

## STYRENE-FREE, FAST-CURE, ACRYLIC ADHESIVE GEL

### DESCRIPTION

ASF-GEL is a two-component, styrene-free, epoxy acrylate adhesive gel with an extended installation range from 15°F to 95°F.

### APPLICATIONS

ASF-GEL is ideal for anchoring threaded rod and rebar into concrete or adhering dowel bars and tie bars for full depth concrete repairs. Additionally, ASF-GEL is an excellent adhesive for bonding fresh concrete to hardened concrete, hardened concrete to hardened concrete, or hardened concrete to steel. This adhesive can also be used as a fast mortar repair for panels and other concrete surfaces.

### ADVANTAGES

- Non-sag gel for use in horizontal and vertical installations
- Cures in dry, damp, and water saturated environments
- High bond strength
- Short-term tensile anchoring and shear loading conditions in accordance with allowable stress design (ASD)
- Easy dispensing from pre-measured cartridges
- Service temperature range from -40°F to 176°F
- Rapid cure: 30 minutes (@77°F) on dry concrete

### COMPLIANCES

- ASTM C881-15 (Type II\*. Grade 3. Class A & B.)  
\*Excluding linear shrinkage and gel time
- AASHTO M235
- VOC compliant, 1.85 g/L

### PACKAGING

10.1 oz cartridge; 12/case (10:1 mix ratio)

**Appearance of Components:** A - Beige, B - Black

**Shelf Life:** 18 months in original unopened container

**Storage:** 41°F to 77°F in dry and dark conditions

**Temperature Considerations: IMPORTANT!** When ambient or substrate temperatures fall below 23°F, condition the adhesive to above 68°F prior to use. Contact an E-Chem representative for applications requiring special considerations.

### COVERAGE

Please refer to the ASF-GEL Estimating Guide.

### CURE TIME

Use the table below to determine minimum cure times based on the temperature of the substrate.

Substrate Temp (°F)	Working Time	Cure Time Dry Concrete	Cure Time Damp Concrete
95°	3 min	20 min	40 min
77°	5 min	30 min	60 min
59°	9 min	60 min	2 hr
41°	20 min	90 min	3 hr
23°	40 min	3 hr	6 hr
15°	50 min	4 hr	8 hr

Cure times are approximate. Site conditions will dictate actual cure times for each application.

### APPLICATION

**Surface Preparation:** Surface to be bonded must be clean and sound. Remove all loose concrete, dust, dirt, grease, oils, curing compounds, laitance, paints, sealers, bond breakers and other foreign matter by mechanical means. To clean, begin by removing all standing or ponded water. For drilled holes, clean with a properly sized cylindrical bristle brush using the traditional blow-brush-blow method, with a minimum of 4 seconds per cycle at each of the 4 cycles required before progressing to the stage. Brush diameter should be sized to ensure contact with the walls of the hole while brush length should be sized to ensure contact with the bottom of the hole. Use clean, oil-free compressed air (80 psi minimum) to remove debris, blowing out holes from the bottom up. If necessary, cover holes until installation to minimize contamination.

**Test Before Placement:** Before overall installation, test a small portion of ASF-GEL under anticipated temperatures and conditions to determine expected working and cure times. Substrate and ambient air temperatures should be from 15°F to 95°F for application.

**Cartridge Preparation:** Before using any cartridge, check the expiration date to confirm that it is not expired (do not use expired product). For temperatures below 23°F, condition the adhesive to above 68°F prior to use. Remove the protective cap from the cartridge and insert the cartridge into the recommended dispensing tool. Screw the provided mixing nozzle on to the cartridge (do not modify mixing nozzle). Confirm that internal mixing element is in place prior to dispensing.

Begin squeezing a small amount of material from the mixing nozzle onto a disposable surface until the material extruded is a smooth uniform gray color with no streaks. Material with an off color or streaking, like that initially extruded from the cartridge, is not properly mixed and will not set properly or perform as expected. Do not use this part for installation. Once the proper mixture is achieved, discard the material that was initially extruded from the nozzle per federal, state, and local regulations, then begin installation.

