

301

EPOXY SURFACE SEAL

GENERAL DESCRIPTION

Emecole Metro 301 is a 2-component, solvent free, smooth-paste epoxy adhesive. It is a rapid-curing sealer with a 30 to 45 min cure time.

Use for vertical, horizontal, and overhead crack sealing. Rapid curing, even in thin film, for faster pressure-injection grouting. Injection may proceed in approximately 45 minutes after application. Easy mixing 1:1 = B:A volume ratio. Not recommended for applications other than surface sealing.

COVERAGE

One gallon yields 231 cu inch of paste adhesive.

PACKAGING

Dual cartridges, 5-gallon pails, 55-gallon drums.

SURFACE PREPARATION

Surface must be clean and sound. It may be dry or damp, but free of standing water. Remove dust, grease, curing compounds, impregnating waxes, foreign particles, and disintegrated materials.

PREPARATION WORK

Concrete - Sandblast or use other approved mechanical means.

Steel - Sandblast to white-metal finish.

APPLICATION

Apply a band, approximately ¼" thick, over the cracks to be injected and around injection ports. Allow sufficient time to cure before pressure injection.

LIMITATIONS

Minimum application temperature 40°F. Do not thin with solvents. Material is a vapor barrier after cure. Not recommended to seal cracks under hydrostatic pressure.

TECHNICAL DATA

Shelf Life: 1 year in original, unopened containers

Storage Conditions: Store dry at 45-95°F condition material to 65-85°F before using.

Color: Concrete grey or White

Mixing Ratio: Component 'A' to component 'B' = 1:1 volume

Consistency: Smooth-paste adhesive

Hardness (Shore): 80-D

Pot Life: 6-10 minutes, depending on thickness

Tack-Free Time: 40°F 1 – 1 ½ HR 73°F 25-30 MIN 90°F 20-25 MIN

Compressive Properties (ASTM D-695):

Compressive Strength	<u>PSI</u>	<u>40°F</u>	<u>73°F</u>
	1 hour	30	5,600
	2 hours	1,800	6,700
	4 hours	3,500	7,800
	6 hours	6,300	8,200
	16 hours	6,900	8,500
	1 day	7,400	8,600
	3 days	7,900	9,000
	7 days	8,300	9,200

PHYSICAL PROPERTIES

	<u>STRENGTH</u>	<u>PSI</u>	<u>ELONGATION</u>
Tensile Properties (ASTM D-638):	1 day	3,300	at break 0.2%
Flexural Properties (ASTM D-790) (Modulus of Rupture)	1 day flexural	5,000	
Shear Properties (ASTM D-732)	1 day shear	2,500	
Bond Strength (ASTM C-882)	2 day (dry cure)	3,000	
Deflection Temperature (ASTM D-648)	1 day deflection temperature	115°F	
Water Absorption (ASTM D-570)	7 day total	(2 Hour boil)	0.8%

WARRANTY

Recommendations concerning the performance or use of this product are based upon independent test reports believed to be reliable. If the product is proven to be defective, at the option of the Manufacturer, it will be either replaced or the purchase price refunded. The Manufacturer will not be liable in excess of the purchase price. The user will be responsible for deciding if the product is suitable for his application and will assume all risk associated with the use of the product. This warranty is in lieu of any other warranty expressed or implied, including but not limited to an implied warranty of merchantability or an implied warranty of fitness for a particular use.

RECOMMENDED PROCEDURE FOR SURFACE SEALING WITH EMECOLE 301

The 301 for surface seal is designed to give a soft, creamy, easy-to-mix consistency, even at low temperatures. Its thixotropic paste consistency, while soft, will not sag even when hot from its curing process (exothermic reaction during cure).

- At room temperature (55 85°F), 301 will exhibit a working life of 6-8 minutes. At these temperatures, it is best to mix parts A and B thoroughly for 1-2 minutes and immediately begin to apply to the surface. This is especially relevant in the summer months where the components may be at 75 95°F, and the product will be setting up in the mixing vessels within 4-7 minutes after mixing. Under these circumstances, the surface should be ready for injection 20-30 minutes after 301 was originally mixed.
- At cooler temperatures (35 55°F), 301 will exhibit a working life of 8-12 minutes. At these temperatures, it is best to mix parts A and B thoroughly for 1-2 minutes and then allow an induction period for the system to begin developing its own heat of reaction. This may take 2-6 minutes after the mixing was initiated. It is best to use a metal container for mixing so the operator can feel the beginning of development of heat on the walls of the can. The time that the surface is ready for injection is dependent on the temperature of the surface. Using this recommended procedure would permit the surface to be ready at the earliest time and may be as rapid as experienced in warmer circumstances.

Both Procedures I and II are geared to a working life of 5-8 minutes for the surface sealing and setting injection ports. Therefore, do not mix more than is anticipated to be processed in 5-8 minutes.

It is also recommended that if one mix is sufficient to prepare the crack, prepare the crack planning on setting the bottom port last (or the port which will be first used in the epoxy injection). If more than one mix is needed to prepare the crack, use the first mix to prepare the section that will be first used in epoxy injection.

For example, consider a crack on a vertical surface. Typically, the injection process will begin at the bottom of the crack and working one's way up the crack. If it is going to take less than 5-6 minutes to do the setting of the ports and sealing the surface, begin applying 301 at the top of the crack and plan on setting the bottom port last. If it is going to take 2 or more mixes to seal the crack, begin setting the section with the first mix planning to finish this batch with the setting of the bottom port. Then continue to complete the sealing of the crack above this section with the subsequent mix(es).

The reason for the above technique(s) is that the longer the material is in the mixing container before being applied to the surface (which typically is at a temperature of 40-70°F) the more heat history it is developing. As a result, the last material applied to the surface will harden the fastest. Using this technique should assure that the material on the surface closest to the port(s) where injection will be initiated to be the most advanced in the curing process. Furthermore, if the surface is cool to cold (which would slow the hardening process), the material has had more time to initiate its hardening period. The procedure is particularly recommended in the colder months.