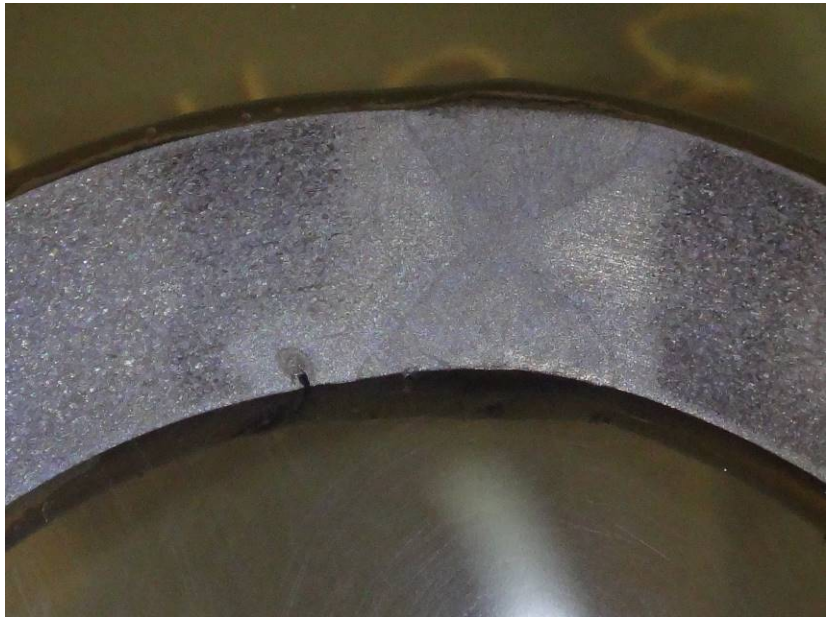

Figure 1: Welded 304 stainless steel ring. Etched with Stainless steel weld etch. The surface was mirror-polished.

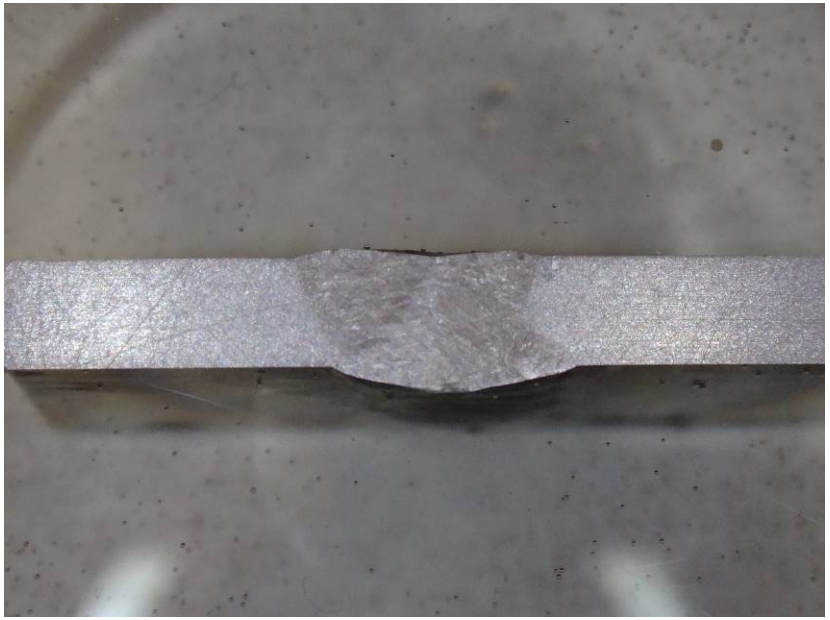

Figure 2: Welded 308 stainless steel plate. Etched with Stainless steel weld etch. The surface was mirror-polished.

