

CONTEST DESCRIPTION  
DESCRIPTION DE CONCOURS

# PLUMBING PLOMBERIE

POST-SECONDARY  
NIVEAU POSTSECONDAIRE

CONTINUOUS LEARNING



FORMATION CONTINUE

DIGITAL



COMPÉTENCES NUMÉRIQUES

DOCUMENT USE



UTILISATION DE DOCUMENTS

NUMERACY



CALCUL

ORAL COMMUNICATION



COMMUNICATION ORALE

READING TEXT



LECTURE

WORKING WITH OTHERS



TRAVAIL D'ÉQUIPE

WRITING



RÉDACTION

THINKING



CAPACITÉ DE RAISONNEMENT

## 1 The Importance of Essential Skills for Careers in the Skilled Trades and Technology

SCC is currently working with Employment and Social Development Canada (ESDC) in order to bring awareness to the importance of Essential Skills that are absolutely crucial for success in the workforce. Part of this ongoing initiative requires the integration and identification of Essential Skills in contest descriptions, projects, and project documents. The next phase and very important aspect of our Essential Skills (ES) initiative is to provide an ES report card to each competitor at the Skills Canada National Competition. The purpose of the ES report card is to inform the competitor about their current level of essential skills based on their competition scores. With this knowledge, the competitor will be made aware which essential skill may require improvement. This will be piloted in a number of areas for 2016 with full implementation in the 2017 Skills Canada National Competition.

This is part of an ongoing initiative that requires the integration and identification of Essential Skills in contest descriptions, projects, and project documents. Essential skills are used in nearly every job and at different levels of complexity. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change. Good Essential Skills means you will understand and remember concepts introduced in technical training. The level of Essential Skills required for most trades is as high or higher than it is for many office jobs. The following 9 skills have been identified and validated as key essential skills for the workplace in the legend below:

*<sup>1</sup>Numeracy, <sup>2</sup>Oral Communication, <sup>3</sup>Working with Others, <sup>4</sup>Continuous Learning, <sup>5</sup>Reading Text, <sup>6</sup>Writing, <sup>7</sup>Thinking, <sup>8</sup>Document Use, <sup>9</sup>Digital*

These essential skills have been identified with in section 2.3 and/or 3.2 of your Contest Description. The top three Essential Skills for your area of competition have been identified on your Project and all other supporting project documents.

## 2 CONTEST INTRODUCTION

### 2.1 Purpose of the 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 joinery techniques and accuracy of work within as specified time frame.

## 2.2 Duration of contest.

12 hours

## 2.3 Skills and Knowledge to be tested.

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

## 3 CONTEST DESCRIPTION

### 3.1 List of documents produced and timeline for when competitors have access to the documents.

DOCUMENT	DATE OF DISTRIBUTION VIA WEBSITE
Test Project	April, 2016

### 3.2 Tasks that may be performed during the contest\*

- Applying mathematical concepts involving parallel, 60, 45, 22 ½ ° offsets.<sup>1</sup>
- Interpreting and applying the blueprint specifications.<sup>8</sup>
- Submit isometric drawings and material list for assessment.
- Assembly of various pipe and fitting systems<sup>7</sup>
- Interpreting NRC plumbing code (2010 edition)<sup>8</sup>.
- Copper – Brazing, soft soldering (lead free with water based flux)
- Plastic PVC drainage using System 15 One Step cement
- Bending of copper pipe using mechanical benders. (Ridgid model 310 Catalogue #36962) 5/8 O.D.
- Apply safe work practices.
- All dimensions shall be in millimeters
- All dimensions will be taken from the designated centreline or benchmarks
- Tool inspection prior to event or the evening before competition
- There will not be any onsite pipe joinery technique instruction
- Proper insertion for all pipe joint is mandatory
- Only damp cloth wipe down of project. NO sanding or polishing of project is allowed after completion.
- It is to be understood that throughout the competition, safety and project judging will be on going.
- No project specific aids, tools or jigs allowed.
- Dimensions will be modified before competition

*Essential Skills - <sup>1</sup>Numeracy, <sup>7</sup>Thinking (Problem Solving), <sup>8</sup>Document Use*

