



COOL TOOLS

Wild Roses Necklace Project

Create a beautiful metal clay link necklace with integrated findings that can be connected with jump rings or rivets. Learn to use Jett Sett as a plastic vice fixturing compound that makes riveting simple.



Supplies

30 grams metal clay: silver, bronze or copper	10" to 12" of chain to coordinate with links	Clasp to coordinate with chain	
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Toolbox

Clayboard (WKS-106)	CoolSlip (NST-201)	Slik (NST-101)	Ultimate Non-Stick Roller (CRL-410)
Jewelry Artist Elements – Wild Roses Pendants & Links (TEX-152)	Jewelry Artist Elements – Wild Roses Charms & Connectors (TEX-153)	#2 & #6 Clay Thickness Frames (CRL-402, CRL-406)	Tuff Cards (WKS-103)
Findings & Bails Template (TMP-265)	Ultra Clay Pick (CRV-103)	Small Ball Burnisher (BRN-109)	Sponge Sanding Pad – Ultrafine (POL-200)
Satin Finishing Wheel – Coarse* (POL-751) OR	Scotchbrite Pad – Medium (SOL-205)		

Supplies for Rivet Connection

1 ft 20g Fine Silver wire (WIR-220)	Flush Cut Nippers (PLR-402)	Butane Torch	Jett Sett (ACC-404)
Riveting hammer (HAM-109)	7 6mm faceted rondell crystals or beads (optional)		

Necklace Elements You'll Need

1 Center piece design with 1 tab	1 3-Way Connector design, 3 tabs	6 Links, 2 tabs each link	
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Optional Tumble Finishing Supplies*

Rotary Tumbler with stainless steel shot	(BRN-405, BRN-401)		
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Optional Flex Shaft Finishing Supplies*

Foredom Flexible Shaft (POL-901)	Superflex Barrel Polisher – Fine (POL-551)	Cup Bur for Ball Rounding (DRL-351) OR	Wire Rounding Tool (FIL-105)
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- * Instructions are given for this project to be completed in bronze. Use appropriate finishing materials if other metal clay is used.
- * For hand finishing bronze, a coarse Scotchbrite Pad (SOL-206), a steel scratch brush (BRN-204), or rotary tumbler can be used.
- * A digitally controlled kiln is needed only if project is completed in Bronze or Copper clay.
- * Magic Carbon provides an antique patina on bronze



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Prepare to Create

- Apply Slik to your hands to keep the clay from sticking.
- Condition the clay by forming it into a patty about 1/16" thick. Butter one side with Slik. Fold the edges to the middle and knead the Slik into the clay until it is completely incorporated. Roll the clay into a ball, pull off the amount you need for one link.

Make the Elements



1. Stack a #3 & #5 Rolling Frame and roll an untextured slab. The slab should be large enough to accommodate one of your selected link designs, with enough extra room for links and trimming.
2. Spritz the Wild Roses Element you are making with CoolSlip for a clean release. Place the untextured slab on the Element and use the #6 Rolling Frame to roll the slab down.
3. Carefully peel up the textured slab and lay it on a Tuff Card. Trim the ends, leaving enough for one of the small round findings tabs on the Findings and Bails Template for the integrated connectors on each link.
4. Rub a little Slik on the Findings & Bails Template, line up the template exactly where you want the tab to be and gently impress it into the clay. The closer the clay is trimmed to the finding, the easier and cleaner the impression will be.



5. Use a small ball burnisher to make a divot in the center of each tab. The divot marks the spot that will be drilled when the clay is dry.
6. Use the Ultra Clay Pick to cut out the design. Do not try to cut around the impressed tab perfectly. You will use the impression as a sanding guide once the piece is dry. Set the trimmed out pieces aside to dry. Make 5 more links, then make the center element with one tab at the top and the 3-way connector with 3 tabs.
7. After all the pieces are dried, use files or sponge sanding pads to refine and smooth the edges of each element. Sand up to the impressed outline of each tab, erasing all traces of the outline to leave a perfectly formed connector.





