

CA Glue

What is the difference between CA glue, instant glue, cyanoacrylate, and super glue?

CA glue, instant glue, cyanoacrylate, and super glue are different names for cyanoacrylate adhesive. Although these all describe the same type of glue, different groups of users use different names. Skilled crafting professionals and serious hobbyists and model-builders usually use the terms "CA glue" and "instant glue." Industrial users tend to refer to the glue by its technical name, "cyanoacrylate", and people that buy CA glue from home improvement stores or drug stores for occasional use around the home often use "super glue" or sometimes "krazy glue." While there are important differences in performance among various cyanoacrylate products, all of these names refer to the same type of adhesive.

Why should I use Satellite City instant glue instead of some other brand?

There are many brands of CA glue on the market. While they are the same *type* of adhesive, few, if any, can offer the same level of performance and reliability at our prices. Satellite City has been providing customers with instant glue since 1970. We have customers whose history with us stretches back several decades despite new companies popping up frequently with lower prices because those adhesives are simply not the same quality. Satellite City instant glues are used by professionals working with expensive or rare materials and in critical applications that demand the highest strength and reliability. They choose our adhesives because they know they can count on them. If these qualities are important to you, choose Satellite City instant glues.

The high quality and value of our CA glue is the first reason to choose Satellite City. Our dedication to customer service is the second reason. We make it fast and easy to place orders through our website, or by phone, fax, or email, and we ship out nearly every order the same business day it comes in. If you have questions about a unique application that is not covered on our website, we are happy to help you determine which, if any, of our products will work. We care about our products and do everything we can to ensure the satisfaction of our customers.

Does Satellite City CA glue work on everything?

Almost any materials or combination of materials can be bonded with [Satellite City CA glue](#). Wood, most plastics, aluminum, steel, neoprene, rubber, nitrile, ABS, PVC, phenolic resin, vinyl, leather, and many other materials are easily and sturdily bonded quickly and easily with the proper viscosity. Polycarbonate can be bonded well, but do not use accelerator as it may cause fracturing. Materials that cannot be bonded are teflon, polyethylene, polypropylene, materials with acidic coatings, and some plastics which are very oily and flexible. Glass can be bonded, but not reliably, so we advise against it.

How strong are Hot Stuff, Super T, and Special T CA glue?

Satellite City CA glue is incredibly strong and has been tested for strength with a variety of substrates. The numbers below are specifically for Hot Stuff Original thin CA glue, but our other instant glues are very similar. If you have been told that all instant glues have poor shear strength, you will see that is not the case with Hot Stuff, Super T, and Special T. However, it is important to note that although tensile and sheer strength are fantastic, peel strength is a weakness of cyanoacrylates in general. If your application requires the bond to withstand a great amount of peel stress, CA glue may not be the best choice.

Hot Stuff Original thin CA glue strength after 24 hours at 22 C

Lap Shear Strength, ISO 4587:

Steel (grit blasted)- 2,175 to 3,770 psi	15 to 26 N/mm
Aluminum (etched)- 1,740 to 2,755 psi	12 to 19N/mm
Zinc dichromate- 870 to 1,885 psi	6 to 13 N/mm
ABS- 870 to 2,900 psi	N/mm 6 to 20
PVC- 870 to 2,900 psi	N/mm 6 to 20
Polycarbonate- 725 to 2,900 psi	N/mm 6 to 20
Phenolic- 725 to 2,175 psi	N/mm 5 to 20
Neoprene- 725 to 2,175 psi	N/mm 5 to 15
Nitrile- 725 to 2,175 psi	N/mm 5 to 15

Tensile Strength, ISO 6922:

Steel- 1,740 to 3,625 psi	N/mm 12 to 25
Buna-N- 725 to 2,175 psi	N/mm 5 to 15

"T" Peel Strength, ISO 11339:

N/mm <0.5

Steel (degreased)- <2.8 lb/in

After 10 seconds @ 22 C

Tensile Strength, ISO 6922:

Buna-N- ≥ 870 psi
N/mm ≥ 6.0 LMS

Which CA glue should I use?

