

Steamfitting Scope Document

Steamfitting (Post-Secondary) 2019

Contest Length: 6 hrs

Check in time: 7:00 am

Contest Start: 7:30 am

Contest Sponsors: UAPICBC

Technical Committee

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Purpose of the Challenge:

To assess the contestant's knowledge and skills in the layout and fabrication of a piping system and components, with high regard to the aspects of quality, workmanship and accuracy of work.

Eligibility:

Contestants must have completed a college level steamfitting foundations program or their Level 1 steamfitting apprenticeship technical training, and be between the ages of 19 and 28 inclusive.

Skills & Knowledge to be tested:

- Application of Mathematical concepts involving piping and piping layouts
- Reading and interpreting diagrams and specifications
- Assembling and fabricating a piping system
 1. measure, cut, bevel and fabricate steel pipe and fittings
 2. use fabrication tools & equipment to join pipe and fittings by means of butt weld fittings
 3. applying safe work practices
 4. Use compression benders and properly install bent tubing and fittings

Equipment / Tools / Materials

Supplied by Committee:

Equipment:

- Ram Benders & Hydraulic Motor

Tools:

- Pipe Stands
- Protractor
- Angle Finder
- Bevel Gauge
- Tape Measure
- Center Punch
- Tri-stand
- Tube Cutters
- Tube Benders
- Crescent Wrench
- Consumables (grinding disk, zip cut, wire wheel, etc.)
- Power cords (GFCI)
- Spark tray
- 2' Level
- 9" Level
- Wrap-a-round
- Soap stone
- Pen
- Permanent marker
- Ball Peen Hammer
- 2 foot square
- Tri Square
- Spacing Tools (gap rod)
- Fitting wedges
- File
- Grinder
- Teflon tape
- Scissors
- Tape
- Templates
- Fitting gloves
- Face shield
- Safety glasses
- Ear plugs

Materials:

- 3" NPS Schedule 40 pipe
- 1 ½" NPS Schedule 40 pipe
- ¼" tubing
- Various fittings
- Angle iron (for quartering pipe)

Supplied by Contestant:

- Steel toe boots and appropriate work clothing

Suggested List (optional)

- Pocket Calculator
- IPT book

Safety

It is mandatory for all competitors to wear CSA approved eyewear (including side shields for prescription eyewear).

It is mandatory for all competitors to wear CSA approved footwear

Jewelry such as rings, bracelets and necklaces or any items deemed unsafe by the Judges shall be removed.

Proper shop attire is to be worn (no loose straps, baggy sleeves). Any attire that is deemed unsafe by the Judges will not be permitted. Long sleeves mandatory for all hot work.

Care to be given to spectators

Competition Judges will have final authority over matters of safety.

Judging Criteria

Item	Details	Points
True Wye	Even 1/8 gap, proper 37° bevel, 1/8 land, tacked in four evenly spaced places, 90° between outlets, quarters marked, level, square, etc. All dimensions specified to be deducted 1 point per 1/16" out after the first 1/8"	/25
Mitered joints	Even 1/8 gap, proper 37° bevel, 1/8 land, tacked in four evenly spaced places, 45° between miters, quarters marked, level, square, etc. All dimensions specified to be deducted 1 point per 1/16" out after the first 1/8"	/20
Tubing portion	Proper engagement and installation of fittings, level/ square/ plumb, proper use of benders (no kinks in tubing), All dimensions specified to be deducted 1 point per 1/16" out after the first 1/8"	/20
Bent pipe portion	True 90° bend, seam on top of bend, located as per drawing, coped to fit 3" NPS with an even 1/8 gap and land, and proper 37° bevel. All dimensions specified to be deducted 1 point per 1/16" out after the first 1/8"	/20
General	General aesthetics included cleanliness of project ex. unnecessary grind marks, pen marks, etc.	/5
Safety	Proper use of PPE, safe work/ proper use/ practices with tools/ machines/ welders, ensures safety to bystanders, co-operation with fellow contestants, pleasant with welders, etc.	/10
Total		/100

- Full marks for dimensions within +/- 1/8" (each additional 1/16" = 1 mark deduction)
- Point deducted per additional material request – 10 points
- Point deducted per additional information request – 5 points
- All dimensions to be in inches or mm
- Safety glasses to be worn at all times when in the working area. There will be a 1 point deduction for every reminder to wear glasses.
- All incomplete projects will be judged and not receive a mark higher than 50%
- In the event of a tie the competitor using the least amount of time will be declared the winner.

Competition Area Supervisor

William Schwarz

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