



2023 Plumbing Competition

FACT SHEET

Project Manager

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Specific Competition Eligibility

The plumbing competition has no competition-specific eligibility requirements. Please refer to the overall eligibility requirements listed on page 3 of the guidebook.

Written Exam

The online exam must be completed before competitors arrive on site, at a local NCCER Accredited Training Sponsor or Assessment Center. Accommodations will be made for extreme circumstances with prior approval of the NCC director. All competitors must sit for the online exam or face disqualification from the NCC. The online exam continues to make up 25% of one's overall competition score. It is the responsibility of the sponsor organization to schedule test sessions directly with NCCER. Test registration and guidelines will be available in January 2023.

Practical Performance Test Description

Each competitor will be assembling plumbing piping systems using copper, cast iron, steel pipe and PVC. These systems may incorporate more than one joining method for each system. Plumbing drawings will be provided along with fixture cut sheets and rough-in dimensions. The competitor will use the drawings to perform the tasks of assembling the plumbing piping systems with code knowledge and instructions. Systems will be tested to ensure they do not leak.

This exercise will test the ability to read simple plumbing diagrams; install rough plumbing according to the diagrams and specifications; and cut and prepare for connection of various plumbing piping materials. The order, of the below tasks, will depend on the availability of some equipment.

Task #1

1. Read all plumbing drawings associated with this job and understand them.
2. Install rough plumbing, both waste and water as per drawing provided and rough-in sheet. Install as shown on the simple drawing provided.
3. Show location of backing for the lavatory on the wall section provided.
4. Run the PEX piping and join.
5. Solder/braze the copper and assemble the NHCI and PVC fitting.
6. Copper water piping will be tested with air pressure.
7. Install brackets provided to secure water and DWV piping.

Task #2

1. Determine the length of pipe needed for the 45-degree offset. Then cut, ream and thread the steel pipe nipple for this offset.

Task #3

1. Cut 3-inch steel pipe and roll groove both ends per requirements to make the correct joining method.
2. Take prepared groove pipe and assemble with the 90-ell provided.

Task #4

TBD

Notes:

- Safety first: Always wear your PPE.
- Set all rough-ins to the provided rough-in sheets.
- You have six hours to complete these tasks.

General plumbing notes:

- Install all fixture rough-ins according to submittal/specifications diagrams.
- Locate backing board locations on the wall section where required.
- Handicap accessibility is **not** applicable.
- Cast iron no-hub waste will be assembled per manufacture requirements.
- Copper tubing lines to be soldered/brazed watertight and will be tested. (Don't forget to cap.)
- All plumbing work will have a neat appearance.
- Work area to be kept safe and clean.

Materials Provided

- PVC
- Cast-iron copper PEX pipe
- Galvanized steel pipe

Knowledge and Skills Required

The knowledge and skills for this competition are based on all levels of the NCCER plumbing curriculum. It is strongly recommended that competitors have a working knowledge equivalent to a third-year apprentice.

Tools Required

Each competitor should bring only the tools listed below and on the following page to the competition. Tools may be examined prior to the practical performance test and additional tools will be stored until the competition has concluded. If a tool, necessary to complete the practical performance test, is not listed, the National Craft Championships Committee will provide it:

- Non-programmable calculator
- Side shields for prescription eyewear or appropriate over-glasses protection

Tools Provided by NCC

- Torch rig drill
- Wall framing
- Pipe-threading machine stand vise
- Saw
- PEX gun
- Utility knife
- Grooving machine
- Screwdrivers (flat and Phillips)
- Reaming pen
- Knee pads
- PVC cutters
- Striker
- 14-inch steel pipe wrench
- 10-inch adjustable wrench or 6- and 10-inch adjustable?
- Hammer or ball-peen hammer
- Phillips bit and holder for screw gun
- Channellock pliers
- Torpedo level
- Tubing cutters (1-inch copper through)
- Pencils
- Tape measure
- Aluminum framing square
- No-hub torque wrench

Note: Remove all burrs on the end of piping where press fittings or push on fittings are used to keep from damaging o-ring and failing pressure test.

Sample Score Sheet

The following sample score sheet is provided to give competitors an example of the criteria that may be included in the practical performance test. However, **this score sheet is only a sample and not intended to act as a study guide in preparation or to imply specific criteria that will be judged during the actual practical performance test.**

ABC National Craft Championships Plumbing Sample Score Sheet

Judging Criteria	Competitor Identification Numbers				
	Maximum Points				
Layout					
Rough-in					
Code/specifications					
Waste and vent					
Preparation					
Piping					
Fixtures					
Pressure test					
Use of materials					
Care and use of tools					
Proper use of fasteners					
General—ability to follow directions, quality of workmanship, neatness, best use of time and completion					
Project disassembly					
SUBTOTAL:	160				
Safety—housekeeping					
Safety task analysis					
Use of hard hat					
Use of safety glasses					
Use of power tools					
Proper footwear					
SUBTOTAL:	40				
GRAND TOTAL:	200				
Tie Breaker #1					
Tie Breaker #1					
Tie Breaker #1					
Tie Breaker #1					