

Cutting and Drilling Stainless Steel

TOOLS REQUIRED

- **Stainless Steel Cutting Saw** (Cold Cut Saw, Bench top Portable Bandsaw, Chop Saw with Stainless Steel Cutting Blade)
- Cobalt Drill Bits
- Center Punch
- Cutting fluid

Complete tools list is provided on individual installation guides

For more detailed information on tools please visit:
www.axiarailing.com/recommended-tools



GENERAL GUIDELINES

Cutting Stainless Steel can be difficult if the correct tools and procedures are not followed!

1. **Protect all stainless tubing with painters tape to keep from scratching during cutting and drilling. Blue 3M is recommended 2" wide**
2. Use a center punch and hammer at starting point into tubing before drilling.
3. **Use Cobalt drill bits for drilling stainless steel**
4. Drill a pilot hole for all holes using a 1/8" Cobalt bit, then drill with the final size bit.
5. **Use cutting fluid lubricant or other lubricant during cutting and drilling.**
6. Use cold cut saw or band saw for cutting tubing.
7. **Do not use any saw blades or drill bits that have previously been used on carbon steel. This will cross contaminate the stainless steel and cause it to rust.**
8. Keep bits and blades sharp by re-sharpening or replacing.
9. **Keep tubing, saw blades and drill bits cool during cutting and drilling. Apply cutting fluid or other lubricants liberally. Slow down the RPM's on the saw blade and drills, if you are seeing smoke or glowing, stop and apply lubricant and let cool.**

10. Stainless Steel hardens very quickly as you work the metal (get it hot) so keep all bits and blades cool with lubricant during cutting and drilling. This will also extend the life of the bits and saw blades.
11. **Apply 3 or 4 drops of cutting oil before tapping stainless tubing.**
12. Use deburring bits and die grinder to clean metal burrs inside the tubing.
13. **Use 1000-2000 up to 4000 grit sandpaper to sand stainless on exterior edge of cut on tubing. Do not bevel the cut with sandpaper. Sand stainless steel with the grain of the finish of the tubing.**
14. Use Scotch Brite pad or 1000, 2000, 4000 grit sandpaper to remove minor scratches on surface. Sand with the grain of the tubing.
15. **Use belt sander with 80 -120 grit belt sandpaper to grind on the end of tubing to make cuts flat if you are using a bandsaw to cut tubing.**
16. Formula to remember; Circumference = pi x Diameter
E.G. $C = 3.14 \times 1.66 = 5.2124 / 4 = 1.3031$ to each quadrant. Or $1 \frac{9}{32}$ "
This will allow you to measure accurately to place a glass clamp at 90 degree or 180 degree by Measuring with a flat tape measure around the newel. This is for $1 \frac{11}{16}$ " round newel post.
This is the most accurate way to drill glass clamps at 90 and 180 degrees on our 1.66" diameter round newel post.