



## CONTEST DESCRIPTION

<b>Competition Date</b>	Tuesday, March 19 <sup>th</sup> 2024
<b>Competition location</b>	Holland College West Prince Campus
<b>Trade Number</b>	10
<b>Trade Name</b>	Welding
<b>Level</b>	Secondary

### 1. INTRODUCTION

#### 1.1 Purpose of the Challenge.

Assess the competitor's ability in the field of welding. Competitors must demonstrate their knowledge in reading drawings and interpreting welding symbols, and mastery of the main welding processes used in today's industry.

#### 1.2 Duration of contest.

6 Hours

8:00-8:30 Registration, Introductions and details of the competition

8:30 Competition begins

11:30-12:00 Lunch (To be provided)

2:30 Practical projects to be turned in

3:00 Judging

#### 1.3 Skills and Knowledge to be tested.

Based on technical drawings and welding processes, contestants will be assessed on the assembly and welding of projects in all positions

### 2. CONTEST DESCRIPTION

Tasks that may be performed during the contest

#### PRACTICAL

Shielded Metal Arc Welding (SMAW)

Gas Metal Arc Welding (GMAW)

Oxy-Acetylene cutting (OAC)



## Theory

The theory portion of the contest is limited to the knowledge required to complete practical work. These knowledge requirements are included in the contest for assessment purposes and involve the following:

- reading drawings
- interpreting welding symbols
- knowledge of basic metals and filler metals
- adjusting welding machines
- safety regulations

Fitting and welding on mild steel structures

### SMAW

1G, 2G, 3G plate

Root, fill and cap: E4310, 3.2mm or E4311, 3.2mm

Fill and cap: E4918, 2.4 and 3.2mm

Fillets: 1F, 2F, 3F, E4918, 2.4 and 3.2mm

### GMAW:

1G, 2G, 3G (vertical up & vertical down) plate Root, fill and cap

Fillets: 1F, 2F and 3F (vertical up)

## 3. SKILLS FOR SUCCESS

In response to the evolving labour market and changing skill needs, the Government of Canada has launched the new Skills for Success (former Essential Skills) model defining nine key skills needed by Canadians to participate in work, in education and training, and in modern society more broadly. SCC is currently working with Employment and Social Development Canada (ESDC) to bring awareness of the importance of these skills that are crucial for success in Trade and Technology careers.

Part of this ongoing initiative requires the integration and identification of the Skills for Success in contest descriptions, projects, and project documents.

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



Numeracy, Communication, Collaboration, Adaptability, Reading, Writing, Problem Solving, Creativity and Innovation, Digital

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

##### **4.1** Each competitor is required to bring the following:

Welding helmet with shades #10, #11, #12 or auto darkening.

Soap stone

Centre punch

Scriber

Cold chisel

12" Combination square (45° / 90°)

Fillet weld gauge

Chipping hammer

Steel and stainless-steel wire brushes

Compass (dividers)

Protractor

Torpedo level

Ball peen hammer

All-purpose pliers/side cutters

Vice grips (standard)

Magnet(s)

Files

No aerosols or anti-spatter permitted

##### **4.2** Equipment and material provided by the competition site

###### Welding machines and accessory

All contestants will use Lincoln Electric C300 welding machines or similar  
Oxy-Acetylene torch systems

###### Materials

Mild carbon steel Plate Thicknesses: 1/8" – 3/8"

###### Filler material

SMAW = E4918 (7018), 2.4, and 3.2mm

SMAW = E4310 (6010), 3.2 mm or E4311 (6011), 3.2mm

GMAW = ER49S-6 (ER70S-6), 0.9mm



Shielding gases

FCAW = Argon 70% and CO2 25%

GMAW = Argon 93% CO2 7%

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

Appropriate work clothes and safety gear CSA approved: safety glasses, footwear, welding jacket or FR rated jacket and welding gloves.

**Note:** Competitors will not be allowed to compete if the above items are not brought and used

**5. ADDITIONAL INFORMATION**

**5.1 Tie (No ties are allowed)**

Ties will be broken by time completed.

**5.2 Competition rules**

Please refer to the competition rules for all general PSC information.

**6. CONTACT INFORMATION**

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