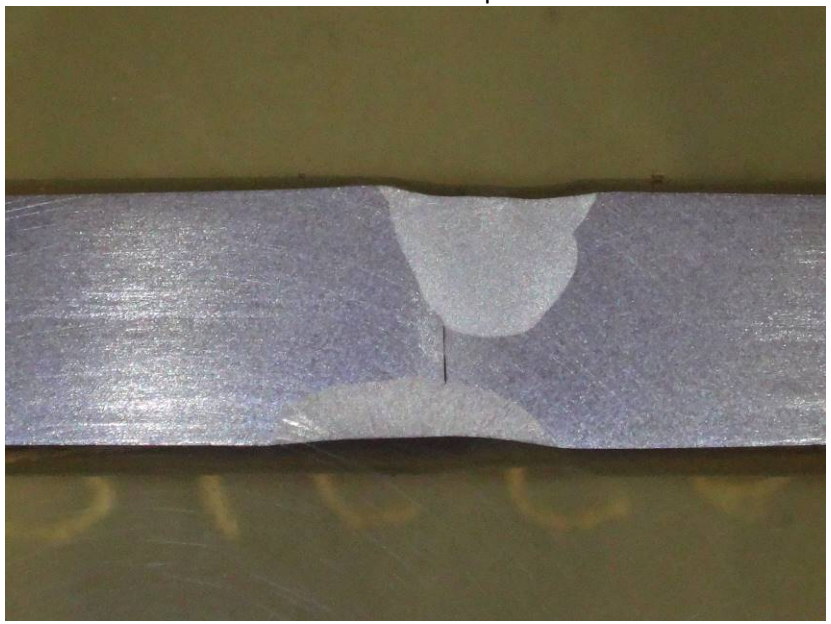

Figure 3: Welded 316 stainless steel ring. Etched with Stainless steel weld etch. The surface was mirror-polished.

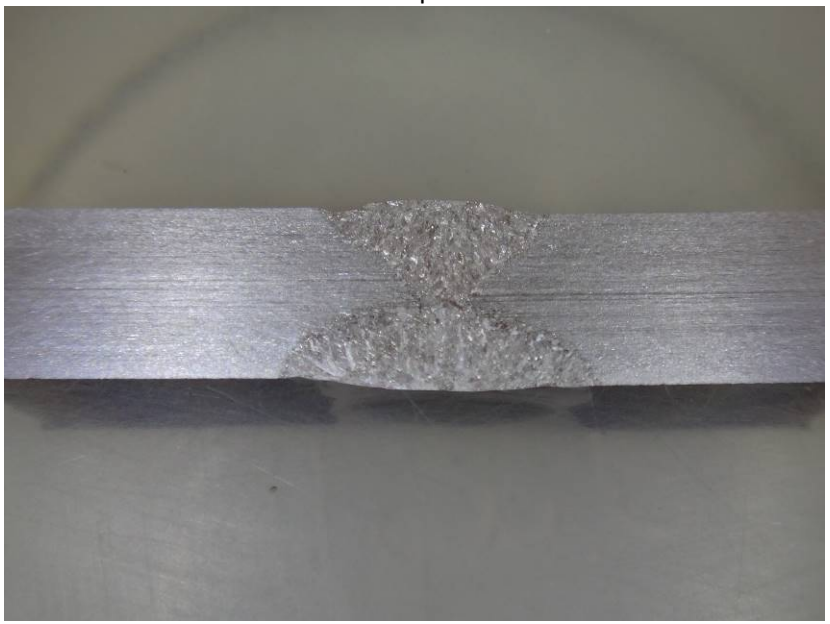

Figure 4: 2205 duplex stainless steel plate welded with an ER2209 rod. Ground with 600 grit sandpapers and then etched with Stainless steel weld etch without delay.

17-7 PH Stainless Steel Weld

Figure 5: Welded 17-7 PH stainless steel pipe. Ground with 600 grit sandpapers and then deeply etched with Stainless steel weld etch for at least 1 minute.