## **4 EQUIPMENT, MATERIAL, CLOTHING**

### **4.1 Equipment and materials provided by Skills/Compétences Canada**

- Tri-stands
- Soldering torches (B tank turbo)
- 2 foot square
- Adhesives
- Teflon
- Threading compound
- Soldering paste
- Flux brushes
- ½" and ¾" cleaning brushes
- Sand cloth
- Isometric paper
- NRC Plumbing Code 2015 (Do not bring your own)
- Pocket calculators (Basic only)
- Brazing materials
- 2 - NRC Plumbing Code 2015 (French Addition) (Do not bring your own)  
Ridgid model 310 lever bender for 5/8" O.D. copper (6 benders will be there for competitors to share)

#### 4.2 Equipment and material provided by the competitor

Note: No other tools than the tools listed below will be allowed into competition area

- Metal rules metric
- IPT Red Hand Book (NTC will check for private notes in it)
- Measuring tape in millimeters (25 mm wide recommended)
- Ridgid # 756 8-inch standard utility pliers or equivalent
- Ridgid #390M 9-inch level or equivalent
- Ridgid #624 24-inch level or equivalent
- Ridgid model 310 lever bender of 5/8" O.D. copper
- 3" Plastic pipe cutter
- Plastic pipe reamer 3", 2", 1 ½"
- Ridgid #1012 10-inch or 12-inch metal saw with spare blades, or equivalent
- Adjustable wrenches (8" and 12" recommended)
- 3/8" Deep socket set,
- Pipe cutters for ½" to 1" diameter copper pipe
- Ridgid mini pipe cutter or equivalent
- 16-ounce hammer or equivalent
- ½ round steel file and or flat smooth file
- Plumb bob
- Pencils / soapstone / markers / erasers
- Paper
- Combination square / square with edge.
- Utility knife
- Striker
- Copper de-burring tool
- Hack saw frame and blades
- Assorted screw drivers
- Hex and or spud 14 inch wrench
- Tool box maximum dimensions: Height 16" length 30" width 16" (4.5 cu.feet)
- Centre punch
- Chalk line

#### 4.3 Required clothing (Provided by competitor)

- Long sleeve clothing
- No jewellery
- Long hair must be tied back and concealed

## 5. SAFETY REQUIREMENTS

### 5.1 List of required personal protective equipment (PPE) provided by competitor

- Safety Glasses
- CSA approved Safety shoes
- Nitrile-coated gloves
- Welding gloves
- Hearing protection

## 6. ASSESSMENT

### 6.1 Point breakdown

POINT BREAKDOWN	/100
Accuracy of Installation	42.
Quality of Workmanship	42.
Air Pressure Test (50 PSI max. 2minutes max.)	16
	Point deduction
Full points for dimension within 2mm	
Half points deduction for dimension more than 2 to 4mm. One point deduction for dimension more than 4mm.	
One point deduction for each material item requested.	
One point deduction for each deviation from plan	

## 7. ADDITIONAL INFORMATION

### 7.1 Consecutive translation

If consecutive translation is required on site, the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 1 month prior to the competition or this service might not be guaranteed.

### 7.2 Tie (No ties are allowed)

In the event of a tie, the competitor with the highest score in the measurement criteria will be declared the winner.

### 7.3 Test Project change at the Competition

Where the Test Project has been circulated to Competitors in advance, NTC shall change a maximum of 30% of the work content. Please refer to the Competition Rules.

### 7.4 Competition rules

Please refer to the competition rules of the Skills Canada National Competition.

## 8. NATIONAL TECHNICAL COMMITTEE MEMBERS

Member Organization	Name	Email address
British Columbia	Pat Barringer	
Manitoba	Len Kuhl	
Ontario	Russell Jessop	
Québec	Normand Viau	
Prince Eduard Island	Mark McQuaid	
Saskatchewan	Mitch Grenier	
Newfoundland and Labrador	Chris Gushue	
Alberta	Darren MetCalfe	
Yukon	Dan Scobie	
New Brunswick - Chair	Brian Siddall	brian.siddall@nbcc.ca