



HYDRONIC HEATING



PURPOSE

To evaluate contestants' preparation for employment and recognize outstanding students for excellence and professionalism in Hydronic Heating.

ELIGIBILITY

Open to active NYS SkillsUSA members enrolled in CTE heating service as the occupational objective. Only the first 10 students registered will be able to compete.

CLOTHING REQUIREMENT

NYS SkillsUSA Construction Attire:

- White crew neck short- sleeved T-shirt
- work pants or jeans
- leather or steel toed work shoes
- safety glasses or goggles, (Prescription glasses can be used only if they are equipped with side shields. If not, they must be covered with goggles.)

***Note:* Contestants must wear their contest clothing to the contest orientation meeting. Also bring #2 pencil, resume, and safety assurance form.**

RESUME REQUIREMENT

Competitors must create a one-page resume to submit at Orientation

DEVICES

Cell phones or other electronic devices not approved by the NYS Chairperson will be collected by the contest chair during the competition. Chairpersons will announce their acceptance by listing it on their standard or at the orientation meeting. In case of emergencies advisors should allow the competitors to take their phones to the contest areas.

If the competitor uses their device in a manner which compromises the integrity of the competition, the competitor's score may be penalized.

EQUIPMENT AND MATERIALS

1. Supplied by the NY chair/committee:
 - a. All information necessary for the contestants and judge.
 - b. Special tools, meters, gauges, testing and operation equipment.
2. Supplied by the contestant:
 - a. 1 each- 14" and 18" pipe wrench
 - b. 4- 3/4" SWT ball valves
 - c. 6' folding rule and tape
 - d. 2- 3/4" 90 deg. copper El's
 - e. 1 each 6" and 10" adjustable wrench
 - f. 2- 3/4" x 3/4" x 1/2" CxCxFE tee cast
 - g. 1 pr. 10" pump pliers
 - h. 7- 3/4" male adapters
 - i. 1- 8" torpedo level
 - j. 4- 1" male adapters
 - k. 1- medium size screwdriver-blade 1.2- 1" 90 deg. copper El's
 - m. 1- phillips head screwdriver
 - n. 1- 1" 45 deg. copper El's
 - o. 1 tubing cutter 1-1/4"
 - p. 2- 1"x 3/4" copper El's
 - q. 1/2" & 3/4" pipe cleaner
 - r. 2- 1"x 1x 3/4" copper tee's
 - s. pipe compound/Teflon tape
 - t. 1- 1"x 1/2" x 1" copper tee
 - u. plumbers' cloth
 - v. 1- 1"x 1/2" x 1/2" ccc wrot
 - w. solder and solder flux
 - x. 1- 3' length 1/2" "m" copper tubing
 - y. 1 torch & striker
 - z. 1- 4' length 3/4" "m" copper tubing
 - aa. 2- 1/2" x close nipples
 - bb. 1- 4' length 1" "m" copper tubing
 - cc. 1- 1/2" Blk Tee
 - dd. 4- 1" X 3/4" Blk Bushings
 - ee. 1- 1/2" SWT ball valves
 - ff. 4- 1/2" male SWT adapters
 - gg. 1- 1/2" FE adapter
 - hh. 3- 1/2" I.P.S. boiler drains
 - ii. 6- 1/2" SWT 90 deg. El's

NOTE: Contestants will disassemble the project. All tools must be brought to the contest site in a toolbox with no visible student or school name.

All competitors must create a one-page résumé and submit a hard copy at orientation. Failure to do so will result in a 10-point penalty.

"Note: Your resume may be judged as part of your contest" Check the Contest Guidelines and/or the updates page on the NYS SkillsUSA Web site: [https:// www.nysskillsusa.org](https://www.nysskillsusa.org)

SCOPE OF THE COMPETITION

The contest is divided into two parts: a written exam and a series of testing stations designed to assess knowledge in Hydronic Heating industry standards.

Knowledge Performance

All competitors are required to take the NYS SkillsUSA professional development test at orientation.

The contest will include a written knowledge exam assessing knowledge of Hydronic Heating. The test will be completed during the contest.

Skill Performance

1. Contestants will be given job sheets explaining the tasks to be performed.
2. Contestants will be asked to assemble on a boiler all necessary heating specialties such as circular, flow valves, air scope, expansion tank, etc./ with pipe, and fittings so that the boiler may be connected to a two-zone hot water heating system.
3. Projects will not include air conditioning units.
4. The contestant's knowledge of equipment, fittings and parts associated with heating systems, domestic hot water and gas, and oil burners will be tested.
5. Contestants will be rated on their technical knowledge, identification, manipulative skills safety, and speed