

SILVER METAL CLAY

JULIA RAI

Silver metal clay is an accessible and easy-to-learn medium, which allows complete beginners to make fine, solid silver jewellery with minimal tools. This guide is ideal for a beginner working with silver metal clay in lump, paste and syringe form. Most people who enjoy arts and crafts have many of the tools already so starting to work with silver metal clay can be quite cheap. It can be fired with a cook's butane torch, so no need for a kiln. The material itself is relatively expensive, but there is no waste and if you follow some simple rules, you can be designing and making your own silver jewellery in a few hours. There are two main brands of fine silver metal clay - PMC and Art Clay. Choose PMC3 or Art Clay Silver as these are the easiest to work with, can be torch fired and are very similar in consistency and handling.

MATERIALS & TOOLS

- 10g PMC3 or Art Clay Silver
- Plastic work mat
- Roller
- Playing cards
- Oil
- Plastic shot glass and sponge
- Textures
- Cutters
- Small drinking straws
- Small length of wire to fit smallest straw
- Cling film
- Teflon sheet
- Emery board
- Sanding sponge
- Cocktail sticks
- Rubber block
- 1mm drill bit
- Pin vice
- 2-part silicone moulding compound
- Small shell
- Steel brush
- Steel burnisher
- Butane torch
- Countdown timer
- Firebrick
- Stainless steel mesh
- Tweezers



PHOTOGRAPHER: LAUREL GUILFOY, JULIA RAI

HOW TO MAKE

1. First assemble the tools you will need. A wipe-clean work mat makes a good work surface; plastic placemats are ideal. To ensure the clay doesn't stick to the surface of your texture, use olive oil that has past its use-by date. Pour a little oil into a plastic shot glass with a small piece of kitchen sponge in it. This will control the amount of oil you use and also prevent messy spills. Playing cards make cheap spacers to ensure your rolled-out clay is a consistent thickness. To texture the back of your piece effortlessly, roll out the clay onto a subtle, shallow texture that is easy to lubricate. Leather or faux leather is perfect for this. A plastic or acrylic roller, or just a piece of plastic pipe, completes the basic tool kit.

Cutters

2. Small cutters come in a wide variety of shapes and sizes. Cheaper cutters normally have one rolled edge and one cutting edge so can only be used in one orientation. More expensive cutters have two cutting edges, which is particularly useful for asymmetric shapes. This means you can flip the cutter to make a mirror image pair of earrings, for instance. Nesting shapes are also a useful addition to your cutters as they allow you to make matching earrings and slightly larger pendants. Embossing cutters are fun to use and combine cutting out shapes with texturing the surface of the clay. Plunger cutters often come in a set of different shapes or sizes. They allow you to easily expel the cut out clay by pushing the plunger down when you have cut the shape out.