Use **Hot Stuff Original** (Catalog numbers **HS-4**, **HS-7**, and **HS-8**) when the fit is very tight and the material is non-porous. (i.e. piece of plastic and a piece of flat rubber). Use **Super T MEDIUM** CA glue (Catalog numbers **HST-4**, **HST-7**, and **HST-8**) or **Special T THICK** CA glue (Catalog numbers **HST-4T**, **HST-7T**, and **HST-8T**) when parts don't fit well. (i.e. two pieces of unsanded wood) or for very porous materials such as the end grain of a piece of wood. Naturally, more porous material requires thicker glue. Hot Stuff Original is about as thin as water (3 cps), Super T medium is similar to syrup (300 cps), and Special T thick is about as thick as cold honey (1500 cps).

Use the thinnest glue that will fill the gap between the pieces you are bonding. For example, if you are repairing a broken piece of china which was cleanly broken, using Hot Stuff Original will allow you to make the best repair because it is very thin and the pieces fit perfectly together. If you use Special T instead, the thickness of the glue will create space between the parts, and while it will certainly bond them together, it will look ugly. Conversely, if you are gluing together two pieces of unsanded wood, use Super T or Special T, depending on the gap between the pieces, because Hot Stuff Original simply will not fill in the gap and will not create a bond.

How much CA glue should I use?

It depends on what you are doing. When you are bonding two pieces, it is not necessary to cover both surfaces or even one entire surface. Instead, apply the glue in a spiral pattern. Do not apply a thick layer of CA glue to pieces you are bonding. As the thickness of the layer of CA glue increases, the curing time and the chance of glue in the middle not fully curing increases.

If you are finishing a surface, such as a pen, you will want to apply Hot Stuff Original thin or Super T medium instant glue one layer at a time, curing each layer with [NCF Quick accelerator for CA glue](#). The amount of CA glue you apply depends on the depth of the finish you wish to achieve.

When using Hot Stuff thin CA glue to fill in hairline cracks and fractures in wood and stone, continue applying glue until no more Hot Stuff wicks inside. Similarly, if filling larger gaps with Super T medium or Special T thick instant glue, use as much as necessary to fill the gap. However, it is best to apply instant glue in layers when filling gaps, curing in between layers. Filling a very large gap with one big blob of CA glue may prevent the glue from fully curing.

How much surface area will a bottle of Hot Stuff cover?

To give you an idea of how far a bottle of our CA glue will go, we emptied a half-ounce bottle of both our Hot Stuff and Super T drop by drop, measured the area covered, and extrapolated that number to the various sizes we offer. We did not measure the Special T because it does not flow freely and so is difficult to accurately measure. The results are given in square feet.

Hot Stuff Original thin CA glue

1oz (HS-7) - 55 sq ft
2oz (HS-4) - 27.5 sq ft
4oz (HS-8) - 110 sq ft

Super T MEDIUM CA glue

1oz (HST-7) - 31.42
2oz (HST-4) - 15.71
4oz (HST-8) - 62.83

How do I align the parts before the glue cures?

If the materials are non-porous, do all the positioning first. Once a perfect fit is achieved, apply [Hot Stuff Original](#) to the joint. If necessary, Hot Stuff may be applied to more than one location along the bond line. Example: bonding two one-inch rubber cubes together. Four small applications, one at each side, would be in order. Follow up with a quick spray of [NCF Quick accelerator for CA glue](#) to ensure the glue cures in place and doesn't drip out from the joint.

Why doesn't instant glue always dry instantly?

There are several factors which determine how fast instant glue will dry. A common reason for CA glue not drying is that the glue being used is too thin for the joint. For example, using [Hot Stuff Original thin CA glue](#) to try to bond two unsanded pieces of wood together will result in a lot of frustration and wasted time because the instant glue cannot fill the gap between the two pieces. If CA glue is not being pressed between two surfaces and has not had accelerator applied, it will take a long time to cure, and if the glue is too thin for the application, it will still not create a bond when it does cure. Another factor in curing time is the material being bonded. Different substrates cause instant glue to dry at different speeds. When bonding rubber or neoprene, for example, the glue will dry extremely quickly, while materials such as polycarbonate tend to take a bit longer.

