



Welding Fabrication

Career Competition

Career Cluster: Manufacturing/STEM

State Qualifying Exam: Yes

National Contest: Yes

Participation: Team of 3

Competition Description

Evaluate each competitor’s preparation for employment and to recognize outstanding students for excellence and professionalism in the field of welding fabrication.

Tasks To Be Evaluated

The skill performance assessment includes the completion of a metal project and a demonstration of the ability to weld a carbon steel project in various positions using a variety of filler metals. Competitors will be involved in the completion of a metal project that involves various manufacturing methods. The contest allows for 3 hours 30 minutes to complete the project.

Clothing Requirement

National Requirement:

Class I: Competition Specific: Welding | Welding Fabrication

- Official SkillsUSA khaki long-sleeve work shirt (100% cotton as per OSHA regulations)
- Khaki pants (100% cotton as per OSHA regulations)
- Black, brown, or tan leather work shoes.

State Requirement:

National Requirement OR

- Leather or FR cotton welding jacket or work shirt without rips or tears
- Long pants (100% cotton as per OSHA regulations) without rips or tears
- Black, brown, or tan leather work shoes.
- Any embroidered names or school patches must be covered, if applicable.

Additional Information

When fabricating, sometimes parts and/or steel pieces are not supplied with the correct dimensions. If the dimensions are different than your prints, “on the job” corrections must be made. Notify the judges if materials are not the correct dimensions prior to any material prep. The judges will take that into consideration when judging.

Provided by Competitor

- All personal protective equipment
- Hearing and/or ear protection
- Welding helmet with appropriate filter plate/lens and protective cover plate/lens in a flip or slide front. Auto dark helmets are permissible.
- Spare spatter and filter lenses/plates for arc welding helmet and oxy-acetylene goggles or face shield.
- **STUDENTS ARE NOT PERMITTED TO BRING ANY TEMPLATES.**
- Teams must bring their own hand tools that are needed for them to layout the project from the blueprints, fit up the project. (Recommended square, tape measure, compass, protractor, side cutting pliers, needle nose pliers or welpers, 11e or 10-inch vise grips, up to 4 C-clamps, soapstone or other marking device, chipping hammer, wire brush, and file at a minimum).
- **GRINDERS WILL NOT BE PERMITTED**
- All competitors must create a one-page resume and submit a hard copy to the technical committee chair at orientation. Failure to do so will result in a 10-point penalty.



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Safety

- Face shields and glasses must be worn while grinding.
- Helmets, face shields or oxy-acetylene goggles must be worn while cutting.
- All proper PPE must be worn while welding, including tacking. If a team is seen tacking without proper PPE, points will be deducted from the overall score, and depending on the situation, one or more team members may be dismissed from the competition.
- Safety glasses must be worn AT ALL TIMES.
- Only one welder may be used at a time due to close proximity of teammates.
- Gloves must be worn at all times while handling material. Treat all supplied metal as “hot” at all times when handling or points will be deducted.
- Ear plugs must be worn at all times from the start of the competition. All the various teams may be welding, hammering, etc. at any given time so ear plugs are required throughout the competition.
- All major safety violations will result in immediate dismissal of the individual from the contest. The remaining members of the team will be allowed to finish the competition, but points will be deducted from the overall team’s score.
- No use of electronic devices will be permitted at any time during the competition.

Provided by Technical Committee

- Welding Machines and consumables.
- Oxy – Acetylene Torches
- Supplies from the Bill of Materials.

Note – There are not enough of all of these tools for all teams to have their own. They are shop tools and are to be used fairly among all teams. No “camping” on equipment will be allowed. No layout will be done at these shop tools. Measure it and mark it at your station, then cut it at the tool station, and allow the other teams to get on the equipment.

Note – Instructors and other competitors will not be allowed inside the welding/fabrication area during competition. Additional coaching will result in score deductions.