

STICK FAST™

Cyanoacrylate Adhesives

Basic Use Information

What is it?

The term “CA” is short for cyanoacrylate, a one-part instant cure adhesive. A chemical synthesis process produces CA by changing acetate to acrylate. This process is the first step in making CAs. Stick Fast™ CA is then further distilled until this crude acrylate becomes a CA monomer that is at least 99.5% pure. This high level of purity gives Stick Fast™ superior cure strength, reduces cure times, and helps increase stability and shelf life.

Stick Fast™ cyanoacrylates are **MADE IN THE USA**, providing you with the freshest materials available and are produced at the highest industrial quality standards.

How does it cure?

A high pH level initiates the curing mechanism of CA. In most cases, the moisture found on any surface combined with the elements of the surface creates an adequate curing environment. Organic acids are used as stabilizers in the manufacturing of CAs, which is why the higher the acid level is on the bonding surface the slower the cure. These acidic stabilizers are a major facilitator in keeping the CA in its liquid form. Stick Fast™ CAs are ethyl based, surface-insensitive formulated for bonding a wide range of similar and dissimilar materials.

Stick Fast™ *ACTIVATOR* will accelerate the cure faster than moisture alone and may be the only way to create a cure on some highly acidic surfaces. Using too much *ACTIVATOR* will create an exothermic reaction that causes foaming, reducing bonding strength. Using *AEROSOL ACTIVATOR* allows for a lighter, more even application that minimizes this foaming tendency.

Storage

Unopened Bottles

Store unopened bottles in a dry area away from direct sunlight, ideally at less than 50° F. Unopened bottles of CA may be stored in a refrigerator but freezing is not recommended. If stored in a refrigerator, bring up to room temperature before using.

DO NOT refill bottles. Refilling will shorten the shelf life of the added CA and may create contamination.

Opened Bottles

Store opened bottles in a cool, dry area away from direct sunlight.

Do not store opened bottles in a refrigerator or freezer; atmospheric moisture in the bottle will condense, causing premature curing and reducing shelf life. The cold temperatures will also affect viscosity.

When storing CA for an extended time, place opened bottle in a moisture tight jar (plastic or glass) with TMI's *DRY PAK*. *DRY PAK*'s color changes from blue to pink indicating that the desiccant is no longer absorbing moisture. To reuse the *DRY PAK* when this happens, place the *PAK* into a microwave oven for about two to three minutes to dry out the desiccant. The Pak will again turn blue. Use caution, the *DRY PAK* can get very hot in the microwave oven.

DO NOT STORE CA NEXT TO PUMP SPRAY ACTIVATORS

The *ACTIVATOR*'S fumes escaping through the pump sprayer can initiate curing within the CA bottle.

Applications

Use a minimum amount of CA – MORE IS NOT BETTER.

Testing applications on scrap materials is recommended.

Surface Preparation:

Before bonding, be sure surfaces are clean, especially hard surfaces such as metal, plastics, and glass. To clean surfaces use acetone or alcohol.

Before bonding or crack-filling wood that will be stained or clear finished, we suggest a quick spray of lacquer to the area. This seals the surface and helps prevent the CA from being absorbed into surrounding areas. After CA application, the area can be sanded or turned; leaving a surface that can be polished and finished but not stained.

Bonding:

Use a CA viscosity that will not be absorbed completely into the surface to be bonded. Apply CA to one surface only. For an instant bond, spray Stick Fast™ *ACTIVATOR* on other surface. Press parts together.

Filling:

All of our CAs can be used for gap filling. Use *CA-MEDIUM* or *CA-THICK* for most applications, adding fine sawdust after applying the CA to blend in the fill. For a fast cure, wait 5 to 8 seconds, and then lightly spray with *ACTIVATOR*. For large cracks, dents, or holes, fill void level with a mixture of 1 part baking soda – 10 parts fine sawdust then carefully apply *CA-THIN*. The soda will accelerate the cure deep in the crack or gap. USE CAUTION: WAIT before lathe turning, the top layer will cure first. The material deep in the crack will remain liquid for a longer period of time even when using an activator to accelerate the cure. Sanding shortly after applying the CA will help blend in the fill. To reduce or eliminate absorption marking in the surrounding wood, lightly spray area with a lacquer sealer prior to filling.

