



CONTEST DESCRIPTION / DESCRIPTION DE CONCOURS

PLUMBING PLOMBERIE

POST-SECONDARY /
NIVEAU POSTSECONDAIRE

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1 THE 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. Full implementation is expected in the 2017 Skills Canada National Competition.

The following 9 skills have been identified and validated as key essential skills for the workplace in the legend below:

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

These essential skills have been identified with in section 2.4 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 Description of the associated work role(s) or occupation(s)

<http://skillscompetencescanada.com/en/careers/construction/plumbing/>

2.2 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.

2.3 Duration of contest.

12 hours

2.4 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	January, 2017

3.2 Tasks that may be performed during the contest

- Applying mathematical concepts involving parallel, 60, 45, 22 ½ ° offsets.¹
- Interpreting and applying the blueprint specifications, product specifications and shop drawings.⁸
- Submit isometric drawings and material list for assessment.
- Assembly of various pipe and fitting systems⁷
- Interpreting NRC plumbing code (2015 edition)⁵.
- 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 510 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 (datum lines)

Essential Skills - ¹Numeracy, ⁵Reading Text, ⁷Thinking (Job Task Planning and Organization), ⁸Document Use

3.3 Contest specific rules.

- The National Technical Committee members (NTC) will be effecting a tool inspection during the competition orientation
- There will not be any onsite pipe joinery technique instruction
- Proper insertion for all pipe joints 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.

Essential Skills - ¹Numeracy, ⁷Thinking (Problem Solving), ⁸Document Use

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and materials provided by Skills/Compétences Canada

- Tri-stands - Ridgid
- Soldering torches (B tank turbo)
- 2 ft levels – Stanley/Dewalt model: 42-240
- Adhesives
- Teflon
- Threading compound
- Soldering paste
- Flux brushes
- ½" and ¾" cleaning brushes
- Sand cloth
- Isometric paper
- Pocket calculators (Basic only)
- Brazing materials
- Ridgid model 510 lever bender for 5/8" O.D. copper (6 benders will be there for competitors to share)
- Tape Measure (Metric) & Imperial – Stanley/Dewalt model: 30-456
- 20V MAX 3.0 AH Li-ion Battery Pack - Stanley/Dewalt model: DCB200
- Cordless Drill ½' - Stanley/Dewalt model: DCD780C2
- Portable Compressor - Stanley/Dewalt model: DWFP55126
- 9/16" deep sockets - Stanley/Dewalt model: 85-919
- Saw all blades 9" wood & nails, 6" – fine steel - Stanley/Dewalt model: DW 4864
- #2IR 6" Bit Tip - Stanley/Dewalt model: DW2153 C
- Air tool accessory kit fittings - Stanley/Dewalt model: P16ACK
- 2 ft carpenters square - Stanley/Dewalt model: 45-500
- Combination squares - Stanley/Dewalt model: ST HT 460 11
- 9" torpedo levels - Stanley/Dewalt model: 43-605
- 7/16" x 2 9/16" nut driver - Stanley/Dewalt model: DW 2228
- 3/8" x 2 9/16" nut drivers - Stanley/Dewalt model: DW 2223

COMPETITORS WILL BE REQUIRED TO USE THE MATERIAL AND EQUIPMENT PROVIDED BY SCC. ALL OTHER MATERIAL AND EQUIPMENT WILL BE REMOVED FROM THE SKILL AREA.

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
- Plastic pipe cutters for up to 3" (manual)
- Plastic pipe reamer 3", 2", 1 1/2"
- 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,
- Tube cutters for 1/2" to 1" diameter copper tube
- Ridgid mini pipe cutter or equivalent
- 16-ounce hammer or equivalent
- 1/2 round steel file and or flat smooth file with a handle
- Plumb bob
- Pencils / soapstone / markers / erasers
- Paper
- 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
- NRC Plumbing Code 2015

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 Safety workshop

Upon arrival at the Skill area, Competitors will participate in a Safety workshop and they will be expected to work and maintain a safe working area during the competition. Any Competitor breaking any health, safety and environment rules, may be required to undertake a second safety workshop, this will not affect the Competitor's competition time.

5.2 List of required personal protective equipment (PPE) provided by Skills/Compétences Canada

- Safety Glasses - McCordick
- Ear plugs – McCordick
- Leather gloves – McCordick

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

- CSA approved Safety shoes
- Nitrile-coated gloves

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.)	8
Destructive test on DWV to check for proper assembly	8
	Point deduction
Full points for dimension within 2mm	
Half points deduction for dimension more than 2 to 4mm.	
No points awarded for dimensions 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 - Chair	Len Kuhl	lkuhl@rrc.ca
Ontario	Chris Descoteaux	
Québec	Normand Viau	
Prince Eduard Island	Mark McQuaid	
Saskatchewan	Mitch Grenier	
Newfoundland and Labrador	Chris Gushue	
Alberta	Matthew Lindberg	
Yukon	Dan Scobie	
Nova Scotia	Jason Saltzman	
New Brunswick	Brian Siddall	