Textures

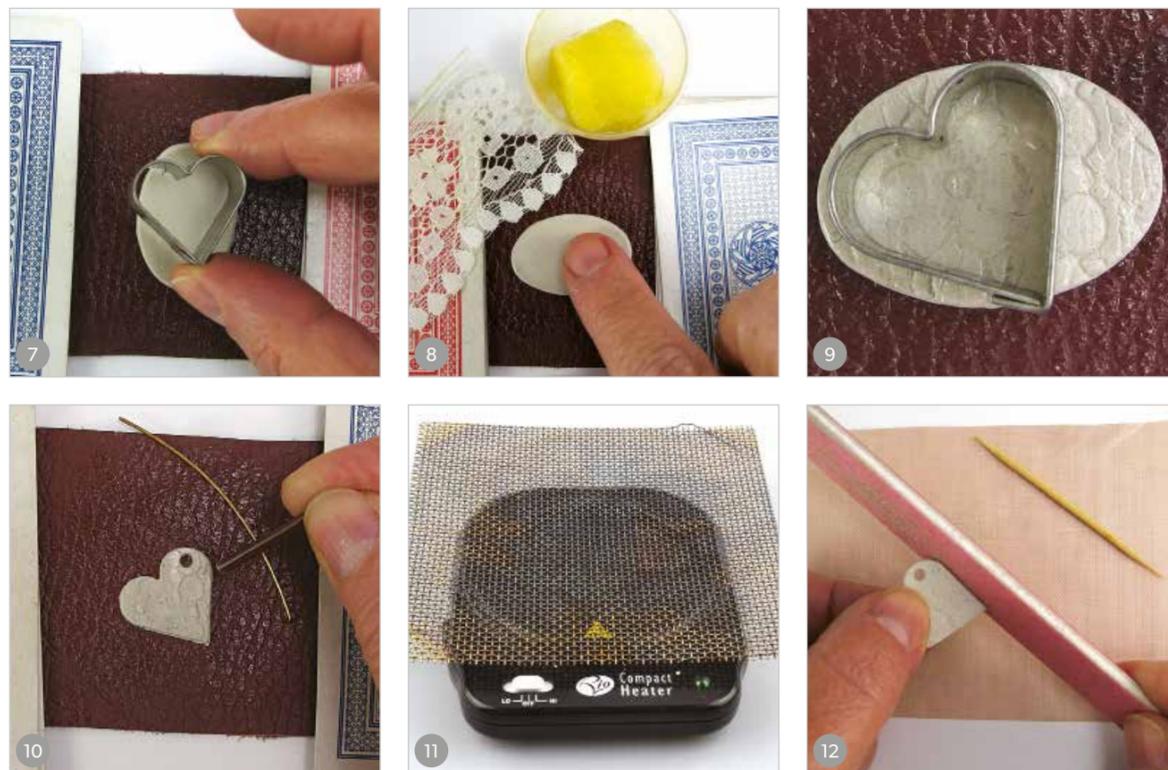
3. When you start working with metal clay you begin to see textures everywhere. As a beginner the easiest textures to work with are shallow as this allows you to ensure everything you make is strong and has integrity. As you become more experienced, you can experiment with deeper textures, but you need to make your pieces proportionately thicker so they don't have thin and weak spots. You can get textured wallpaper free from DIY shops, lace from old bras, hankies, napkins or bits of textured ribbon from your other crafting media. Punchinella is the waste from the sequin-making process and you can buy it from sequin suppliers online. Skeleton leaves also make lovely textures. Flat leaves from the garden can also be used but make sure they are clean and dry.

4. Before you open the packet of clay, make sure you have everything ready. The clay consists of fine silver particles, an organic binder and water. As soon as you open the package, the clay will begin to dry out so it's crucial that you are fully ready to begin working with the clay before you get it out. Choose the texture and cutter you want to use and think about the size of hole you want to put in the piece for a jumpring or earwire. Small drinking straws are perfect to make jumpring holes, but you can also use a small cutter to make a feature hole instead of a plain round hole. Assemble your tools and have a piece of cling film ready so you can wrap up any

excess clay immediately to keep it moist.

5. Lay the leather on your work mat and add a stack of ten playing cards to each end of the leather. If you use ten red and ten blue cards, you can easily separate them later if they get mixed up. Make sure the cards are on top of the leather so your rolled-out clay will be the right depth. Press your finger onto the oily sponge and lubricate the surface of the leather. You need to use enough oil to prevent sticking, but not so much that the clay slides around. Oil your roller, cutter and texture, if it is made of plastic or metal. Later, I'll show you how to lubricate porous textures like paper or lace. Also oil one end of the drinking straw you will use to make a jumpring hole.

6. Each brand comes in a variety of pack sizes and the internal packaging is slightly different. Beginners may find it easier to start with a smaller sized package so choose 7g or 10g of Art Clay Silver or PMC3 for your first try. You can easily get three or four small pieces of jewellery from a 7g pack, more if you work small. Open the package and take out the wrapped clay. The picture shows the cellophane that Art Clay silver comes wrapped in. Quickly and with good pressure, roll the clay into a smooth ball in the palm of your hand. Avoid overhandling the clay as this can cause it to dry out more quickly, although some people's hands are more drying than others. Put the ball of clay onto the oiled leather between the card stacks.



7. Using the playing cards as a guide, roll the clay. Make sure the ends of the roller are always on the cards. Remove two cards from both sides and roll again. The clay is now eight cards thick. Check the size and shape of the clay against your cutter. The reason for rolling the clay taking two cards off at a time is so that you can control the size and shape of the rolled clay. If the clay is not wide enough for your cutter, turn the clay by 90° before taking two more cards off each side and rolling again. The clay is now six cards thick. Take two more cards off each side and roll again. The clay is four cards thick which is the thinnest you should go to make a flat, shallow textured piece.

