**WELDING FABRICATION**

PURPOSE

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

ELIGIBILITY (TEAM OF THREE)

Open to active SkillsUSA members enrolled in programs with welding as the occupational objective. This is a team event. Each team will be comprised of three student members from the same school and training program.

CLOTHING REQUIREMENT

Each competitor should wear the proper PPE with no LOGOs showing the School they belong to.

EQUIPMENT AND MATERIALS

Supplied by the technical committee:

* One Welding power source for each team with (.035 ER70S-6)
* 2 Plasma cutters (shared)
* 4 OAC torches (shared)
* 4 chop saws (shared)

Items Supplied by the contestant team:

* Hearing and/or ear protection
* Welding jacket
* Welding gloves
* Safety glasses
* Leather boots
* Welding helmet with appropriate filter plate/lens and protective cover
* Auto darkening shields are permissible
* Oxyacetylene goggles
* Pocket calculator
* Lead pencil and/or ballpoint pen
* Soap stone with holder
* Scribe with magnet
* Combination square set
* Fillet weld gauge
* Ball peen hammer
* Welding pliers
* Vise grips of team’s choice.
* All competitors must create a one-page résumé and submit a hard copy to the technical committee chair at orientation. Failure to do so will result in a 10-point penalty.
* **NOTE: no power tools will be allowed examples, Grinders or drills.**

SCOPE OF THE CONTEST

The scope of the contest is defined by industry standards as identified by the following Companies: American Welding Society Inc., All drawings, welding symbols and welding terms conform to the latest edition of the American Welding Society (AWS) standards.

Knowledge Performance

The contest will include a written knowledge exam that assesses the practical knowledge of welding, including safety, measurement and blueprint reading. Other common fabrication operations will also be assessed such as saw operation, drilling, grinding.

Skill Performance

The skill performance assessment may include the completion of a metal project and a demonstration of the ability to weld carbon steel, aluminum or stainless steel project in various positions using a variety of filler metals. Contestants will be involved in the completion of a metal project that involves various manufacturing methods.

Contest Guidelines

 Contestants must correctly use the welding equipment during the contest. The contest coordinator or judges may stop contestants at any section of the contest if they deem a contestant’s manner to be hazardous to either him- or herself or others. Such stoppage shall disqualify the participant for that section of the contest. If the contestant is warned a second time, he or she will be disqualified as a contest participant.

 While the contest is in progress, there shall be no communication between the teams or anyone else, except as directed by a judge. It is expected that team members will communicate to each other.

Time limits will be established on the contest procedure sheets for all segments of the test.

Evaluation of the completed project will be judged visually. Nondestructive tests may be used to complete the project evaluation.

Your welding and cutting operation instructions should be specified in your drawings

 Welding equipment used in the contest may be obtained from a variety of manufacturers and may include transformers, rectifiers and/or inverters.

Final judging of the welded projects will be evaluated according to the difficulty of the assigned task and by using the following visual inspection criteria: dimensional accuracy, including distortion; conformity to drawing requirements, including determination of whether all welds have been completed and whether the finished welds conform to the required size and contour; and visual examination of the welds for cracks, undercut, overlap, crater fill, spatter, arc strikes, porosity, convexity and reinforcement.