



Regional Welding Standards

The top 5 winners in each regional event will move on to state competition in April. This applies only to the high school / secondary level.

Contestants are required to bring:

- 2 pieces of 1/4" x 2" steel (12" length)
- 1 piece of 1/4" x 4" steel (12" length)
- 2 pieces of 3/16" x 2" x 6" aluminum flat bar AND Filler wire ***NEW THIS YEAR***
- Proper Safety Equipment

The National Standards state that students should bring:

- Hearing and/or ear protection
- Welding helmet with appropriate filter plate/lens and protective cover plate/lens in a flip or slide front. Auto darkening shields are permissible
- Steel toe boots
- Proper PPE (including welding jacket and gloves).
- Spare spatter and filter lenses/plates for arc welding helmet and oxyacetylene goggles
- Pocket calculator
- Lead pencil and/or ballpoint pen
- Soap stone with holder
- Scribe with magnet
- Combination square set
- 10-foot steel tape measure
- Fillet weld gauge
- 16-ounce ball peen hammer
- Center punch
- 10-inch vise grips
- 6-inch side cutting pliers or diagonal cutting pliers
- 6-inch needle nose pliers
- Chipping hammer with or without wire brush
- Stainless steel wire brush
- Grinder for cleaning work area (CANNOT BE USED DURING CONTEST)
- One-page resume

Students may be exposed to additional types and welds for practice (depending on regional capabilities). The size of the electrodes may also vary by region.

Regional Welding Project Instructions

(for day of competition)

- 1. Follow appropriate safety precautions at all times.**
- 2. Obtain materials and filler material as directed.**
- 3. Determine and make all machine adjustments, using practice stock provided but not problem material.**
- 4. Welds need to be made on the # they go along with.**
- 5. Perform welds as specifications require.**
- 6. Remove slag from weld. Brush welds and remove all splatter.**
- 7. Make sure that your welds are labeled with your contestant number.**
- 8. Submit your work as directed.**
- 9. Clean your work area-Housekeeping and clean up is a must and can be considered in your overall grade. THIS IS THE ONLY TIME A GRINDER CAN BE USED**

Please note:

Electrode sizes may vary by region, the electrodes listed below are what is typical.

The GRINDER can only be used during clean up.

Test #1

1/4" HORIZONTAL FILLET (2-F)

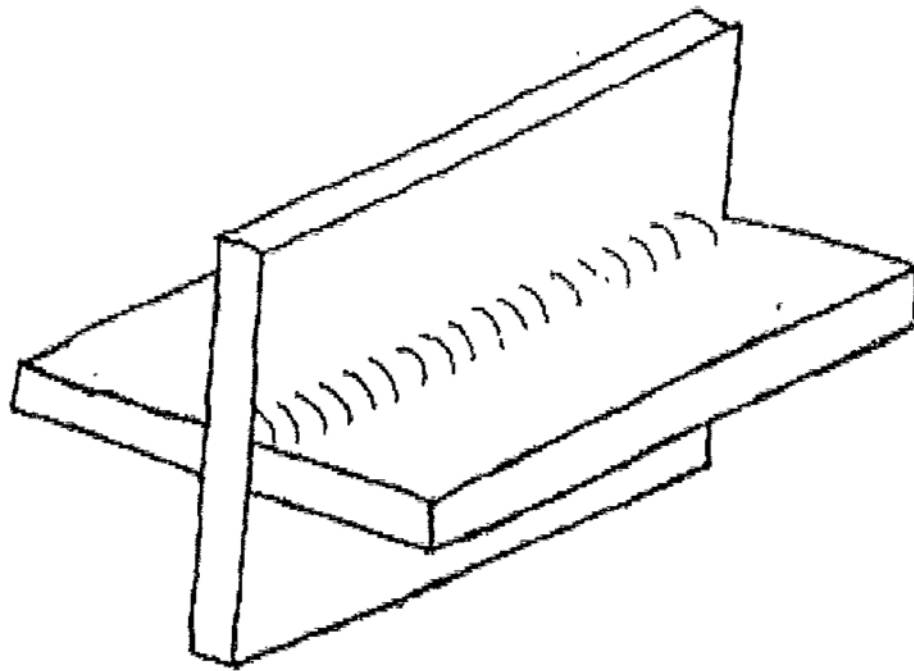
ELECTRODE

1/8" 7018 or 7024

(May vary by contest site)

Instructions:

HORIZONTAL FILLET - Using the electrode, weld one pass entire length of fillet.