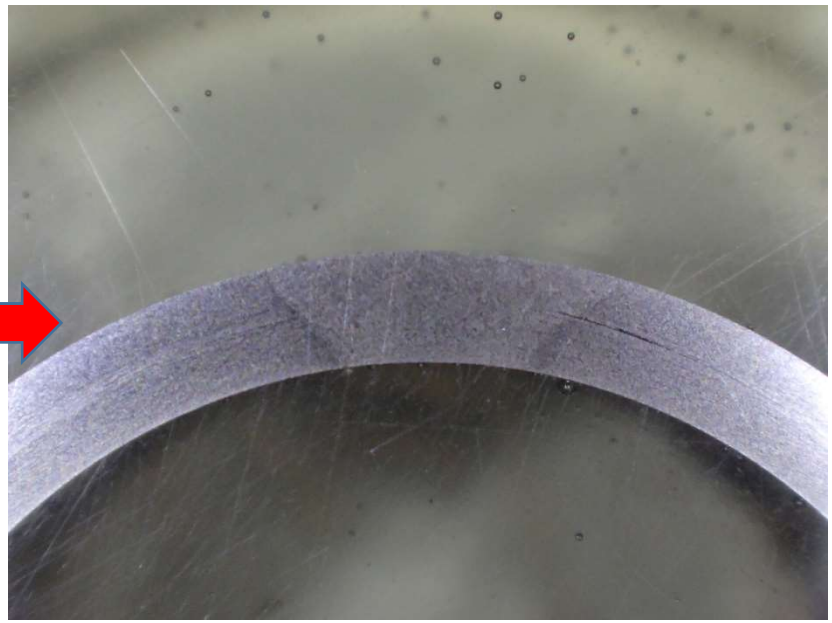

Figure 6: The 17-7 PH stainless steel pipe was lightly buffed with compound after etching to remove the smut. The weld is now visible.

Note: Figures 1 through 6 were taken with a digital camera and a ring light using the micro mode.

439 Stainless Steel Weld

- The cross section needs to be mirror polished with at least 3-micron diamond slurry (or finer) using a woven nylon/wool polishing pad before etching. The surface needs to be smooth and mirror-like. The 3-micron abrasive size is approximately equivalent to 1500 grit.
- It will require a microscope to see the boundary of the weld clearly after etching.

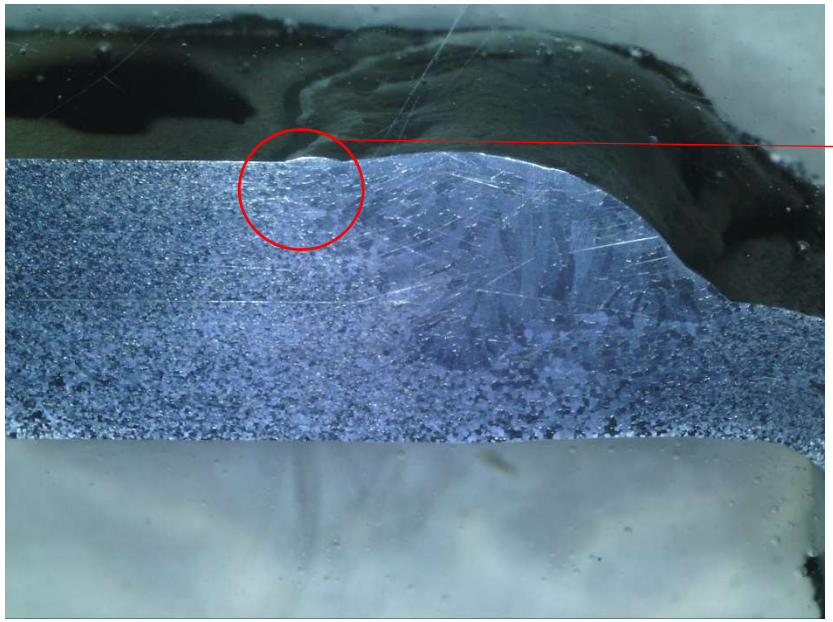

Figure 7: Welded 439 stainless steel plates. Etched with Stainless steel weld etch. This picture was taken with a handheld digital microscope and a ring light.

