

PLUMBING NYS



To evaluate each contestant's preparation for employment and to recognize outstanding students for excellence and professionalism in the field of residential plumbing.

ELIGIBILITY

Open to active SkillsUSA members enrolled in programs with residential plumbing as the occupational objective.

CLOTHING REQUIREMENT

White crew neck short-sleeved T-shirt, work pants, safety glasses or goggles, leather or steel-toed work shoes, hardhat. (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.

EQUIPMENT AND MATERIALS

1. Supplied by the NY chair/committee:
 - a. All necessary supplies and appliances required for the project
 - b. Tank and tips will be provided
2. Supplied by the contestant:
 - a. Hard Hat
 - b. Safety Glasses
 - c. 16' Tape Measure
 - d. 8" Torpedo Level
 - e. #430 Channel Lock Pliers
 - f. 4 or 6 Way Screw Driver
 - g. 16OZ Claw Hammer
 - h. 10" Pipe Wrench
 - i. 8" Adjustable Wrench
 - j. Work Gloves
 - k. Utility Knife
 - l. Torch Head (turbo) For 14OZ Propane Tank
 - m. Wood Cutting Saw
 - n. Plastic Cutting Saw
 - o. 16OZ Plumb Bob
 - p. Striker
 - q. Copper Tubing Cutters 1/2"-1"

- r. Hack Saw With Blade
- s. Copper Cleaning Tool
- t. #2 Pencil
- u. Cordless Drill With 1/2" Chuck, Battery, & Charger
- v. 2 White Rags
- w. 5 1/4", 4", 2 1/2", 1" Hole Saws
- x. 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: Your contest may also require a hard copy of your résumé as part of the actual contest. Check the Contest Guidelines and/or the updates page on the NYS SkillsUSA Web site:

<http://www.nysskillsusa.org/>

SCOPE OF THE CONTEST

The contest is defined by industry standards as set by the current industry technical standards.

Knowledge Performance

The contest will include a written knowledge exam assessing knowledge of the industry standards.

Skill Performance

The contest includes a testing station with a series of changes designed to test the ability to perform jobs or skills selected from the following list of competencies as determined by the SkillsUSA NYS Conference Committee.

Contest Guidelines

All piping will be visually inspected and may be tested for leaks.

Standards and Competencies

PLB 1.0 — Perform basic plumbing tasks using appropriate tools and equipment

- 1.1 Identify and use basic hand tools, power tools and equipment
 - 1.1.1 Measure lines to the nearest 1/16" with a ruler/tape measure
 - 1.1.2 Cut out an opening for various pipes and fixtures

- 1.2 Demonstrate proper use of hangers and supports

PLB 2.0 — Read and interpret blueprints and perform measurements and calculations

- 2.1 Read the architect's scale
- 2.2 Read and develop an isometric sketch of a plumbing system
- 2.3 Determine measurements from a manufacturer's specifications
- 2.4 Determine rough-in locations
- 2.5 Interpret riser diagrams

PLB 3.0 — Perform proper plumbing systems rough-in

- 3.1 Properly install DWV systems
 - 3.1.1 Label a cross-section of a P-trap
 - 3.1.2 Identify the proper fittings required for a DWV system
 - 3.1.3 Calculate the slope required for drainage lines
 - 3.1.4 Install proper venting
 - 3.1.5 Install cleanouts
 - 3.1.6 Rough-in plumbing fixtures
 - 3.1.7 Perform DWV rough-in inspection test
- 3.2 Properly install water supply systems
 - 3.2.1 Determine proper pipe sizing for hot and cold-water systems
 - 3.2.2 Rough-in water supply lines for plumbing fixtures and appliances
 - 3.2.3 Perform approved water pressure tests
- 3.3 Identify and perform the proper joining method for given piping material
 - 3.3.1 Join steel and CSS pipe and fittings
 - 3.3.2 Join cast iron pipe and fittings
 - 3.3.3 Join copper tube and fittings
 - 3.3.4 Join plastic pipe and fittings
- 3.4 Identify types of fittings
- 3.5 Identify size of fittings

PLB 4.0 — Install plumbing fixtures, appliances and appurtenances

- 4.1 Install fixture supply stops
- 4.2 Install water supplies
- 4.3 Install appropriate traps
- 4.4 Install a faucet/valve
- 4.5 Install a drain assembly

- 4.6 Install the fixture level, plumb and secure
- 4.7 Install appropriate relief valves

PLB 5.0 — Perform plumbing systems service and repair

- 5.1 Replace a section of damaged water supply pipe
- 5.2 Repair damaged DWV pipe
- 5.3 Repair a leaking faucet
- 5.4 Repair a leaking shower valve
- 5.5 Replace a water closet fill valve
- 5.6 Replace a trap
- 5.7 Clear obstructions from a drain
 - 5.7.1 Clear obstructions from a drain
 - 5.7.2 Clear obstructions from a water closet drain
 - 5.7.3 Clear obstructions from a main drain line

PLB 6.0 — Perform plumbing tasks in a safe environment

- 6.1 Keep your work area clean and safe
- 6.2 Understand and apply OSHA regulations that involve plumbing practices
- 6.3 Use appropriate safety apparel for the task being performed
 - 6.3.1 Wear appropriate safety glasses, hard hats, work boots, respirators, ear protection, back and knee protection, etc., for a given situation
- 6.4 Demonstrate safe soldering practices
 - 6.4.1 Demonstrate correct procedure for connecting torch equipment including regulators, tanks, hose, torch and tips
 - 6.4.2 Ignite and extinguish torch using safe practices
 - 6.4.3 Check for unsafe conditions such as cracked hoses, damaged gauges and leaks
- 6.5 Demonstrate proper use of GFI in potentially hazardous conditions
- 6.6 Demonstrate safe use of power and hand tools
- 6.7 Maintain proper ventilation when working with chemicals and other potentially hazardous materials

PLB 7.0 — Employability

- 7.1 Exhibit personal skills such as

- attendance, time management, individual responsibility and teamwork
- 7.2 Practice good customer relations
- 7.3 Fill out a job application completely and legibly
- 7.4 Maintain professional conduct and appearance
 - 7.4.1 Demonstrate polite,

- attentive attitude
- 7.4.2 Wear neat, clean clothing and be well-groomed
- 7.5 Respect the property of both your customer and employer