FLAT POSITION

Test #2

**(VERTICAL POSITION)
1/4" VERTICAL UP FILLET (3-F)**

**ELECTRODE
1/8" or 3/32" 7018
(May vary by contest site)**

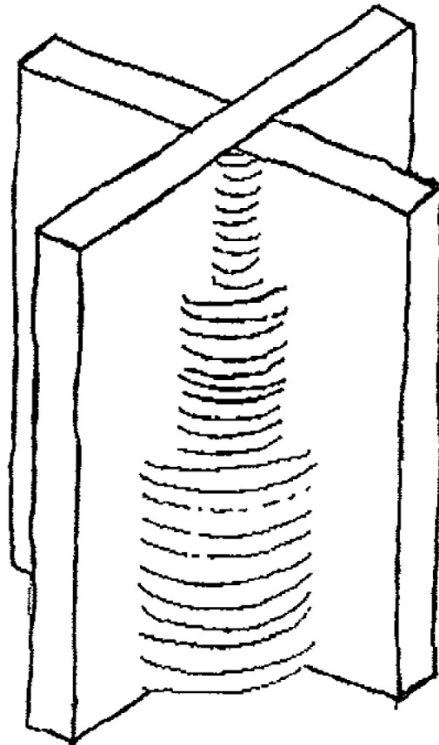
Instructions:

MULTIPASS VERTICAL UP FILLET - Place the T fillet in the vertical position.

1st Pass – Root pass entire length of plate.

2nd Pass – 6" in length – use weave bead technique

3rd Pass – 4" in length – use weave bead technique



VERTICAL POSITION

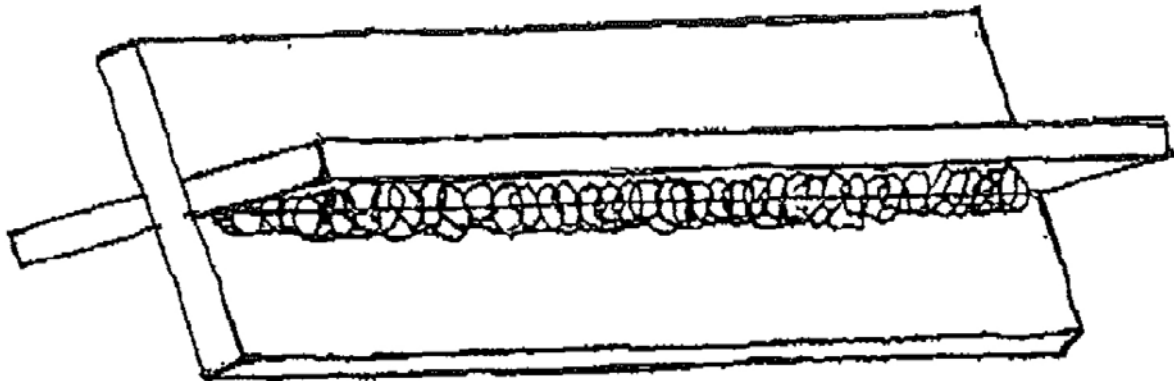
Test #3

**(OVERHEAD)
OVERHEAD FILLET
1/4" PLATE**

**ELECTRODE
1/8" 6010 OR 6011**
(May vary by contest site)

Instructions:

OVERHEAD FILLET - Position the T fillet in the overhead position.
Weld 1 pass the entire length of the plate.