8. If you are using a plastic texture, like punchinella, you will have oiled it during your preparation. If you've chosen wallpaper, lace or ribbon, it's hard to oil these as they soak up the oil quickly. It's easier to oil the rolled-out clay if you have a texture like this. Once your clay is four cards thick and the right size for your cutter, press your finger onto the oily sponge and put a thin slick of oil over the whole surface of the clay. Place your texture onto the clay and roll one time with good pressure, still resting the ends of your roller on the stack of four cards. If you roll back and forth, the texture can move slightly and prevent you getting a crisp imprint.

9. Place the oiled edge of the cutter on the clay, lined up with the part of the texture you

want to use. Press firmly downwards so you get a clean cut. Remove the cutter. Wrap up the excess clay immediately in clingfilm. If the shape is stuck inside the cutter, use the blunt end of a pencil or paint brush to gently press one edge of the clay away from the cutter and allow gravity to help it drop onto the leather. Don't worry if the edges are not perfect or if the join in the cutter has made a mark; these will be dealt with when the clay is dry and easier to handle.

10. Use the small drinking straw to make a hole for the jumpring or earwire. Check to make sure the straw end is round as they are easily squashed. The hole should be around 3mm away from the edges of the shape. Press the oiled end of the straw into the clay and twist it gently to make a clean hole. Use a piece of wire – copper wire is cheaper than silver for this – and push out the plug of clay from the hole. This can be added to your other clay in the cling film. Don't worry if the hole isn't perfect; this can be corrected in the dry stage.

Drying

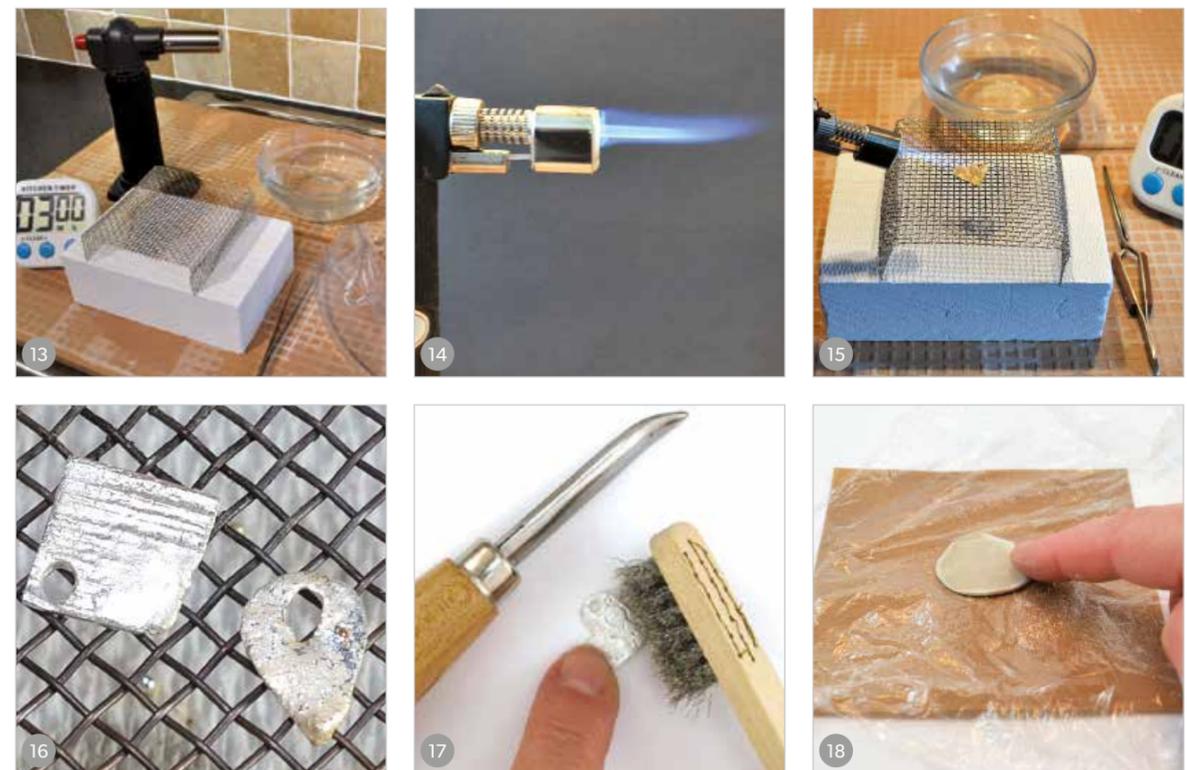
11. You can allow the clay to dry naturally if you are not in a hurry. A piece four cards thick will dry naturally in around an hour or you can leave it overnight. Dry pieces will keep forever so there is no urgency to getting them fired. You can speed up the drying by using a hairdryer, a dehydrator or a hotplate. You can