Oils and other contamination on the surfaces can cause the glue to bond slowly, weakly, or not at all. If necessary, clean the surfaces off using denatured alcohol or acetone prior to bonding. [NCF Quick accelerator for CA glue](#) can also help by cleaning and preparing the surface.

Lack of humidity in the air can also affect curing times. In extremely dry climates, [an accelerator for CA glue](#) is often necessary to force the CA glue to cure.

The more instant glue that is used in a given bond area, the slower the cure will be. For instance, a puddle of glue on a glass surface may not cure for hours. In these circumstances, instant glues tend to act like they're still in the bottle because much of the glue is not exposed to the moisture in the air or the parts being bonded. Should a large quantity of instant glue be necessary, as with making a fillet, using a [CA glue accelerator](#) will cause an almost instant cure even in this extreme scenario. In this case, it is best to apply the instant glue in layers, curing each layer with accelerator before applying the next.

How do I keep my CA glue fresh?

If you do not plan to use your glue soon after receiving it, place your new, unopened bottles in the freezer. This will at least double the shelf life, provided you place only unopened, new bottles inside. When you are ready to use the glue, simply take it out of the freezer and let it warm up to room temperature. Bottles in use should be stored in a cool, dry area. It is generally bad for the shelf life to keep opened bottles in cold storage as moisture-laden air is sucked into the bottle with each use. That moisture condenses when the bottle is put into cold storage, and as moisture is one of the catalysts for cyanoacrylate, this can cause a shortening of the shelf life. However, CA glue shelf life is more adversely affected by high temperatures (above 80 degrees Fahrenheit), so if the alternative is storing your instant glue in a hot garage or warehouse, it is better to keep it in cold storage.

An alternative way to maximize the life of your opened bottles is to store them with the overcap OFF inside a sealed jar with [packets of silica gel](#) inside the jar. The desiccant absorbs the moisture, which prevents the tips from clogging and extends the shelf life of the glue!

What can I use with Hot Stuff Original to patch a hole in an emergency if I don't have fiberglass cloth?

Practically any woven material, such as a T-shirt will work. Fiberglass and Kevlar, are by far the strongest. For more information, see our tutorial on [Fiberglassing with Hot Stuff Original thin CA glue](#)

What resistance does Satellite City CA glue have against various chemicals and solvents?

Our instant glue has been found in tests to retain 100% of its initial bond strength after 1000 hours in gasoline, isopropanol, ethanol, freon TA, and trichloroethane and 95% of its initial bond strength in motor oil. Acetone and nitromethane will dissolve instant glue.

How do Satellite City instant glues hold up to heat?

Tested by exposure for 5000 hours, our instant glues retain:

100% initial bond strength at 140 F (60 C)
75% at 176 F (80 C)

25% at 212 F (100 C).

Our CA glue will melt at 330 F and start to soften before that.

Which glue should I use to bond white styrofoam?

Our [UFO - User Friendly Odorless instant glues](#) are the only choice for white styrofoam. They are safe to use, while our other glues may damage the styrofoam.

What should I do if I am irritated by curing fumes?

Always ensure there is adequate ventilation when working with cyanoacrylate. CA glue emits curing fumes which are not toxic but can irritate the nose, throat, and eyes if the user is confined in a small area without airflow. Most users find the fumes a mere annoyance at most when the area is properly ventilated, but a rare few are particularly sensitive. If you must be in a closed environment while bonding, or if you are someone who is particularly sensitive to the fumes, you will definitely want to try our [UFO - User Friendly Odorless glues](#) which have no curing fumes.

If your application uses a lot of glue at once and produces a great deal of fumes (such as soaking wood or stone, [fiberglassing](#), or [finishing](#), you may want to use a respirator to avoid irritation. We recommend [3M respirators](#). If you are wearing goggles or if the fumes don't bother your eyes, you can use the [inexpensive 3M Safety Respirator, Particulate P95](#) or a half-mask, such as the [3M Low-Maintenance Half-Mask Organic Vapor, P95 Respirator Assembly](#). If you want eye protection as well, we recommend a full face mask, such as the [3M 7162 Full-Facepiece Spray Paint Respirator - Organic Vapor](#). Respirators are not needed in most cases, but when working with a lot of fumes, they make the situation much more pleasant.