OVERHEAD POSITION

Test #4

G.M.A.W (MIG)

HORIZONTAL FILLET (2F)

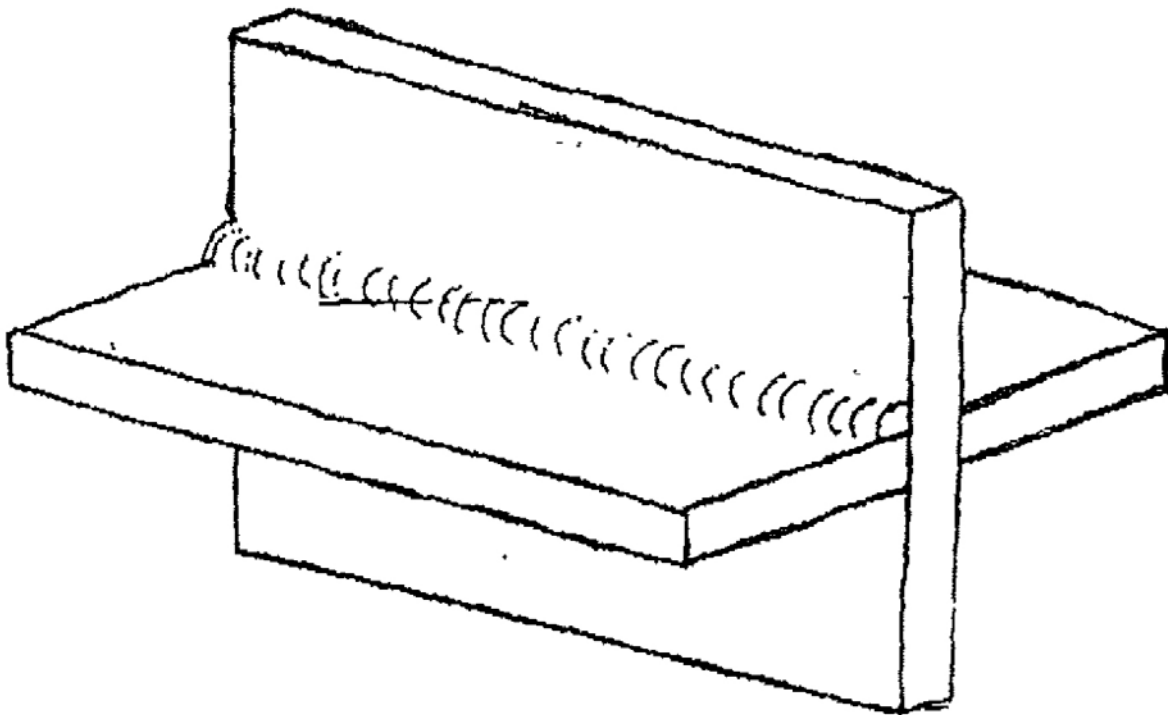
ELECTRODE

MILD, STEEL FILLER WIRE – 035 OR 045

(May vary by contest site)

Instructions:

HORIZONTAL FILLET - Weld one single stringer pass the entire length of T fillet.



HORIZONTAL POSITION

1/4" Fillet Weld

Test #5

G.T.A.W

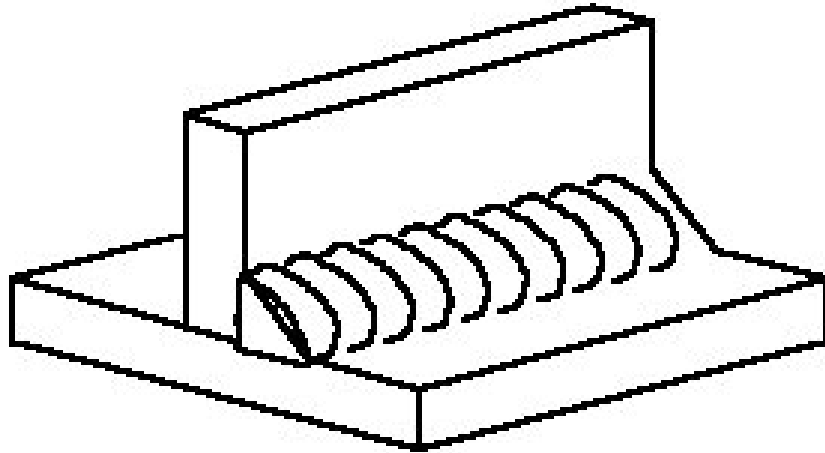
Horizontal Fillet (2F)

Instructions:

Weld on single pass stringer bead along the entire T-joint.

Use 3/32" or 1/8" 4043 Aluminum Filler Rod

Use 3/32" or 1/8" electrode.



1/4" Fillet Weld