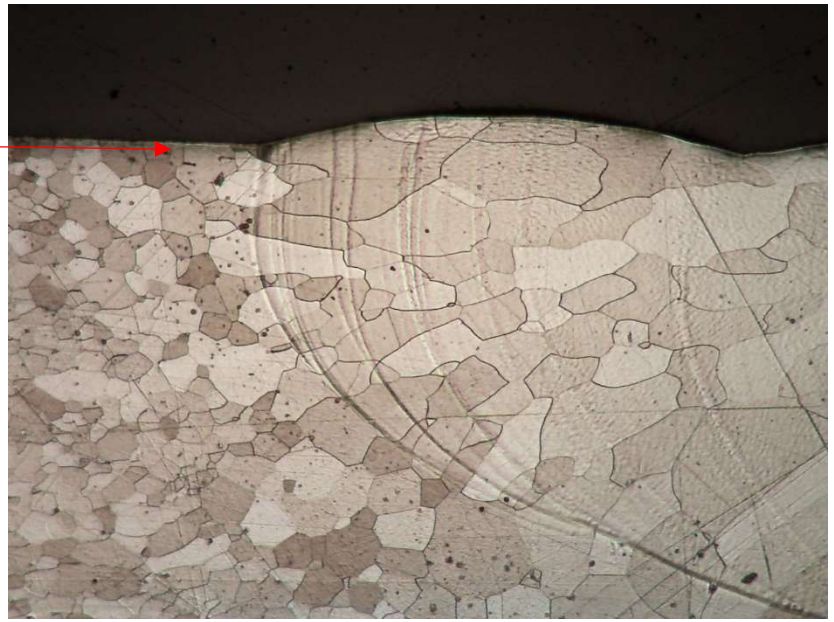

Figure 8: The circled area in Figure 7. This picture was taken with a reflected light metallurgical microscope at 50X magnification.

409 Stainless Steel Weld

- It will require a microscope to see the boundary of the weld clearly after etching.

Figure 9: Welded 409 stainless steel part. Ground with 600 grit sand papers then etched with Stainless steel weld etch. This picture was taken with a handheld digital microscope and a ring light.

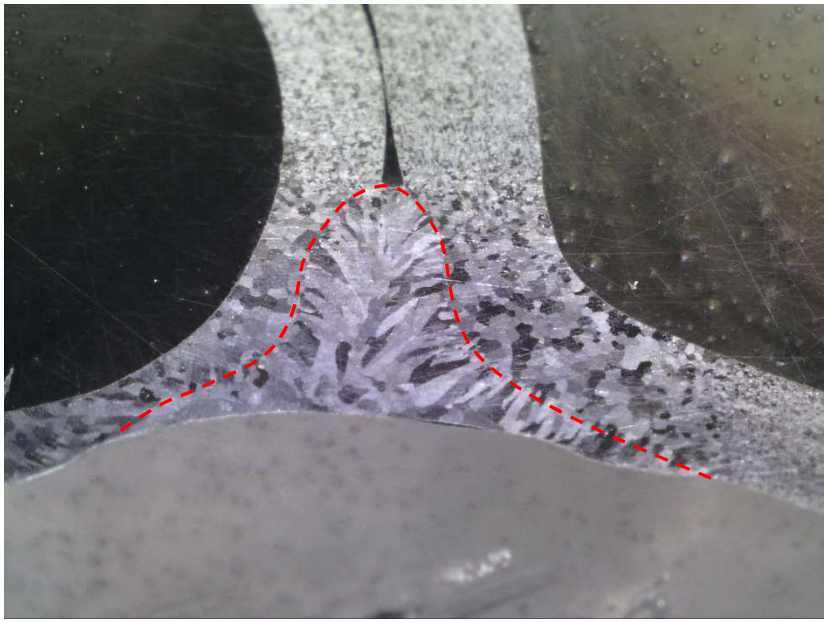

Figure 10: The boundary of the weld is outlined in red.