

# Structural Repair (levelling) Adhesive



HM-120ML Structural repair (levelling) adhesive is a two-component modified epoxy resin adhesive. It is mainly used for creating dams for pouring liquid crack adhesive, sealing fractured concrete surface, and pasting adhesive injection nozzle. It could also be used for concrete surface repair and levelling, and applied prior to application of CFRP systems.

## ▲▲Advantages

- Uses advanced nano material technology, multi-dimensional mesh structure allows it to achieve good thixotropic properties. Whether vertical-side application or ceiling overhead application, it does not sag.
- Having good thixotropic properties, the static stack height can be 5cm, which could be customized by needed. The most static stack height could be 10cm. It is available for various concrete repair jobs that have different defect depths.
- The curing time is moderate, adequate operation life, no need to rush application, and more flexibility in application
- Advanced high speed dual planetary power mixing equipment, the raw materials are easily mixed evenly. Meanwhile using vacuum treatment produces no air bubbles, and results in product that has more stable performance, and longer shelf life.
- High solid content, lower density, usage could be reduced by at least 30% than other similar products.
- This product passed several safety tests, including but not limited to safety tests, non-toxic test, horizontal firing test, non-ethanediamine test, and acute oral toxicity test.

## ▲▲Application Range

HM-120M pouring adhesive and HM-120L leveling crack adhesive could be coupled for sealing and injecting concrete cracks, sealing fracture surfaces and pasting grouting nozzles.

HM-120L could also be used for sealing the edges of steel jackets/plates prior to the injection operation, restore defective concrete surface, and leveling prior to application of CFRP systems.

## ▲▲Product Characteristics

- Belong to modified epoxy resin, high initial adhesive force.
- Curing at room temperature, fast curing speed and can be adjusted according to users' requirements.
- High strength, good aging resistance and chemical resistance properties.
- Not shrink basically when curing, good thixotropic property.
- Very strong thixotropic property and easy scraping.
- Wide proportion of preparing glue, easy to control operational time.



## ▲▲ Technical Parameters

### Physical Properties

Model	HM-120ML Structural Repairing Adhesive	
Performance	Part A: Grey Paste	
	Part B: Brown Paste	
Mix Ratio (By Weight)	A:B=2:1	
Thixotropic Index	≥3.0	
25°C Sagging Mobility (mm)	≤2.0	
Pot Life (min)	Spring&Autumn (23°C)	≤60
	Summer (30°C)	≤45
	Winter (10°C)	≤190
Shelf Life (month)	12	

### Performance Parameter

Description	Test Item	Test Conditions	Test Result
Adhesive Performance	Tensile Strength (MPa)	ASTM D638	50
	Tensile Elastic Modulus (MPa)		4000
	Elongation at Break (%)		1.8
	Flexural Strength (MPa)	ASTM D790	80
	Compressive Strength (MPa)	ASTM D695	70
Bonding Performance	Steel-steel Shear Bonding Strength (MPa)	(23±2) °C , (50±5) % RH	≥ 14
	Steel-steel Normal Bonding Strength (MPa)	Under (23±2) °C , (50±5) % RH conditions, testing as the inspection standard loading speed	≥ 40
	Steel-steel T Impact Stripping Length (mm)		≤25
	Steel-C45 Pulling Bonding Strength (MPa)		≥2.5, concrete cohesive failure
HDT(Heat Deflection Temperature) (°C)	Use 0.45MPa option B of bending stress		≥ 65
Nonvolatile matter Content (%)	(105±2) °C , (180±5) min	≥ 99	

### ▲▲ Application Process

- Clean the surface which requires coating. The surface should be kept dry, and free of oil and dust.
- Prepare the adhesive according to recommended proportion, mix components A and B at a ratio of 2:1 by weight, the application time is about 45 to 60 minutes. Mix only quantities of the adhesive that could be applied within the allowable application time.
- Using a putty knife or other special tools, mix the components A & B to a uniform consistency and color.
- For crack injection operation, putty knives are used to coat the cracks and evenly coat a layer of HM-120ML of a thickness of 1 ~ 2 cm, and width of 2 ~ 3 cm, so to prevent small air bubbles, sands, etc. from entering the crack and cause leaky seal. When pasting glue injection nozzles, attention should be paid to avoid clogging glue injection holes.
- When used in steel plate/jackets applications, HM-120L should be used to seal the tip of the gaps between the existing member and the steel plates, bolts and grouting nozzles.
- The next step of construction, the injection process using HM-120M pouring adhesive, could be carried out a day (if temperature is 25°C ) after crack leveling adhesive seal has been applied.

### ▲▲ Transportation and Storage

- This product should be sealed and stored in dry and clean space at ambient temperature between -5°C and 40°C . Adhesive containers should not be piled up outdoor under direct sunlight and/or rain, so to avoid damaging the adhesive and the containers.
- Component A & B should be kept separated to avoid accidental mixing up. Shelf life is limited to 12 months at room temperature (25°C ). Product should be tested if exceeded the shelf life. If the physical and mechanical properties meet the reported properties, then it could be used.
- This product is not inflammable, explosive, toxic, or considered a dangerous cargoes. It could be transported with general transportation tools. The packaging containers should not be damaged, exposed to direct sunlight and/or rain, tilted or stored upside down during storage and transportation.

### ▲▲ Package

The A and B components of this product are separately packed in containers. Group A is 20kg/container and Group B is 10kg/container.

### ▲▲ Points for Attention

- Mix quantities as needed, and use up the mixed adhesive within the specified pot life.
- Unused A & B components of the adhesive, please seal the containers well, don't expose to air for a long period of time.

### ▲▲ Safety Measures

- Construction personnel should take safety protection measures (such as wearing masks, gloves, goggles, etc.), on-site attention to fire prevention measures, and maintenance well-ventilated work space.
- If accidentally got in touch with skin or clothing, immediately wipe clean with acetone and rinse with a large amount of water.
- If accidentally swallowed or splashed onto eye, please seek immediate medical attention.