



## 2019 Plumbing Competition

### FACT SHEET

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#### **Project Manager**

**Jan Prakke, Gulf Mechanical Contractors**

For questions related specifically to the plumbing competition, contact Jan Prakke, 2019 plumbing project manager, (352) 661-0356 or [jprakke@gulfmc.net](mailto:jprakke@gulfmc.net). For all event questions, contact Lisa Nardone, National Craft Championships director, (202) 595-1789 or [nardone@abc.org](mailto:nardone@abc.org).

#### **Specific Competition Eligibility**

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

#### **Written Exam**

Every competitor should have a thorough understanding of the craft in which he/she is registered. All exams/tests are based on the standardized craft training process. In addition to the knowledge and skills required for each competition, all competitors should have completed the NCCER Contren® Learning Series Core Curriculum modules. A non-programmable calculator will be provided for the written exam, but no reference materials will be permitted.

#### **Practical Performance Test Description**

Each competitor will be assembling plumbing piping systems using copper, cast iron, steel pipe, PVC and CPVC. These systems may incorporate more than one joining method for each system. Plumbing drawings will be provided along with fixture cut sheet with 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 & PVC fitting.
6. Copper water piping will be tested with air pressure.
7. Install brackets provided to secure water and W&V piping.

##### **Task # 2**

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

##### **Task # 3**

1. Cut 3" 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 boards on 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 water tight, and will be tested. (Don't forget to cap.)
- All plumbing work to have a neat appearance, and work area to be kept safe and clean.

### Materials Provided

PVC  
Cast iron  
Copper  
PEX pipe  
CPVC  
Galvanized steel pipe

### Knowledge and Skills Required

The knowledge and skills for this competition are based on all levels of the NCCER Contren® Learning Series 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:

- |  |  |
|--|--|
| ▪ Hammer                                 | ▪ No-hub torque wrench   |
| ▪ Tubing cutters (1-inch copper through) | ▪ 8- and 10-inch adjustable crescent wrenches                                  |
| ▪ Screwdrivers (flat and Phillips)       | ▪ Striker  |
| ▪ Channel-lock pliers                    | ▪ Non-programmable calculator  |
| ▪ Torpedo level                          | ▪ Side shields for prescription eyewear or appropriate over-glasses protection |
| ▪ Tape measure                           | ▪ Knee pads  |
| ▪ Pencils                                |  |
| ▪ PVC/CPVC cutters                       |  |
| ▪ Phillips bit and holder for screw gun  |  |

## Tools to Be provided

Torch Rig  
 Drill  
 Wall framing  
 Pipe threading machine  
 Stand vise  
 Saw  
 Pex Gun  
 Grooving Machine

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					
<b>SUBTOTAL:</b>	<b>160</b>				
Safety – housekeeping					
Safety Task Analysis					
Use of hard hat					
Use of safety glasses					
Use of power tools					
Proper footwear					
<b>SUBTOTAL:</b>	<b>40</b>				
<b>GRAND TOTAL:</b>	<b>200</b>				

Tie Breaker #1						
Tie Breaker #2						
Tie Breaker #3						
Tie Breaker #4						