My Friend, Super Glue

Among the marvels of modern chemical technology we find Super Glue, useful for all kinds of instant bonding. Usually a quick fix not designed for long term or heavy duty bonding. The main ingredient in Superglue is Cyanoacrylate. Cyanoarylate is an acrylic resin that cure or hardens instantly. The only trigger required are the Hydroxil Ions in water. Because water and moisture are contained in just about everything, superglue will bond your fingers together before you can say “Oops!”.

One of the most unusual uses for the glue is applied medicine where it is used to close flesh wounds. However hospitals do not use the hardware store type glue but instead a special medical grade super glue which is sterile and not harmful to people. Another grand use for this wonder adhesive is in certain aspects of knife making. Mainly n the preparation, stabalisation and finishing of handles.

While many marvelous handle materials exist, a lot of them require some kind of treatment or another to make them more suitable.. Stabalising - the process of vacuum or pressure sealing materials with some kind of resin or sealing solution - is often used for this. However for those who do not have access to these kinds of facilities, we have the wonder of superglue. It has a wonderfully useful consistency in the fact that it is extremely viscous. Meaning that it is so runny it can seal the finest of cracks. This is especially useful if you are working on ivory or tusk. Once the offending crack has been sealed the maker can then polish and buff the ivory without fear of buffing compound being forced into the cracks, thus leaving the maker with a perfectly glossy surface. And thus a piece of seemingly unusable handle material can be salvaged.

The same can be applied to wood and bone with the same effects and more. On more than one occasion I have found exquisite wood that at first glance seemed unusable. Depending on the size of the cracks in the wood one can apply super glue to great effectiveness. There are two methods of super glue sealing that I use. The first is a partial seal which it used for cracks and other imperfections on otherwise hard and durable woods. Firstly apply glue to the cracks. If the crack is large the glue will disappear below the surface. Do not apply again until it is dry. If you keep trying to fill it up while the glue it wet it will just run out of the crack and you also run the risk of gluing your hand to the knife (I speak from experience). Let is harden on the inner walls of the crack and in turn it will reduce the size of the crack. Keep applying the glue in this fashion until the crack can no longer take more and it forms a convex bump over the area. Allow to harden fully for an hour or so before working on it. This method can also be done on slabs before the have been applied to handles or done after fitting and before final finishing. I find the second way easier because it uses less glue.

The second method it the complete seal. Rather that just filling the cracks or large wood pores one coats the entire handle to protect it and give it a high gloss finish. I use this method on very soft materials like Maple or bark. You do however, end up using 2 – 3 bottles of glue per handle.

Firstly the handle needs to be completely finished to about an 800 or 1200 grit. Guards and pommels need to be polished as well. Then tape up guards and pommels leaving +/- 1mm revealed so that the glue will form a step onto the guard. This allows for a blending phase later. Make sure that you have some rubber surgeons gloves before you start as it is the best way to ensure that the coatings are applied evenly without gluing yourself to the knife. Once all has been secured apply you first coat of glue generously, spreading it with your finger to ensure even consistency. Once coated leave it for about half an hour and go for a cup of tea. When you return it should have hardened. Now apply the second coat in the same fashion. Once this is dry, take some 400 grit paper and lightly sand the surface to remove any bumps or high spots that may have occurred during application. The less you have to do this the better. Make sure you work area is clean as any dust or dirt that settles on the glue will show up when polishing. Now apply another coat or two depending on your preference giving each new layer a soft sanding, this time with 800 grit. Note : When sanding covered areas be sure not to sand too hard as you may reveal the material underneath and will have to start again. I find that 3 coats is enough but if you have a very porous material it may totally absorb the first and sometimes even the second coat. Once the material can soak up no more then you are ready to proceed with the coating steps. Once you final layer has been applied leave it to cure overnight to ensure total hardness.

The next phase is finishing all your hard work and reaping you reward. Carefully remove the tape from your guard and pommel. Doing this too fast may result in cracking. Depending on how bumpy your surface was from the last coating will tell you what grit to start a. Never lower than 400. If it is fairly smooth you can start on 800. Now gently sand until all bumps and pits are gone all the time being careful not to reveal any wood. When the tape was removed a definite step should have been present. During you sanding allow the paper to overlap the step. This will slowly turn it into a ramp. Don't over compensate and work the glue too far towards the handle. Once smooth take your grit to 800, 1200 and finally 2000. The reason for this is so that we spend as little time at the buff as possible to avoid burning or damaging the coating. If this happens, you will cry like a baby. Then sand off the offending blemish and start again. Once 2000 grit has been achieved give it a light buff - being sure not to over heat the handle – and polish all your surfaces slowly and carefully. When finished your handle should appear glossy as if lacquered.

So go and get some super glue and find that old piece of wood and have some fun.