Why do my spouts clog?

Clogged spouts are an annoyance that plagues many users of instant glues. There are several reasons for this, and once you understand them, you can greatly reduce the incidence of this problem.

Storage

New, unopened containers of any instant glue may be stored in the freezer (at or below 32 degreesF) to extend shelf life. Always allow the container to warm to room temperature before opening. Once opened, it is generally best not to return to cold storage. Moisture is one of the catalysts. Opening a cold bottle or placing a previously opened bottle back in cold storage causes the warm air that has entered the bottle, (carrying moisture with it), to condense the moisture into water. This has a negative effect on shelf life causing the contents of the bottle to thicken and eventually harden, and this also causes the spout to clog very frequently.

The most effective way we have found in general to keep spouts from clogging is as follows:

Before putting the black cap back on the spout,

- 1) Wipe off any glue from the outside of the spout**
- 2) Holding the bottle upright, squeeze it gently in and out several times until the glue has all been sucked back down the spout and only air remains**
- 3) Put the cap back on the spout**

One interesting method to prevent clogging and prolong the shelf life of your CA glue is to store it with the overcap OFF inside a sealed jar with [packets of silica gel](#) inside the jar. Using a desiccant will remove moisture from the air which prevents clogging and makes your instant glue last longer! If you are not storing your glue in this manner, keep the overcap on between uses.

Application

Keep the tip of the spout from touching the work, especially if dust from sanding is present. Each time the spout touches foreign matter, the glue is effectively being told to cure. Foreign matter, if sucked into the spout, can also cause the contents of the bottle to thicken and eventually harden.

Sealing

Use the overcap to reseal the bottle in between uses. The overcap prevents dust or accelerator overspray etc. from settling on the spout. Avoid wiping off the spout tip unless necessary as lint from cloth or paper towels sticks to the tip and causes clogging.

Accelerator Overspray

Always make sure that accelerator OVERSPRAY doesn't touch an exposed spout. Set glue aside or reseal with the overcap before spraying accelerator. This sounds obvious, but it is very easy to put an uncapped bottle of glue down right next to the part you are spraying with accelerator.

Foreign Objects

Avoid putting pins or nails or anything into spout to try to keep it clear. The trace moisture on these objects is carried into the spout and makes clogging more frequent. Instead, trim off the tip a little with a knife or razor blade.

Age or Foreign Matter

Shelf life is determined, to a great extent, by the quantity in the container. As a rule of thumb, a two ounce bottle has a one year shelf life at room temperature. As the bottle ages and passes its expected useful lifetime, the CA glue begins to thicken. This can also occur because of improper storage or because of foreign matter being introduced into the bottle, as explained above. If you are very familiar with cyanoacrylate, you know that even glue thickened because of any of the reasons above, can still usable as gap-filling versions. However, old, thickened glue will cure more slowly and clog the spout more often.

Clear the spout before resealing

Clogging happens for all of the reasons listed above, but it happens only when there is glue in the spout. To best avoid clogging, follow the guidelines above and clear the spout before putting the cap back on. To clear the spout, hold the bottle upright with the cap off and squeeze it gently a few times. You will see whatever glue is left in the spout move upward and then get sucked back into the bottle. If there is glue on the outside of the spout, gently wipe it off (you don't want to leave get lint from a paper towel inside the spout) before resealing with the cap. This should prevent the spout from bonding to the cap.

Keep extra spouts on hand

If you live in a particularly hot and humid area, you are more likely to have problems with clogged spouts. If this is the case, you may want to keep extra spouts on hand. If you have extra spouts, you can replace a clogged spout with a clean spout and then soak the clogged spout in acetone to clean it out. We offer [replacement spouts](#) for our 1oz, 2oz, and 4oz bottles in [boxes of 2](#) and [discounted bulk 100-packs](#).

