Skills Compétences Canada

CONTEST DESCRIPTION

Steamfitter / Pipefitter

POST-SECONDARY

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1 THE SKILLS FOR SUCCESS FOR CAREERS IN THE SKILLED TRADES AND TECHNOLOGY

The Government of Canada has updated the previous Essential Skills framework to the new Skills for Success model in response to the evolving labour market and changing skill requirements. This model outlines nine fundamental skills Canadians need to thrive in work, education, training, and daily life.

Skills/Compétences Canada aims to highlight the importance of these skills, vital for success in trade and technology careers. Competitors can see how Skills for Success are integrated into contest descriptions, projects, and project documents. Recognizing these skills during the competition helps competitors match tasks with specific skills necessary for success and understand how these skills apply within their trade or technology programs and future careers.

The nine key Skills for Success, validated for workplace success, are:

1. Numeracy
2. Communication
3. Collaboration
4. Adaptability
5. Reading
6. Writing
7. Problem Solving
8. Creativity and Innovation
9. Digital

These Skills for Success are detailed in sections 2.4 and/or 3.2 (to be completed by SCC) of your Contest Description and, if relevant, in your Project and supporting documents.

2 CONTEST INTRODUCTION

2.1 Description of the associated work role(s) or occupation(s)

https://www.skillscompetencescanada.com/en/skill_area/steamfitter-pipefitter/

2.2 Purpose of the Challenge

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

2.3 Duration of contest

12 hours

2.4 Skills and Knowledge to be tested.

- Applying mathematical concepts involving planning, measuring and layout of a piping system[1,7]
- Interpretation and application of drawing specifications[5]
- Assembling and fabricating a piping system[7]
- Measure, cut, and install steel pipe, stainless steel and copper tube systems
- Use fabrication tools & equipment to join pipe and fittings
- Applying safe work practices
- Assemble and fabricate two heating systems and related components[7]
- Using various pipe joinery methods and related devices and components required for Low Temperature Steam and Hot Water installations.

Skills for Success – [1]Numeracy, [5]Reading, [7]Problem Solving

3 CONTEST DESCRIPTION

3.1 List of documents produced and timeline for when competitors have access to the documents on the Skills/Compétences Canada website.

DOCUMENT	DATE OF DISTRIBUTION
Project	December 2025

3.2 Tasks that may be performed during the contest.

- Applying mathematical concepts involving offsets[1]
- Interpreting and applying the blueprint specifications[5]
- Assembly of various pipe and fitting systems[7]
  - Carbon steel threaded / bolted / Megapress®
  - Copper soldering / BCup3 brazing / Tube Bending, and Pressfit, Flaring
  - Heating Systems Fabrication
  - Fabrication of hangers for system supports[7]

Skills for Success – [1]Numeracy, [5]Reading, [7]Problem Solving

3.3 Additional Specifications

- All dimensions shall be in millimetres and/or inches
- All dimensions will be taken from the designated centerline or benchmarks unless directed otherwise
- Proper insertion for all pipe joint is mandatory

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and material provided by Skills/Compétences Canada

- Benches, vices and/or tables
- Consumables

- "B"- tanks c/w regulator, hose and torch kit
- Permanent sharpie marker / calculators
- Ridgid #15 and Ridgid #20 cutters
- Master Pro-Dope, Brush top
- Teflon tape
- Power cords (GFCI)
- Tig gloves and Hy-flex
- 14" and 24'' Aluminum Pipe Wrench
- 18" Hex Wrench
- 12" Spud Wrench
- Tri-Stand Chain Vice
- V-head high pipe stand - 28" - 52"
- RP 350 Battery Press Tool Kit w/MegaPress Jaws ½" – 2" Steel
- Copper Reamer
- 535 Threading Machine Complete w/ die heads ½" – 2"
- 10" Half round file c/w handles
- Round rat tail file c/w handle
- Hacksaw
- 20" Fatmax Open Tote
- 12" Adjustable Wrench
- Metric/Imperial Tape Measure
- 20-volt 1/2" cordless drills
- Utility knife
- 10" Water Pump Pliers
- SAE Wrench Set – 6 piece
- 1/2" Drive Torque wrench c/w 1 1/4" socket
- Tube benders
- 48" Level
- 9" Level
- 24" Square

Note: No other tools than the tools listed in 4.1 and 4.2 will be allowed into skill area.