even put them in your home oven at around 100°C. Be careful they don't blow around in a fan oven! For small pieces I use a coffee mug warmer, which is cheap and available on eBay. A piece of steel mesh gives a flat surface above the hotplate and provides a gentle heat. Anywhere warm will speed up the drying and take you onto the next step more quickly. The piece must be totally dry before firing.

12. In the dry stage, you can handle the clay without risking damaging the texture. It is brittle in this stage, however, so it needs to be handled gently and will not stand up to rough handling or being dropped. Any refining that needs to be done to edges or holes is much easier at this stage and should be done before firing. Hold the piece close to the area to be refined and using an emery board, file the straight edges so they are smooth and free of any marks left by the cutter. Curved edges are best refined using a sanding sponge. Use a cocktail stick like a file to refine the inside of the hole from the back and the front of the piece.

Firing

13. When firing by butane torch at home, the best place to do it is on the hob. It's used to being hot and with a few low-cost items you can transform it into a firing station. Cheap ceramic floor tiles – especially ones which have been damaged as they are normally reduced in price – make a stable base. A



firebrick raises up the piece and provides another level of heat absorption. You can fire directly onto the firebrick, but a piece of stainless steel mesh bent to form a bridge allows air to circulate around the piece and makes controlling the temperature easier. You will also need tweezers and a glass or ceramic bowl filled with cold water, plus a countdown timer. A pair of safety glasses is also recommended.

14. Make sure your hair is tied back and there are no trailing pieces of clothing before you start firing. To ensure you can see the colour of the piece while it fires, dim the lights and shut the curtains. It's hard to judge the colour, and therefore the temperature, of the metal in normal light. Once the metal is at the right temperature, you will need to time the firing. Set your timer for three minutes and decide which hand you will hold the torch in, and then put the timer on the other side. Adjust the torch so you have a bushy, gentle flame rather than a pointy fierce flame, which is less controllable. Your pieces need to be no bigger than a 50p piece to be torch fired successfully. Any larger and it's difficult to keep the whole piece uniformly hot.

15. Turn on the torch and aim the flame at the piece. The first thing you will see is the binder burning out, so expect the piece to ignite and burn. When this subsides, watch the colour of the piece carefully. You are looking for

a peach/salmon coloured glow; this will tell you the temperature of the piece is correct. Start the 3-minute timing when the piece reaches this colour. There is no need to move the torch around while firing. Move the torch slightly further away if the piece gets any redder than the peach/salmon colour. If it is not glowing, it is too cool so move closer. Getting the hang of torch control takes practice, so keep working at it. When the timer goes off, turn off the torch, pick up the piece with tweezers and drop it into the cold water.

Melting

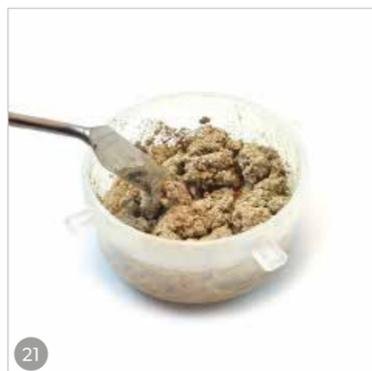
16. It is possible to melt your piece using a butane torch, although it is quite difficult to melt. Often you will see a flash of silver go across the surface of the piece and this indicates that the surface has started to melt. Pull the torch back to cool the piece down but continue to fire it for the full three minutes. Things with pointy elements, like stars, can lose the ends of the points as they melt up into the body of the piece. The lesson if you do melt the piece is to keep a very close eye on it during firing, never look away or lose concentration and keep the lights dim. Pieces once fired are solid silver and not very easy to reclaim.

Polishing

17. If you have fired the piece correctly, it should be white, not silver. This is the natural surface of the silver. If you looked at it under a microscope, you would see lots of hills and valleys that dissipate light and gives it the matt white appearance. It now needs polishing to flatten the surface and allow light to bounce off it, producing the silvery shine. The easiest and cheapest way to polish it is by using a steel brush. Brush the surface all over and you will see the white transform into silver like magic. A steel burnisher used on the edges of the piece will compact the surface and give a high shine. You can also rub the burnisher over the high spots of your texture to add sparkle to the piece.

