

Introduction to Welding

I. Purpose:

To provide a competition at the district and state level to showcase entry level welding and related skills for students in grades eighth, ninth and tenth.

II. Eligibility:

Open to active SkillsUSA- VICA members enrolled in Introductory or entry level courses would include metal trades, small engine repair and any introduction to metal manufacturing careers, etc.

Student contestants age requirement- students 14, 15 and 16 in grades eighth, ninth and tenth.

Note: A tenth-grade student cannot be older than 16 years. No exceptions.

III. Scope:

In this contest the student will be tested on the ability to follow written instructions and to perform basic welding techniques. The student will be checked on proper safety precautions and use of personal safety equipment.

The following are some simple welding skills a student can be graded on.

Station #1:

Using 3/8 inch plate steel 10 inches square, soapstone and some form of straight edge lay out four lines on the plate of steel. The first line will be 1 1/2 inches from the left edge across the piece of steel. Draw three other lines across the steel 1 inch over to the right and parallel to the previous lines drawn. Use shielded arc welder, run a bead of weld on each line drawn. Each weld should be in the opposite direction of the previous weld. Check for proper welder settings and welding techniques.

Station #2:

In this situation, the student will use a MIG wire feed welder. Using a 6 inch square piece of 3/8 inch plate steel, the student will spot weld this piece of steel in an upright position to the piece used in station #1. This piece should be positioned 1 inch to right of the last weld performed in #1 above. Weld the two pieces of metal together on the opposite side of the track weld. Here again check for welder settings and techniques.

Station #3:

Use oxyacetylene cutting torch, cut a 3 inch diameter hole in the 10 inch square piece of metal used in #1 and #2 above. This hole would be drawn by a judge and centered 3 inches down and 2 inches in from the right end of the tell plate. Check student for proper gauge adjustments and cutting techniques.