Finishing with CA:

Use *CA-THIN*, *CA-MEDIUM*, or *CA-THICK* as a protective finish. Apply a small amount of *CA-MEDIUM* or *CA-THICK* (approximately the size of a quarter) to four layers of blue shop type paper towel or sturdy cloth. Quickly apply in a circular motion to surface, reapplying CA to keep paper towel wet but not soak through all layers. Polyester pillow filler wrapped and taped around a stick to act as a swab may also be used to create a smooth finish application. Continuously apply liberal amounts of *CA-THIN* to surface as the swab smoothes the CA. Insure CA is cured before lathe turning to prevent uncured material from spraying. CA may be reapplied, sanded, polished, or lacquered after cured. For a high gloss finish, over coat with a spray on lacquer and buff. A cured CA surface is non-stainable. Use a light spray of *AEROSOL ACTIVATOR* to accelerate the cure; pump bottle Activator has a tendency to cause foaming and marking. Note: CA will heat up as it cures especially in large volume.

Sealing with CA:

CA-THIN or *CA-MEDIUM* will penetrate into wood to strengthen, seal and bond delicate, spalted or punky areas. Sealed wood can be turned, sanded, or finished. Insure CA is cured before lathe turning to prevent uncured material from spraying. Use *CA-THIN* to seal, bond, and preserve natural edge bark.

Accelerating CA cure time:

Stick Fast™ *ACTIVATOR* creates a cure in 2 to 3 seconds. Wait 5 to 8 seconds after CA application before spraying directly on the CA. To accelerate bonding applications, typically apply CA to one surface and *ACTIVATOR* to the other, then press together. Spray on *ACTIVATOR* very lightly; too much will cause foaming and will weaken the bond. *AEROSOL ACTIVATOR* will minimize or eliminate foaming when spraying directly on CA and is ideal when CA is used for finishing or sealing. When large amounts of CA are used, especially when filling with CA, the activator will start the cure process on the top creating a skin where the material under the skin may be still liquid. WAIT additional time and exercise caution before lathe turning under these conditions.

Precision application of CA:

Our unique *CHANGE-A-TIP* system with various tips allows a precise, controlled application. The quick-change feature allows easy change of different tip sizes and replacement of clogged tips. For micro applications of *CA-THIN* a *FLEX TIP* is also available to slip fit over the standard bottle spout. Our protected pin *TIP-OPENER* accessory provides a higher precision opening than cutting the standard bottle spout tip.

Reduce Clogged Tips

One of the most irritating parts of using CA's is the clogging of the bottle tip after a few uses. The normal remedy to this problem is to scrape the cured plug off, push the plug out, or to cut the tip back. If scraped with a fingernail, uncured CA may cause fingers to stick together. Cutting the tip back makes a larger opening, which creates less control of application. To reduce clogging after dispensing hold the bottle upright and lightly tap the bottom on a hard surface. Any remaining CA should drain back from the tip. You can also squeeze the bottle slightly, causing a burping action, forcing the remaining CA out. In both cases, use caution where you are aiming the tip. Another method is to use our *CHANGE-A-TIP* precision dispensing accessory, a low cost and quick way to solve this problem. The adapter cap provides a quick-change of a clogged tip, just ¼ turn of the tip, pull, discard, and replace or soak in acetone to dissolve the cured CA. If cleaning with a solvent, insure tip is completely dry before reusing to prevent contamination.

Storing the CA correctly will also reduce clogged tips. See "Storage – Opened bottles".

Handling Precautions

ALWAYS USE EYE PROTECTION KEEP AWAY FROM CHILDREN.

All *STICK FAST*[™] CA adhesives are non-toxic. However, CAs are an irritant and we recommend you insure proper ventilation. For those that are highly sensitive, a respirator may be necessary.

If CA comes in contact with eyes SEE A PHYSICIAN. Flush eye with water, and do not force the bonded area apart. **DO NOT USE *DE-BONDER*.** When corneal surface and eyelid are bonded together, treat with a suitable anti-irritant ointment and allow eye to remain closed. Bond separation will occur naturally.

If accidental skin bonding occurs use *DE-BONDER*, or use warm, soapy water to separate skin. Gradually work the skin free. Do not use excessive force to pull the bonded area apart.

STICK FAST[™] *ACTIVATOR* and *DE-BONDER* contain solvents that are extremely flammable. Do not puncture or incinerate aerosol containers. Do not use near source of ignition or spark. Do not store above 120°F. Use with adequate ventilation and avoid inhalation of vapors. In case of skin or eye contact, flush with water. **If ingested or eye contact occurs see a physician.**

STICK FAST™ CA ADHESIVE PRODUCTS

There are five different CA products available. All of the CAs can be used to bond or seal a wide range of similar or dissimilar materials. The set time varies with the bonding surface, humidity, viscosity, and volume or thickness of each application.

Product	Viscosity	Approx set time in seconds	
		Wood	Metal
CA-Thin	5 CPS	3-8	5-12
CA-Medium	500 CPS	8-15	10-25
CA-Thick	2000 CPS	10-25	15-30
CA-Gel	Paste	15-30	20-40
CA-Flexible	500 CPS	8-20	15-30

Choosing a CA adhesive

When bonding, choose a viscosity that will not be completely absorbed into the surfaces to be bonded. For uneven bonding surfaces, select a thicker viscosity to fill the gaps. Apply a small amount. More is not better. Stick Fast™ CAs can bond a variety of materials such as wood, metal, glass, rubber, ceramics, and plastics.

