

Enhancing “Super Glue” to repair telephone parts etc.

John Paskulich 2023

“Super Glue” is a trade name of the US Super Glue Corporation. More correctly, it is a cyanoacrylate (CA) glue. CA glue is an acrylic monomer that bonds strongly to many surfaces. It relies on the presence of water molecules to cure. This is why it bonds moist human skin almost immediately. In dry conditions, it may be necessary to dampen a surface to start the reaction. Alternatively, various “accelerator” chemicals are available to speed up the cure time.

For years, hobbyists and various repairers have known that CA glue, combined with sodium bicarbonate (baking soda), not only accelerates the cure but results in a strong cement that both bonds and fills voids. When hardened, it can be filed or sanded. More information on this process is online at: <https://info.aronalpha.net/blog/how-strong-is-super-glue-baking-soda#> and there are also numerous online video examples. The downsides of this CA/bicarb cement are; it is white, which means painting black Bakelite repairs and it cures almost immediately, requiring a technique of repeatedly dusting the bicarb. powder over droplets of the glue to build up a void.

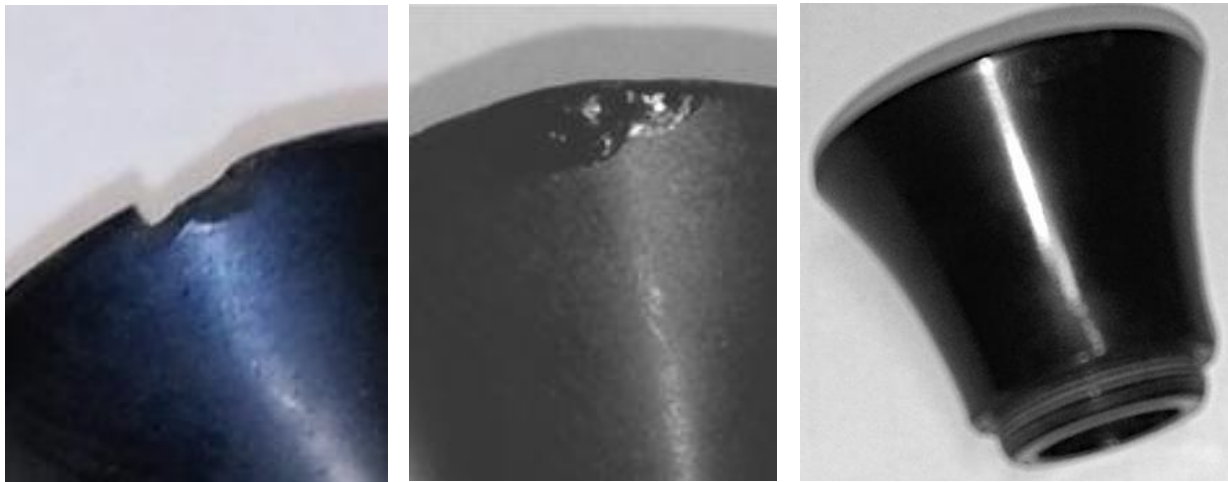
After viewing the following Youtube video, I experimented with CA glue and graphite on a chipped Bakelite mouthpiece. My graphite comprised scrapings of an artist’s charcoal but it is commonly available elsewhere e.g. pencil “lead” etc.

The process was simple. I scraped off a suitable amount of fine graphite dust, applied some drops of CA glue and mixed well, then daubed the resulting paste onto the work piece until filled. The mixture has a reasonable work time. It took a couple of minutes to harden and, soon after, the surface was sanded, first with a rotary tool, then manually with various grades of abrasive paper and ultimately 0000 steel wool. The filler is quite hard, retains its “blackness” and takes a polish. Application can be repeated to fix any blemishes.

This method is ideal for repairing small, chipped areas of black Bakelite. I don't think it will work well on larger areas. **REMEMBER.** Always practice on low value pieces first!

These experimenters on Youtube explored what happens when CA glue is mixed with various substances. <https://www.youtube.com/watch?v=7XYPnHODt1E>

SAFETY. CA glue reacts immediately with and eyes and skin so protective glasses and latex gloves are important. The workspace should be ventilated, as toxic fumes and heat are given off by reactions, more so if larger quantities are involved.



L-R: Chipped, Filled, Finished



L-R: Graphite (artist's charcoal) and dust. Paste of CA glue and graphite dust