



# 2010 13<sup>th</sup> ANNUAL SKILLS MANITOBA COMPETITION CONTEST SCOPE

**CONTEST NAME:** PLUMBING

**CONTEST NO:** 15

**LEVEL:** INTEGRATED

**NOTE:**

Secondary Level: 1 competitor per school.

Post Secondary Level: 1 competitor per school

**CONTEST LOCATION:** Red River College – Notre Dame campus  
J106

**CONTEST START TIME AND DURATION:**

8:00 AM for 6 hours

**PURPOSE OF CHALLENGE:**

To assess the contestant's knowledge and skills in the installation of a plumbing system with high regard to the aspects of quality workmanship, proficiency in pipe joining techniques and accuracy of work within a specified time frame.

**SKILLS AND KNOWLEDGE TO BE TESTED:**

- Apply mathematical concepts involving parallel, 60, 45 and 22 ½ offsets in a piping system.
  - Interpreting and applying the blueprint specifications.
  - Assembly of various piping systems
    - Steel – threaded and oxy-acetylene weld
    - Copper – hard and soft soldering and swedging
    - PVC- solvent weld
    - Bending of copper pipe using mechanical benders (Ridgid model 310/316)
- Applying safe work practices

**POINT BREAKDOWN / 100% TOTAL:**

- Accuracy of installation approximately 40%

- Quality of workmanship approximately 30%
- Piping pressure test approximately 20%
- Safe work practices approximately 10%
- Full marks for dimensions within 2mm
- Half marks for dimensions within 4 mm
- Point deduction per additional material request 10 points
- Completion time will be utilized as a tie breaker

### **EQUIPMENT, TOOLS, MATERIALS TO BE PROVIDED BY COMMITTEE:**

Pipe threader, tripods, Ridgid model 310/316mm tuber bender, soldering torches (B tank turbo), cordless drills, adhesives, Teflon, threading paste, solder and brazing materials, flux etc.

All workstations will be supplied with the required materials including pencil and paper

### **EQUIPMENT, TOOLS, MATERIALS TO BE SUPPLIED BY COMPETITOR:**

All competitors must supply their own personal protective equipment, hand tools, pocket calculators and a metric 25mm wide measuring tape. *See notes for tool list*

### **WORKSITE SAFETY RULES / REQUIREMENTS:**

All Competitors should address the dangers of long hair, jewelry, etc.

Personal protective equipment that must be worn at all times in the competition area

- Approved Steel toe boots
- Protective eye wear
- Hearing protection
- Long sleeve shirt

Additional personal protective equipment to be used as required

- Gloves
- Face shield

### **SPECIAL CONDITIONS / ADDITIONAL INFORMATION:**

1. No project specific aids, tools or jigs
2. Proper pipe joint engagement is mandatory
3. There will be NO onsite instruction of pipe joining methods
4. Project plans and documents will be released April 1 2009

### **Tool List**

- Pocket calculator
- 1 meter metric metal rule and a 25mm wide measuring tape
- 12 inch and 14 inch pipe wrench
- 24 inch level and 9 inch torpedo level
- 12 inch metal saw with spare blades
- 8 and 12 inch adjustable wrenches
- Copper tube cutters ½ - ¾ inch
- 1 ½ to 4 inch plastic pipe cutters
- 16 ounce carpenters hammer
- ½ round steel file
- Plumb line
- Small tri square
- Striker

- Deburring tools

**FOR MORE INFORMATION PLEASE CONTACT:  
TECHNICAL COMMITTEE MEMBERS**

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