CA-THIN

- Water thin consistency.
- Fast setting and curing.
- Fast bonding of relatively non-porous surfaces.
- Penetrates wood quickly to harden and seal surfaces.
- Wicks into joints for bonding without disassembly.

CA-MEDIUM

- Thin syrup consistency.
- Longer set time to allow for assembly and alignment.
- General purpose adhesive.
- Fills gaps up to 1/32 inch.
- Penetrates porous wood to harden and seal surfaces.
- Excellent wipe on final finish coat to harden surface.

CA-THICK

- Syrup consistency.
- Even longer set time for assembly and alignment.
- Good filling characteristics for larger cracks and uneven surface bonding.
- Excellent wipe on final finish coat to harden surface.
- Provides longer application time before curing.

CA-GEL

- Gel consistency.
- Provides longest assembly time and greatest gap filling capabilities.
- Adhesive will not run off surfaces.
- Ideal for bonding very rough, porous surfaces.

CA-FLEXIBLE

- Syrup consistency the same as *CA-THICK*.
- Unique formula that has extremely good bond strength that retains a flexible condition when cured.
- Ideal for bonding dissimilar materials such as wood, metals, glass and rubber.
- Excellent for pen and pencil kit assembly.
- Bond will withstand high impact without breaking.
- Flexible is the most versatile of all the CA formulas.
- Available in Black

ACTIVATOR

- Significantly accelerates the cure of all the CA formulas.
- Use when cure time is unacceptably long due to large gaps or fixturing time.
- Spray pump bottle is a low cost solution that provides excellent results.
- *AEROSOL ACTIVATOR* provides the best application of activator for spraying directly on CAs. The spray is more atomized and greatly reduces potential foaming problems due to over use.

DE-BONDER

- Clean up and skin cleaning.
- Cannot be used as a thinner for CAs.
- *DE-BONDER* changes the molecular structure of the CA to make it a “non-adhesive”.
- **DO NOT USE ON EYES OR MUCUS MEMBRANES.**

***STICK FAST™* Accessories**

CHANGE-A-TIP

- Quick-change tip adapter, micro tips, and storage cap.
- Provides precision application of CAs.
- Helps prevent over application.
- Provides a low cost, disposable tip change when clogging occurs.
- Wide variety of tips for every application.

DISPENSE PAK

- Two 12cc Syringes.
- Includes a wide variety of plastic and stainless steel tips.
- Accurate dispensing of thicker materials.

SQUEEZE PAK

- One ounce bellows type dispenser with quick-change tip adapter.
- Includes S.S. tip, wide variety of micro tips, and storage cap.
- Easy refill.
- Provides precision application of a wide range of fluids.

- **MICRO TIP PAK**

- Use with Change A Tip adapter, Dispense Pak syringes and Squeeze Pak dispenser.
- Wide variety of plastic tips.
- Economically bulk packed.

FLEX TIP PAK

- Slips over standard CA nozzle or MICRO TIP.
- Provides for a flexible micro application in tight corners.
- For use with low viscosity *CA-THIN*.
- Economically bulk packed.

DRY PAK

- Storage solution for extending the shelf life by absorbing moisture. (See Storage)
- Contains a color change indicator to determine drying effectiveness.
- Use in moisture tight jar with CA bottles.
- Do not store CAs with *ACTIVATOR*.

STICK FAST™ Epoxy

EPOXY

Stick Fast 5 and 20 Minute Epoxies are a two part 1:1 mix ratio, free flowing in viscosity unfilled adhesive that mixes easily at room temperature and contains no solvents. Cures to a tough semi-rigid material.

➤ **Mixing and Application:**

- Bring both components to room temperature prior to mixing. Mix thoroughly one part A to one part B by volume or weight.
- Allow to cure undisturbed until product is fully gelled or tack-free to the touch.
- Clean up with a suitable organic solvent such as MEK, Acetone, or chlorinated solvent.

➤ **Surface Preparation**

- Sand to roughen surface and to remove any loose paint, dirt or other contaminants.

➤ **Applications:**

- structural bonding, coating applications, stone inlay, gap filling
- suitable for wood, ceramics, glass, metal, polyester, rubber, and most plastics
- excellent resistance to water, salt spray, inorganic acids and bases, and most organic solvents

Keep out of reach of children

Wash hands with soap and water after use

See our web site www.StickFast.net for additional information

or contact our professional Stick Fast™ distributors.