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.

- None

4.3 Required clothing provided by the competitor.

- Coveralls / overalls allowed if sleeves used
- Long sleeves must be always worn

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

5 HEALTH AND SAFETY

5.1 Safety program

SCC has implemented a comprehensive safety program as health and safety is an integral part of our competitions. Our safety program includes guidelines and procedures to make the work environment in each skill area safer.

5.1.1 Safety manual

As part of our program a safety manual has been created to monitor and document health and safety within each skill area. It includes a definite plan of action designed to prevent accidents. The safety manual will be provided for every skill and these instructions must be followed and respected by all participants and officials at the SCNC.

5.1.2 Safety workshop

During orientation, 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 environmental 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
- Mechanic Gloves
- Nitrile Gloves
- Earplugs
- Hard Hats
- Leather Tig Gloves
- Lens cleaning solution

Note: Competitors who do not have the required protective equipment will not be allowed to participate in the competition.

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

- CSA approved safety shoes
- Competitors may bring their own hardhats and gloves if they meet CSA standards/requirements and are approved by NTC safety committee representative, prior to the event

Note: Competitors who do not have the required protective equipment will not be allowed to participate in the competition

6 ASSESSMENT

6.1 Point breakdown

Note: This list is subject to change.

TASKS	/100
Steam System	50
Hydronic System	30
Heat Exchanger	10
Testing	10

7 CONTEST SPECIFIC RULES

Contest specific rules cannot contradict or take priority over the Competition Rules. They do provide specific details and clarity in areas that may vary from contest to contest. Any additional contest rules will be reviewed during the competitor orientation.

TOPIC/TASK	CONTEST SPECIFIC RULE
Use of technology - personal laptops, cameras and mobile phones	Competitors are not allowed to bring personal laptops, cameras, or mobile phones into the skill area
Infrastructure – material and equipment	IPT Handbooks are not allowed in the competition area. All tools, materials, and PPE will be supplied by the competition committee with exception to section 5.3. Competitors will be allowed to do a tool inspection during competitor orientation. No project specific aids, tools or jigs allowed. Competitors requiring assistance using equipment can ask for help from the National Technical Committee (NTC) during orientation. If required, tool demonstrations may be provided
Competitor Interaction	Competitors will not be allowed to help fellow competitors during the competition. Any grievances will be filed as per Skills Canada's guidelines and policies.
Safety	It is to be understood that throughout the competition, safety and project judging will be ongoing.

8 ADDITIONAL INFORMATION

8.1 Interpreter

If a competitor requires the help of an interpreter once onsite during the competition, 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 may not be guaranteed.

8.2 Ties

- Tiebreaker #1: In the event of a tie the competitor with the highest score in the Steam System criteria will be declared the winner.
- Tiebreaker #2: If a second tie occurs, the competitors with the highest score in the Hydronic System criteria will be declared the winner.
- Tiebreaker #3: If a third tie occurs, the competitors with the highest score in the Testing criteria will be declared the winner.

All decisions made by the judging team are considered final.

8.3 Competition rules

Refer to the competition rules of the Skills Canada National Competition which can be found on our website.

9 NATIONAL TECHNICAL COMMITTEE MEMBERS

MEMBER ORGANIZATION	NAME
Newfoundland and Labrador	Corey Peach
Nova Scotia	Greg Pope
Ontario	Vince Kacaba
Manitoba	Karl Schifke
Saskatchewan	Chris Henriksen – Chair
Alberta	Chris Waples
British Columbia	Jordan Falk – Co-Chair
New Brunswick	Curtis Buchanan

Contact the Skills/Compétences Canada national secretariat for any questions or concerns: Nathalie Maisonneuve (nathaliem@skillscanada.com).