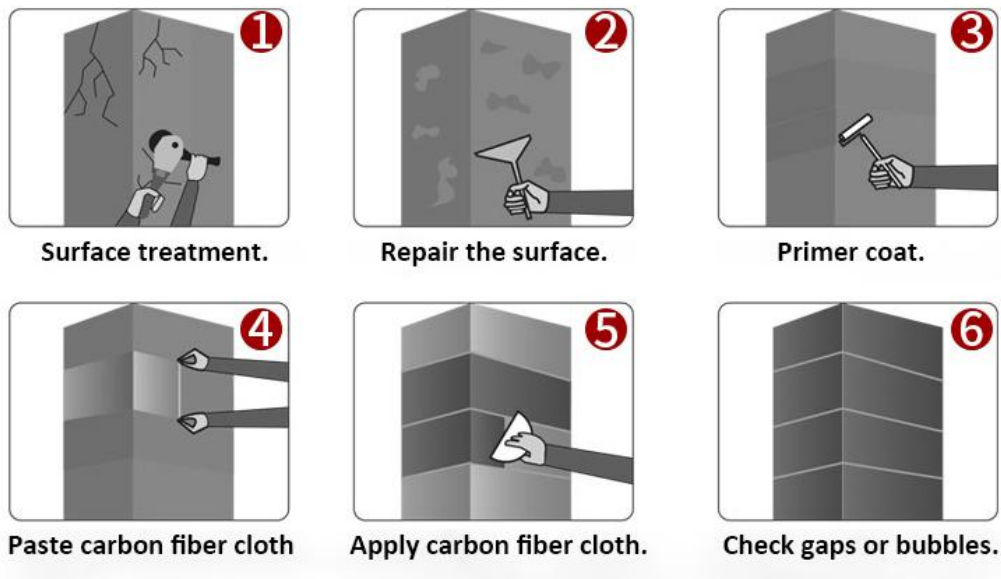
Bonding Performance

Steel-steel tensile shear strength	Mpa	≥14	/
Pulling bonding strength along with concrete	Mpa	≥2.5	/
Steel-concrete tensile	/	C60 concrete damage	/

Long-term performance

Long-term performance	Wet and heat ageing	Compared with the short-term results at room temperature
		the decrease rate of shear strength: $\leq 12\%$
	Wet and heat ageing	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 corrosion medium	Resistance to salt	Steel - steel tensile shear specimens does not destroy,
		Steel - steel tensile shear specimens does not destroy,
	Alkaline medium	Compared with the control group, the strength decrease rate: $\leq 5\%$,
		and shall not have cracks or come unglued
	Acid medium	Compared with the control group, the strength does not decrease,
		and as the concrete damage, and shall not have cracks or come unglued

Construction Process



- 1. Surface treatment:** Use a grinder to remove the coating on the concrete surface. Polish the surface. If there are angles, grind them into a circular shape.
- 2. Layout:** Ensure the concrete surface is clean and dry, then begin the layout.
- 3. Apply primer:** Apply primer adhesive on the concrete surface.
- 4. Apply putty/smooth:** If necessary, apply putty for repair and smoothing.
- 5. Cut carbon fiber cloth:** Cut the carbon fiber cloth into appropriate sizes according to the design requirements.
- 6. Prepare impregnating resin:** Weigh and mix the adhesive resin in proportion. Stir the resin until the color is even. Avoid air bubbles during this process.
- 7. Apply impregnating resin:** Apply impregnating resin when the primer adhesive is dry. (If no primer is needed, apply impregnating resin directly.)
- 8. Apply carbon fiber cloth:** Apply the carbon fiber cloth on the concrete surface according to the design requirements. Smooth the surface from one end to the other.
- 9. Check for gaps or bubbles:** Apply impregnated carbon fiber resin again. Ensure the resin fully saturates the fabric. The surface should be smooth without bubbles. If applying two or more layers, repeat the process starting from cutting the carbon fiber cloth.

Transportation and Storage

This product should be stored in a dry, cool and well-ventilated environment. It should not be exposed to rain or hit by sharp objects.

During transportation and storage, it must not be squeezed or compressed, and must not be exposed to direct sunlight And/or it rains.

Safety Measures

The construction workers should take all necessary protective measures (such as wearing masks, gloves, goggles, etc.). Safety measures should be taken on site to keep the site clean and prevent fire hazards.

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