Rehydrating

18. The clay dries out during use but it can be rehydrated and turned back into usable clay. There are two methods for rehydrating the clay. One is to rehydrate slightly dry clay so you can immediately use it; the other is to rehydrate completely dry clay. While you are using the clay, you may start to see cracks appearing when you roll it out, especially around the edges. The best way to rehydrate it so you can carry on using it is to put it inside some cling film and squash it out to form a flat pancake. Dip your finger into some water and put a slick of water over the whole surface of the pancake. The large surface area allows the clay to absorb the water more quickly.



19. Fold the pancake in half trapping the water inside; do this from outside the cling film, avoiding handling the clay directly. Press the pancake through the cling film and away from the fold so you form another flat pancake. If the clay is very dry you can add another slick of water over the surface at this point but otherwise, fold the pancake in half again and press it down to form another pancake. Repeat this folding and pressing about 6 or 7 times. This process forces the binder in the clay to quickly absorb the water, making it into useable clay again within a few minutes. If you have done this correctly, when you pick up the clay and roll it into a ball, there should be no wet clay on your hands.

20. Even clay that is totally dry can be rehydrated and returned to being usable clay again. If you have small pieces that are dry, chop them up with a craft knife or break them into smaller pieces with your fingers. Put them into a piece of cling film and spray with a little water. Make sure all the pieces are wet, and then seal the cling film into an airtight container or plastic bag and leave it to soak up the water. Squeeze it occasionally to see if it is soft all the way through. If it is too wet after it has soaked up all the water, leave it open to the air for a while, folding it occasionally to ensure it dries evenly. If it is still too dry, use the other rehydration method of wetting and folding to bring it to the right consistency.

21. If you are doing a lot of metal clay work, you may have more pieces to rehydrate. In this case, a coffee grinder kept especially for the purpose is a good investment. Store dry pieces in the coffee grinder to keep them clean until you have enough to rehydrate. Whizz up the pieces until they are dust, tip this into a dish (through a tea strainer if you think there may be lumps in it), then add water slowly and mix until it clumps. Tip the mixture into a piece of cling film and then roll it out through the cling film, fold and roll again. This will force the water into the binder in the same way as the other rehydration process. Leave the clay to rest overnight before using it.

Paste

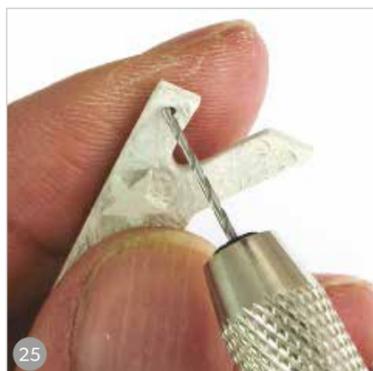
22. Both of the main brands produce a paste version of silver metal clay, but you can also make your own by mixing water with lump clay or filing dust. Paste is good for sticking things together – like adding a feature to a flat piece – and can also be used to create unique textures on the surface of a dry piece. You can stick wet pieces to wet pieces, wet pieces to dry pieces or dry pieces to dry pieces using paste. The paste texture is very easy to do and depending on the thickness of the paste, a variety of different effects can be achieved. Paint the paste onto the surface of a dried piece in small sections and swirl a pattern using a cocktail stick. Random swirls are lovely or you can put straight lines or cross-hatching for example to create a unique texture.

23. Make a flat piece, four cards thick and then dry it. Roll out more clay two or three cards thick and cut out a small element (like a star) to stick on. Make sure the element will fit onto the piece without overhanging the edge. Pieces that are two or three cards thick will be too weak if they stick out from the piece and may bend. Dampen the area on the dry piece with water to help the adhesion of the star. Put some paste on the back of the star, place it on the flat piece and press gently so the piece is firmly fixed. Clean up any excess paste with a damp paintbrush. If you have used the paste texture, any excess paste can be blended into the pattern. Once it has dried, refine all the edges of the piece as before.