We also offer some [other types of applicators](#), such as our [Pro Tips extensions](#) and [P-10 pipettes](#), which can be used for very precise work. An easy method to use the pipettes is to cut the spout on the bottle down so that glue will flow easily (this will also help prevent clogging as smaller orifices clog more easily than larger ones). Do not cut so far down that the cap will not seal over the two bumps on the spout. Squeeze some glue into a plastic container, then draw the glue into the pipette from the container. Using the pipettes in this way allows you to be very precise without worrying about keeping a very narrow spout clog-free.

Why don't you sell any bottles larger than 4 ounces?

We find bottles larger than four ounces to be unwieldy, and often not a great bargain for the buyer. Typically, the buyer purchases a larger bottle to get a discount, but then they end up not using it up before the shelf life is up and so a lot of it becomes useless. Also, a larger bottle means that more glue has to go through the same spout, and as you know if you have read the question above on clogging, there are a lot of things that will cause your spout to clog. The more glue that has to go through the same spout, the more likely the spout will need replacement before the bottle is empty.

We also don't sell larger containers to be used for refilling smaller bottles because this is a serious industrial-strength instant glue, and a customer who spilled a gallon of it in their shop or home would at the least have a serious mess on their hands.

Accelerators

Do I need an accelerator?

Most of the time, your application will benefit if you use a CA glue accelerator, and sometimes you will be unable to form a bond without it. This doesn't mean that you'll always use accelerator, but once you've used [NCF Quick aerosol accelerator](#) you'll find you don't want to be without it. With accelerator, you get the fastest possible curing times as well as a more solid bond as all the glue is forced to cure at once.

When wouldn't I use accelerator?

When you need a lot of positioning time after applying CA glue, it is best not to use accelerator. You also may not want to use it if you are filling very deep hairline cracks and fissures with [Hot Stuff Original thin CA glue](#), such as when you are stabilizing very large pieces of wood or rock. In these cases, using accelerator could make the glue cure before it has wicked all the way inside the void.

How much accelerator should I use?

Use a light mist of accelerator from about 8-12 inches away. The accelerators are designed to flash off very quickly. **Do not spray so much that the surfaces become wet. With specific materials such as stone, excessive spray of accelerator can cause discoloration.**

What kind of accelerator should I use for bonding white styrofoam?

Our [SprayNCure foam-safe accelerator](#) is the only accelerator that should be used with white styrofoam, and should be primarily used for this purpose, as it is the slowest of our accelerators. Other CA glue accelerators often attack white foam.

Will your accelerators cause crazing when used on plastic?

Do not use our accelerators with polycarbonate, as they can cause it to crack. However, our accelerators will not cause crazing with any other plastics unlike acetone-based activators.

What is the shelf life of your accelerators?

Our aerosol accelerators have a shelf life of five years. Our NCF Hot spray-pump accelerators have a shelf life of two years so long as they are kept tightly sealed with their original caps when not in use. The spray pump is not as effective in sealing the bottle as the original cap. If the bottles are not kept tightly sealed, the accelerator will turn yellow and then orange over time and will cease to have any effect on uncured cyanoacrylate.

Solvent

Why do I need solvent?

Satellite City instant glues are serious, industrial-strength adhesives. If you accidentally spill some on your tools, you will find yourself tearing out chunks of your workbench if you don't have solvent. Debonding misaligned parts and removing glue from fingertips are the most common uses of Super Solvent, and it is also very useful for removing cyanoacrylate from surfaces where it has spilled. Our [Super Solvent CA glue debonder](#) will also remove super glue made by other companies, as well as many other types of adhesives. It can also be useful for cleaning off parts prior to bonding, although there are less expensive options for doing so.

Can I use acetone as a solvent?

You certainly can, and sometimes it makes sense because it is so cheap, but it is also extremely flammable, smells terrible, and is more likely to cause damage to surfaces than our nitromethane-based solvent. It is also considerably slower. Acetone is what most other instant glue companies use in their solvents, but **our solvent is not acetone-based.**

How do I get my fingers unstuck? Will Super Solvent debonder remove other super glue?

First, the best thing to do is to not get them stuck in the first place. You can do this by [wearing polyethylene gloves while working with instant glue](#). Take care to use this specific material, as the glue will not stick to it. However, if you try using latex, nitrile, or rubber gloves, the glue will quickly stick them together.

