



## ◀ JOSH WELTON

Josh Welton, owner/operator of Brown Dog Welding LLC — a fabrication and art studio in Detroit — is an established welder, fabricator, teacher, artist, writer, social media influencer, podcast host, entrepreneur and automotive enthusiast. He is a contributing writer to *TheFabricator.com*, *The Welder Magazine* and *DodgeGarage.com*.

Follow Josh at [BrownDogWelding](#) or on Instagram @[WelderAssassin](#).

**SKILL LEVEL:** Beginner+  
**TIME COMMITMENT:** One day or less

### / TOOLS AND MATERIALS



Miller Dynasty 280DX, Multimatic 220 AC/DC or another TIG machine



Angle or die grinder (with a cutting wheel), metal cutting band saw, or plasma cutter



Grinder (with flap disc, wire wheel, and sanding discs)

5/32  
inch

Thick stainless steel and mild steel plate

1/16  
inch

Copper sheet

3/32  
inch

Silicon bronze rod (SiB)

1/16  
inch

Stainless steel rod

### Optional Equipment/Tools



Hammer



Square and/or machinist's block



Quick clamps



Marker

**WARNING: READ AND FOLLOW ALL LABELS AND THE OWNER'S MANUAL.**

# VASE/ PLANTER

Looking for your next DIY welding project? Follow these steps to learn how to weld a planter and flower vase that will add character to any home.



## STEP BY STEP

STEP  
1



Measure and cut the stainless steel and mild steel plates to size. In this case, the dimensions are 4"x4" for the base and 4"x7" for the sides. Then cut two pieces of copper 1" wide and over 8" long. Leave a little extra length on the copper for fit-up. Once you've laid out the cut lines, use your cutting wheel, saw or plasma cutter to cut the steel. Clean up the edges with a flap disc.

STEP  
2



Square up the sides in pairs. Use a 90° block of some sort with a clamp to hold them in place, then tack them together. Put the mild steel sides opposing each other, then fit the stainless steel pieces on either side of them. Make sure the bottom and the sides are all tacked together, and keep fit-up in mind for a nice corner to weld.

STEP  
3



Clean the edges with a wire wheel or brush. Weld the bottom four edges using the stainless filler. Take care to wrap the corners; those are the most problematic spots for leaks.

STEP  
4



Now it's time for the silicon bronze rod. Do any welding you're going to do first, because you can braze SiB over ss, but it's not fun trying to weld with mild or stainless filler metal over the silicon bronze. TIG braze all the vertical seams. I'm using DC on these joints, but you can also TIG braze using AC. Dealer's choice.

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STEP  
5



Place the copper strip about 1" up from the base of the vase. Bend it by hand to make the corner. The silicon bronze used to be a style choice, but now it's a necessity. We're joining dissimilar metals: copper to both stainless steel and mild steel. Line up one end of the first copper strip with a corner of the vase, square it up and tack the strip to the steel, working your way across. Copper likes to move around when heated, so you'll have to keep clamping and hammering it to stay in line and tight to the steel. Repeat this process for the second strip, just place it 2" up from the base and opposite of the first piece.

STEP  
6



Begin laying down SiB beads on the edges of the copper to the face of the steel. Again, take your time and run short beads; you'll have to continue to hammer and clamp the copper to keep it flat. The characteristics of the materials are very different, so be patient. If you leave too much of a gap under the copper, you'll blow through it. Keep it tight to the steel as you move around with the filler and the TIG torch, leaving no edge untouched.

STEP  
7



To finish off the welding/brazing, run little beads around the top edges of the vase. It rounds them off, taking away any sharp corners, and it adds a little style.

STEP  
8



Make sure it doesn't leak! Add some water while keeping the outside dry. Set it on a dry surface, and let it sit while inspecting all the edges and the corners. If it leaks, you'll need to grind out that spot and weld/braze it again.

STEP  
9



Clean the outside edges with a light wire wheel or sanding disc if you'd like. If not, just wipe the shop dust off of it, set it in or around your living space, and add a plant or flowers!



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