

Welding

Event Rules

All members participating in this Career Development Event must meet the eligibility requirements and adhere to the rules of the Kentucky FFA Association as outlined in the Rules Governing FFA Activities document.

Number of members on a team: Four (Top three scores count as team score)

Official Dress Appropriate: No

Regional Event: Held by region or at University Field Day

State Event: Kentucky State Fair

One team from each region will be eligible for the state event. The region must conduct a regional event to be eligible to send a regional representative to the state event. The region may hold the regional event at one of the universities provided an official FFA event is conducted and the regional teachers' organization is responsible for the regional event.

Participants cannot participate in the Agricultural Mechanics CDE or Small Power Equipment CDE in the same year they participate in the Welding CDE.

EQUIPMENT

Equipment provided by student:

- Safety Glasses
- Proper Welding Attire (including helmet, gloves, jacket, clothing free of frays)
- Hand wire brush
- Chipping hammer

Equipment provided at the event site:

- 4 pieces of 3/16"x2"x6" mild carbon steel for each participant
- 4 each 1/8"Lincoln Electric 6011 Fleetweld 180 rods for each participant



Welding

TECHNIQUE (30 POINTS)

Participant's technique will be scored on:

- Dress, safety habits, and welding position (10 points)
- Striking arc, arc length, angle of electrode, and speed of electrode travel (10 points)
- Work Setup (10 points)

All event participants must wear safety glasses (for eye protection) underneath their welding helmets during all regional and state welding events.

One piece of metal and 1 rod will be used to set desired temperature for welder.

The remaining metal and rods will be used to complete the following welds within 15 minutes:

- Flat bead weld
- Vertical Up Butt weld
- Vertical Up Fillet weld

An image of the layout of the three completed welds is posted on www.kyffa.org.

Fillet Welds should be stringer beads with leg size of weld being equal to the thickness of the parts welded. For state event this would be 3/16" leg size. Butt and Flat Welds should also be stringer beads; width range from 2 to 2.5 times the diameter of the rod. For state this would be 1/4" to 5/16" wide.

Length of welds for the Fillet and Butt should be 3.5" plus or minus 1/2". And the flat weld must run the entire length of the plate.

Welding

FINISHED PRODUCT (70 POINTS)

Each participant will be allowed 15 minutes to clean his/her welds.

Cleaning tools for cleaning the welds will be limited to a hand wire brush and chipping hammer.

After cleaning their welds, the participant will submit their work for scoring. The Finished Product point breakdown for each weld is:

- Flat bead weld (20 points)
- Vertical Up Butt weld (25 points)
- Vertical Up Fillet weld (25 points)

Welds should be free from the following weld deformities:

- Cracks
- Undercutting
- Splatter
- Porosity
- Inclusion
- Incomplete Joint Penetration
- Incomplete Fusion
- Arc Strikes
- Unacceptable Weld Profiles

Scoring

Three qualified persons, provided by Lincoln Electric Company, will judge the state event.

Judging will be done on the Danish system – blue, red, and white.

Possible score for each participant is 100 points, with a possible team score of 300 points.

The top three individual scores on a team will count as the team score.

Teams will be ranked in numerical order on the basis of the final team score.

Individuals will be ranked in numerical order on the basis of the final individual score.

The welding scorecard is posted on www.kyffa.org.

TIEBREAKER

The high scoring individual on a team will be used to break team ties. If the high individual on tied teams should be tied, the second high scorer will be used to break the ties.

Individual ties will be broken by finished product score.