Drilling

24. These O and K letters are too small to successfully make a hole with a drinking straw so holes are best drilled in the dry stage for your jumprings or earwires. Any shape with points, like stars, triangles or teardrops are better drilled than punched. Drilling allows you to make a hole that is neat and nearer the edge of the piece than you can get with a drinking straw. You can use a drill bit in your fingers to drill a hole, but it is more comfortable to use a pin vice. If the piece has dried completely flat, put the piece flat down on a rubber block and mark the area for the hole with a pencil. Use a 1mm drill bit, put the tip onto your pencil mark and begin to turn the drill. Don't put any pressure on it; just allow the drill to do the work. ▶





25. Sometimes in the drying process, especially if the piece has been speed dried, you get a little warping of the piece. In this case, putting it flat down on the block to drill can result in the piece breaking. It is best to hold the piece to drill the hole, supporting the piece with your finger behind the area to drill. As you are not using any pressure to drill, you will not drill into your finger. As you turn the drill, you'll see the dust falling from the hole. As it begins to come through you can feel a little blister begin to develop where your finger is supporting the drilling. Move your finger out of the way and carefully drill through.

Syringe clay

26. The syringe type clay is formulated to extrude and maintain a round line so it is perfect for piping designs on the surface of dried pieces. It is also really good for filling small gaps with a level of precision that cannot be achieved with paste. The syringes come with a nozzle and you can also buy nozzles of different sizes, which give a range of different effects. Before you start, figure out how you will hold the syringe to allow the greatest control and comfort while working. I like to hold it in my fist and use my thumb to press down on the plunger to extrude an even line. Practise on your work mat until you get the hang of it. The clay line should drop from the nozzle so hold the end 1mm or 2mm above the surface. This allows for the most control and means the line is always round.

27. Make a flat piece four cards thick and allow it to dry. You can texture it if you like. When it's dry, draw a design on the surface with pencil. This will burn out during firing. Dampen the surface where your pencil line is and then follow the line as you extrude the clay using even pressure and moving your hand at the same speed as the extrusion. If your line goes a bit off, use a damp, good quality paintbrush to gently nudge it back into place. Build up the design gradually and allow each section to dry before moving on so you don't damage the lines already in place. If you go completely wrong, remove the syringe with a damp paintbrush and start again. Store the syringe nozzle down in water so it doesn't dry out. Blot off the water before using the syringe.

28. You can combine techniques in the same piece by using paste to add a texture to the syringed piece. If your syringe is not as perfect as you'd like, paint thin paste over the dry syringe lines to give the piece a consistent finish and disguise any syringe mistakes. Using lump clay, paste and syringe, you can create an infinite number of designs, textures and patterns to create truly unique jewellery. As the medium is so easy to work with and requires simple tools, it is perfect for creating jewellery at home. Once you have mastered the basics, there are many resources available to help you learn more advanced techniques like bead or ring-making. The possibilities are limited only by your imagination.

29. Another easy way to work with lump clay is by using moulds. You can buy ready-made moulds or make your own using 2-part silicone moulding compound. Mix equal quantities of both parts together well so they are a consistent colour and put this down onto a flat surface in a smooth ball. Press the item to be moulded into the ball until you reach the widest part of the item. Do not allow the silicone to come up over the edge of the item or you will create an undercut, which will prevent your silver clay from popping out cleanly. Allow it to cure – normally around 10–15 minutes. You can simply fill the mould with smooth, well-hydrated silver clay up to the top and leave to dry in the mould or pop it out onto Teflon to dry.

30. There is no need to oil the mould unless it contains very fine detail. In this case it is best to use a paintbrush dipped in oil to lightly oil all the nooks and crannies in the mould. Another way to use the mould economically is to line it with clay rather than fill it. Using well-hydrated clay, form a flat patty around 1.5mm thick, which just fits the mouth of the mould. Press this down into the mould and up the sides using your little finger so it just fits the space and doesn't come up over the edges. You can texture the upper surface by gently rolling the moulded item onto the clay while it is in the mould. This creates a double sided, 3D piece. Allow it to dry in the mould for best results.

TROUBLESHOOTING

Breaks

If a piece breaks cleanly, you can stick it back together. Put it down on a flat surface and add a little water to both surfaces of the break. Press the pieces together and hold steady for a minute or two. Allow it to dry without disturbing it. If you can still see the break, use the paste texturing process to cover up the break or stick an element over it to disguise it.

Crumbly clay

If the clay is crumbly and adding water doesn't help, it normally indicates that the clay has soaked up too much oil. You can make this clay usable again by mixing it with an equal amount of fresh clay.

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Inspirational pieces

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