Never wear cotton gloves while working with Hot Stuff, and avoid getting the Hot Stuff Original on tight-fitting clothing. When Hot Stuff comes in contact with fibers like cloth or paper towels, an exothermic reaction takes place which could burn you if it is against your skin.

If your fingers do become stuck, first attempt to separate them **slowly** with a peeling motion. Hot Stuff and cyanoacrylates have relatively low peel strength, so you can often unstuck yourself just by doing this. It is a good idea to support the skin you are trying to separate with the fingers of your other hand while you peel them apart. Do not try to simply pull the bonded skin straight apart!

If you have really gotten yourself stuck and cannot simply peel yourself apart, our CA glue debonder, [US-1 Super Solvent](#), will quickly turn our CA glue into a tacky substance you can wash away. It will also remove super glue made by other companies. If you don't have any Super Solvent, you can use acetone (found in nail polish remover), although it will be much slower. You can also soak your hand in very warm water. This will cause your fingers to release oils which will break down the bond, although it will likely take a few minutes. Left alone, cyanoacrylate will peel off of your skin over a couple of days due to the oils your skin naturally releases.

Is Super Solvent a thinner?

No. Super Solvent CA glue debonder is only meant for dissolving cured glue. Any foreign material mixed with these glues (i.e. using this solvent as a thinner) will generally cause the glue to cure rapidly and unpredictably. The only material that can be safely used to thin cyanoacrylate is a thinner cyanoacrylate. This is generally pointless, as when people ask this, they are trying to thin a bottle that has turned thick over the course of time. If your glue has noticeably thickened, it has passed its shelf life. Although it may still be usable, you cannot reverse the shelf life.

How do I use Super Solvent?

Note: US-1 may discolor fabric or paint finishes. You should **always test on a sample or inconspicuous area before usage.**

There are several ways to apply Super Solvent. If you have glued your fingers together, apply a few drops at a time to the glued skin and rub the Super Solvent into the CA glue. Alternatively, wet a soft cloth with the Super Solvent and apply the cloth to the glue. The nitromethane will evaporate fairly quickly (although more slowly than acetone), so repeat this process until you have unstuck your fingers or whatever appendages you have unintentionally bonded. After you are unstuck, you can continue to apply Super Solvent to the CA glue to turn it into a slimy substance that can be washed off with soap and warm water. Avoid getting the Super Solvent on damaged skin, on lips, or in your mouth or eyes.

To debond materials you have glued together or remove CA glue from a surface, apply the Super Solvent directly to the cured glue and rub it in with a soft cloth. Periodically attempt to pull the surfaces apart gently, and continue the process until they separate. The Super Solvent works quickly, but it only affects the CA glue it directly contacts. If you are removing a thin layer or dissolving an exposed bondline, the process will be relatively quick. However, if you are trying to dissolve a very thick layer of CA glue or debonding parts where the bond is difficult for the Super Solvent to reach, the process can take much longer.

If you are in one of these tough situations, you have a couple of options. If you are debonding or removing CA glue from the surface of small parts, you can fill up a container with our Super Solvent and leave the part to soak in it. If the parts are large, you can soak them in acetone instead. It will take longer, but it is more economical for big jobs. If you are trying to remove a thick layer of CA glue from a non-porous surface, you can apply a larger amount of the Super Solvent to the glue and seal it with plastic wrap. This will allow the Super Solvent to work longer on the cured glue before it evaporates. This is very effective on metal surfaces, and you can use a scraping tool in between applications to remove the weakened glue so the Super Solvent can work on the next layer.

If the methods above are impractical, you can use heat instead. Instant glue weakens at high temperatures. Satellite City CA glues will start to melt at about 330 degrees Fahrenheit. You can use an oven, heat gun or other method to get the glue to this temperature. Note that cured CA glue is combustible and can catch fire if flame is directly applied to it. Super Solvent and our Spray 'N' Cure accelerators are flammable, so be sure that the parts are clean before applying heat. Satellite City is not responsible for any damage you cause or incur when using this method

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