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8. Drill holes for rivets or jump rings. For jump ring assembly, drill a 2mm hole in each of the tabs, using the divot to guide the drill. For rivet assembly, measure your rivet wire and find a drill that matches that size exactly. Use the divot to guide the drill.
9. Fire in Magic Carbon for an antique finish, then polish using a your preferred method. For our bronze necklace we used a Superflex Brown Barrel polisher in a fine grit.
10. If you want to apply a wax, now is the time to do so. Photo shows 1 waxed piece and 1 unwaxed piece wax will make the patina appear darker.

Jump Ring Assembly

This is where you get to make this project your own. You can use any combination or size of jump rings, connectors, beads, etc that you want between each of the links. After the pieces are linked together, add enough chain to the last link to achieve a comfortable length, then add the clasp.



Rivet Assembly



1. The pilot holes have shrunk during firing and need to be enlarged to fit the rivet wire. You need a drill size that matches the rivet wire exactly. To find the right drill size, install the drill in a flex shaft, place links on a hard wood block and re-drill the holes.
2. Stack your prepared links as they will be riveted so you can pick each set up and rivet together in the correct order.
3. Make the rivets by balling one end of the rivet wire. Keep the ball size very small and round so it sits flush against the crystal. Check that the metal components fit snugly on the wire. There should be no play in the fit. To save on materials, start with a long piece of wire and make one rivet at a time rather than cutting several short pieces and trimming each piece. You will end up with much less waste.

Making the Tricky Rivet

I call this a tricky rivet because it presents several challenges. First, one end of the rivet is a ball. I need to support that ball when I make the other end of the rivet so it doesn't move around or bend or get flattened. Another challenge is that I'm using a faceted rondell crystal that is sandwiched between 2 pieces of metal, and if I don't protect the crystal, it will shatter. Because the crystal is a rondell shape, it will allow the rivet wire to bend when I hammer if I don't support it completely.



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If it weren't for the crystal, I could support the rivet ball in one of the small indentations of a bronze dapping block or in a cup bur mounted in a bench vice. Since the crystal is faceted, I need to hold the entire assembly nice and tight the whole time and I need to cushion the crystal. The solution to these challenges is copy paper to protect the crystal and Jett Set, a plastic vice fixturing compound that molds around the parts while its warm and cools to a rock hard holding device that cannot be chipped or cracked.



1. Prepare Jett Set by warming in hot water, while the Jett Set is warming, cut 4 pieces of copy paper, about 1/2" square. Stack them in sets of 2 pieces and punch a small hole in the center of each set with a sharp needle tool. Thread one stack onto the balled wire. Thread on the crystal, then the other set of papers and the 2 metal pieces you are connecting.
2. Hold your rivet assembly tightly with a pair of pliers so the components are tight against the balled rivet head. Impress the assembly into the Jett Set. Mold the Jett Set up and around the edges of the metal links to they are captured. Make sure to keep the sandwich very tight. Let the embedded assembly sit until the material cools and hardens. Place in a bowl of cold water to greatly speed up hardening.
3. Once cooled, the wire is trimmed to a height that is the same as the width of the wire.
4. The peening end of a goldsmithing hammer is used to create a rounded nail head. Tap all around the outside edges of the wire to spread the wire nub down and out, turning as needed. With repetitive, light blows a nail head will easily form.
5. Soak the Jett Set in water again to soften it, remove the assembly and tear out the copy paper. Repeat these steps for each riveted section.
6. Add jump rings and chain to the end pieces, adjust for length and then add a clasp to finish.

Professional Touch

When silver is heated to the melting point, its surface is dulled and needs to be polished to brighten it up. It also helps to round up the ball. When balling wire, the balls are often more teardrop shaped than round. A quick way to polish and round up a ball very quickly is by using a cup bur or wire rounding tool. A cup bur is installed in a flex shaft machine and is placed over the ball. The ball or the bur is moved around to allow the bur to cut from every direction, being careful not to scratch the glass surface with the edge of the bur. You can also polish and round with a wire rounding tool, which is just a cup bur in a handle. Place over ball, rotate to polish.

