SMAW/GMAW Skills Final multi pass welds

Ideas Unlimited – Ken Johnson

Supplies

2 – \( \frac{3}{4} \)"x1.5”x1.5” angle iron

Directions

Using a square, tack weld the 2 pieces spine to spine at 90° making an X.

Note you have 2 type distinct corners – one curved from the factory production, one new steel corner to steel corner.

Note: Cool and clean between each pass. You will competitively class grade each set of welds. Students will sort the best to the worst welds in each category and determine the weld scores. It is worth 100 points for each assignment.

Weld Grade Criteria – Starts, Finish, smooth appearance, bead width, bead overlap, porosity, bead penetration

Assignment 1 – GMAW – factory corner - 5 layer Multi-pass 1F
Assignment 2 – GMAW – steel edge corner – 5 layer Multi-pass 3f
Assignment 3 – SMAW – steel edge corner – 6011 root pass, 4 layer Multi-pass 7018 1F
Assignment 4 – SMAW - factory corner - 5 layer Multi-pass 7018 3F

Completion

1. Polish the project with the portable wire wheel.
2. Cut in half on the band saw so you can see the cross section of each assignment.
3. Polish the end on the belt sander.
4. With paint marker, toward the end label with your initials and assignment #.
5. Pick your best half to turn in. Place it in the vinegar soaker.
6. Let it soak overnight, rinse, quickly dry, and clear coat.
7. Put on the grading table.