

# 2010 Provincial Skills Canada Competition

## Scope Document

Edmonton Expo Centre

May 12 & 13, 2010

<b>EVENT:</b> Plumbing	<b>LEVEL:</b> Post Secondary
<b>START TIME</b> MAY 12 & 13: 8 AM each day	<b>LOCATION:</b> Hall C, Edmonton Expo Centre
<b>THEORY EXAM:</b> No WORLDSKILLS TRADE #: 15	<b>DURATION:</b> 12 Hrs (over 2 days)

### GENERAL DESCRIPTION

#### 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 of pipe joining techniques and accuracy of work within a specified time frame.**

#### SKILLS AND KNOWLEDGE TO BE TESTED:

- Applying mathematical concepts involving parallel, 60, 45 and 22 ½ offsets in a piping system.
- Interpreting and applying the blueprint specifications.
- Assembling of various piping systems
- Assembly of Pipe and Fittings.
  - Steel Threaded
  - Copper – Hard & Soft Soldering and copper flaring
  - PVC Plastic Solvent Weld
- Bending of copper pipe using mechanical benders. (RIDGID – model 310/316m – cat. # 36962)
- Apply safe work practices.

#### . CLOTHING REQUIREMENTS:

##### ***Competitor Must Supply***

Contestants must wear the appropriate clothing and approved personal protective equipment; safety boots, safety glasses, hearing protection, and gloves. The contestant must address the danger of long hair, jewelry, etc.

#### EQUIPMENT & MATERIALS:

##### ***Supplied by Committee***

Pipe threaders, tripods, cordless drills, RIDGID pipe benders model 310/316mm – cat. # 36962, soldering torches (B tank turbo) adhesives, teflon, solder paste, threading paste, soldering and brazing materials and nitrile gloves. The contestant may use his or her own hand tools as per tool list. Tool boxes will be inspected by the Provincial Technical Committee members (please see approved tool list). All workstations will be supplied with the required materials (i.e. paper, pencils, etc.).

##### ***Competitor Must Supply***

- The contestant must supply his or her own hand tools, pocket calculators and a measuring tape in millimeters (25 mm. wide recommended) & IPT handbooks book may be used. ***See tool list.***

### CAREER RELATED SKILLS EXHIBITED

Mathematical problem solving, safe work practices, proper use of tools, correct joinery techniques, blueprint and/or specification interpretation ability and a strong positive work ethic.

### JUDGING CRITERIA:

- Accuracy of Installation Approximately 60%
- Quality of Workmanship Approximately 30%
- Piping Pressure Test Approximately 10%

***Safety is monitored through-out competition- Point Deductions for Safety Infractions***

### TOOL LIST:

- Pocket calculator
- measuring tape in millimeters (25 mm. wide recommended)
- water pump pliers or equivalent
- 8-inch locking pliers or equivalent
- 12 inch pipe wrench
- 14-inch pipe wrench
- 9-inch level
- 24-inch level
- 10-inch or 12-inch metal saw with spare blades
- PVC pipe saw
- Assorted adjustable wrenches (8" and 10" recommended)
- Pipe cutters for 1/2" to 3/4" diameter copper pipe
- pipe cutters for 1 1/2" to 4" plastic pipes
- hammer
- side cutters
- half round file
- plumb line
- small combination square
- striker
- utility knife
- deburring tools
- multi-tip or assorted screwdrivers

### ADDITIONAL NOTES:

- Full marks for dimension within 2mm
- Half marks for dimension within 3 to 4mm
- Point deduction per material request
- Point deduction for blueprint deviation
- All dimension shall be in millimeters
- All dimension shall be taken from the centerline and benchmark
- Completion time shall be implemented as a tie breaker
- No project specific aids, tools or jigs allowed



**COMMITTEE MEMBERS:**

Lorin Hokanson	Branch Manager, EMCO Corporation
Nick Doyon	Instructor, Pipe Trades NAIT
Matthew Lindberg	Instructor, Pipe Trades NAIT
Brian Berge	Instructor, Red Deer College
Dean Wigmore	Instructor, Red Deer College
Kari Yucytus	KERN Industries
Patrick Savard	Bacon Mechanical
Jason Noyle	Johnson Controls
Keith Crowell	Apprenticeship and Industry Standards
Roland Tomuschat	Alberta Municipal Affairs
Mark Nelligan	Ridgid Tools