



# EPOXY PUTTY 400

WET TYPE SEALANT

## **Description**

EPOXY PUTTY 400 is a quality product, which has been developed as a solution to the unfavorable situation in which adhesive property and mechanical strength, the characteristics of the hardened substance, are drastically reduced when the moisture that has remained from the hardening process of epoxy resin causes a serious trouble to the reaction between the main material and the hardening agent. Having an excellent bonding strength with humid or wet part of concrete structure, it enables the sealing without drying the moisture of structure, thus and helping reducing the term of works.

## **Feature**

- It is a fast-hardening type sealing material and chemicals are not rolled up while they are agitated. It is suitable for work on the vertical surface and ceiling etc. because it can be removed easily with a hand grinder and does not run down.
- It shows a superior mechanical strength in terms of compression strength, bending strength and tensile strength etc, compared to cement mortar or concrete. It is designed to withstand high pressure and has the property of high strength and adhesiveness.
- The fully hardened composition does not cause any chemical action on the reinforcing bars or concrete structures, shows no shrinkage after hardening and maintains stable bondage because of little internal stress.
- Compared to cement mortar or concrete, it has an excellent mechanical strength in all respects including compression strength, bending strength and tensile strength, etc. and can be used as sealing materials for steel plate compression injection because it is highly strong and adhesive and designed to withstand high pressure.

## **Purpose**

- Sealing of cracks on wet surface and setting of the washers.

## **Application**

It is designed as a sealing repair product of the cracks without staying power or the joints of concrete structure and plastering mortar. It contributes to the restoration of staying power of the structure by filling (sealing) the large cracks and cut areas with a specially processed epoxy resin of high bonding strength, tensile strength and compression strength. It improves the durability of structures by preventing water leakage from cracks and corrosion of reinforcing bars by the infiltration of harmful gas in the air. Its applications are as follows.

- Sealing of cracks of dry/wet concrete structure.
- Sealing of gap produced by dry/wet cement plastering mortar and tile etc.
- Sealing for grouting reinforcement of aged, weakened parts of dry/wet concrete.
- Sealing for grouting repair of cracks on dry/wet concrete molding products.
- Sealing of wet area when foam resin is injected.

All Aspects Insulation Materials, P.O.Box: 39613, Sharjah, UAE, T: +971 6 5569913, F: +971 6 5569914

E: [info@allaspects-emirates.com](mailto:info@allaspects-emirates.com), W: [www.allaspects.ae](http://www.allaspects.ae)



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EPOXY PUTTY 400 Dimension Details			
Classification	Main Component	Hardening Component	Remarks
Exterior Appearance	White Paste	Black Paste	-
Mixing Rate	2	1	
Specific Gravity	1.3 ± 0.1	1.2 ± 0.1	23±0.5°C
Pot Life(Min)	60±10		23±0.5°C
Tack Free Time(Hours)	24±5		23±0.5°C
Hardening Time(Hours)	36 ~ 48		-
Packing Unit	10kg	5kg	-

EPOXY PUTTY 400 Property Data				
Test Category	Result Value	Base Value	Test Method	
Compression Strength ( N/mm <sup>2</sup> )	71.4	Over 50	KS F 4923	
Adhesive Strength ( N/mm <sup>2</sup> )	8.2	Over 6		
Seal Breaking Expansion Rate ( % )	5.2	Under 10		
Seal Strength ( N/mm <sup>2</sup> )	46.2	Over 15		
Hardening Contraction Rate ( % )	3.2	Under 3		
Heating Change (110±3°C,168hr)	Weight Change Rate ( % )	1.6		Under 5
	Volume Change Rate ( % )	1.3		Under 5

- **Pot Life** the period of time during which you can work without a change in viscosity after resin and hardener are mixed.
- **Tack Free** the state of hardening in which you can lightly touch the mixed resin with your hand, but the hardened material does not stick.
- **Hardening Time** the time it takes for the mixed resin to be hardened enough to realize about 80% of final mechanical strength.

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## Materials



- ① Reinjector is a mid-low pressure injecting device, upgraded to improve the effectiveness of grouting for crack repairing by incorporating the merits of the high pressure grouting of packer and the merits of syringe injector.
- ② Syringe injector is a low-pressure, low-speed grouting device. A syringe injector containing the resin is set on the cracks and the resin is slowly injected with the help of resilience of the rubber band.

## Guideline

### ● **Treating the surface to be sealed**

Work process shall be determined by checking in advance the condition, width, depth of cracks. Remove dust or dirt from the area to be sealed with a wire brush and remove dirt from the surface by using a detergent like soap or thinner if any oily substance still remains. By using gas burner, if needed, dry the inside of cracks as much as possible before you start sealing so that you can remove moss or excessive moisture from the inside or surroundings of cracks. In case paint still remains on the area to be sealed, remove it cleanly with a grinder and steel knife.

### ● **Mixing of Epoxy Resin**

The most appropriate temperature for mixing is around 10°C~25°C and you should use flat board suitable for the amount of mixture. In the beginning, you should mix small amount only because pot life varies greatly depending on the ambient temperature and the epoxy resin temperature. Put a proper amount of main material and hardener based on their weight on a flat board. Then Mix EPOXY PUTTY 400 so taken for 2~3 minutes by using a steel scoop until it shows uniform color.

### ● **Sealing of cracks**

Seal the cracks with mixed resin. Do the sealing of cracks, 1mm thick and 30mm wide, and make sure that the epoxy resin does not leak from the cracks. (For the sealing of rugged surface, a rubber scoop will be very helpful for more efficient and smoother work.) Make sure to use all the mixed epoxy resin within pot life.



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### **Cleaning**

All the equipments and tools that are used for this operation should be cleaned when the operation is finished. Detergent such as M.E.K, Acetone, Xylene, Toluene and epoxy thinner should be used when cleaning. If the Foam is smeared on your skin during the performance, wash it immediately with flowing water.

### **Notice**

- When you treating medical fluid, make sure you wear protective helmet, goggle clothes and other protective devices.
- If the medical fluid is smeared on your skin, wash it off immediately and clean up with soapy water.
- All the hand tools and equipments that are used for this operation should be cleaned with thinner thoroughly.
- If you are working in sealed room, then make sure to conduct constraint ventilation for clean air.
- If the medical fluid is smeared on your skin and causes skin trouble, then you should go see specialist for prescription.
- If the temperature is below 5°C, then you must artificially raise up the temperature of medical fluid. This way you can get proper Pot Life.
- If the atmosphere temperature is high and the area is humid, Pot Life of medical fluid quickens. On the contrary, Pot Life will slow down in low temperature area.
- Be aware of it before you conduct the operation.

### **Storage**

Recommended temperature for storage is 10~25°C with no moisture. Store it in cool area. Storing period is about 6 months in sealed condition however it can be corrupted according to storing area and conditions. Preferably use it as soon as possible.