If dispensing is interrupted, recheck the extruded ASF-GEL for uniform streak-free color before continuing use. If working time has been exceeded, clear any hardened material that may have formed in the neck of the cartridge and install a new mixing nozzle. Repeat the cartridge preparation steps above to establish a uniform non-streak color before continuing use.

**Installation:** Place the static mixing nozzle at the bottom of the hole, using an extension tube if hole depth is greater than 6". Begin dispensing the ASF-GEL from bottom to top, using constant and even pressure until the hole is approximately 2/3 full. Be careful not to withdraw the nozzle too quickly, as this may trap unwanted air in the adhesive. Check the anchor element to make sure it is straight, clean, free of oil and dirt, and the necessary embedment depth is marked. For deep embedment or high temperature installations, take caution to ensure that the material's working time does not elapse prior to placement of the anchor. Place the anchor element into the hole, rotating the rod slowly (1-2 rotations prior to reaching bottom) to

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displace adhesive as it is inserted. Excess adhesive should surround the anchor at the surface opening. For horizontal installations, use wedges to secure proper placement of the anchor as the adhesive cures. Do not disturb the installed anchor until the specified cure time is reached.

### LIMITATIONS

- For professional use only
- Do not thin with solvents
- For anchoring applications, concrete should be a minimum of 21 days old before anchor installation.
- Do not use for overhead applications or those with a sustained tensile load
- Do not use if material has exceeded its shelf life, as physical properties will be adversely affected.
- Consult E-Chem representative when mixing or placing outside of the temperature recommendations listed.

### CLEAN UP

**EQUIPMENT:** Uncured material can be removed with C-CLEAN100 or approved solvent. Cured material can only be removed mechanically. Do not let ASF-GEL set up on surfaces that are not to be bonded.

**MATERIAL:** Collect with absorbent material. Flush area with water. Dispose of in accordance with local, state and federal disposal regulations.

### CAUTIONS

#### **READ SDS PRIOR TO USING PRODUCT!**

- Component A: Corrosive
- Component B: Irritant
- Product is a strong sensitizer. Use of safety goggles and chemical resistant gloves are recommended.
- Use in well-ventilated areas and avoid breathing vapors
- Avoid contact with skin, eyes, and clothing
- When using, do not eat, drink, or smoke
- Toxic to aquatic life with long lasting effects
- Dispose of waste material in accordance with federal, state and local requirements.
- Keep out of the reach of children

### FIRST AID

**EYE CONTACT:** Rinse eyes immediately with large amounts of water for several minutes, especially under the eyelids. Seek medical treatment by eye specialist.

**RESPIRATORY CONTACT:** Move to fresh air in case of accidental inhalation of vapors or decomposition products. In the event of symptoms refer for medical treatment.

**SKIN CONTACT:** Wash off immediately with soap and plenty of water. Consult a doctor if skin irritation persists.

**IF INGESTED:** Do not induce vomiting. If swallowed give water to drink. Seek medical treatment immediately.

**GENERAL:** Remove contaminated soaked clothing immediately. In the event of persistent symptoms receive medical treatment.

**CURED EPOXY RESINS ARE INNOCUOUS.**

### WARRANTY

This product is warranted and guaranteed to be of good quality. Manufacturer, as its sole and exclusive liability hereunder, will replace material if proved defective. This warranty and guarantee are expressly in lieu of all others, express or implied, including any implied warranty of merchantability or fitness for a particular purpose and may not be extended by representatives or any persons, written sales information, or drawing in any manner whatsoever. While the manufacturer recommends uses for the product based on tests believed reliable, no warranties, express or implied, or guarantees can be given as to particular methods of use or application, nor can performance be warranted, expressly or impliedly, or guaranteed under special conditions. Distributors, salespersons or company representatives are not authorized to extend or vary any warranties or guarantees beyond those outlined herein, nor may the manufacturer's or seller's limitation of liability be waived or altered in any manner whatsoever.