



## 12th TERRITORIAL SKILLS COMPETITION - SCOPE DOCUMENT

### 10 – WELDING Secondary Level

#### PURPOSE OF THE CHALLENGE

**DURATION: 6 HOURS**

Assess the contestant's ability in the field of welding. Contestants must demonstrate their knowledge reading plans and interpreting welding symbols, and mastery of the main welding and cutting procedures used in the industry.

#### SKILLS AND KNOWLEDGE TO BE TESTED

##### PRACTICAL

###### Secondary

- Shielded metal arc welding (SMAW).
- Gas metal arc welding (GMAW)
- blueprint reading ability (measurements are given in imperial and metric)
- transfer of measurements and other information from blueprint to the project
- layout, position and fit components
- oxy-acetylene flame cutting - tack weld and arc weld with SMAW
- interpretation and application of welding symbols
- cleaning of finished welds

##### 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 aspects:

- general safety on oxy-acetylene equipment
- safe set-up of oxy-acetylene equipment
- operating pressures for O.A. cutting
- identification of arc welding electrodes by their classifications
- classification of power sources, duty cycle, etc.
- set-up and controls of power sources
- electrical characteristics of power sources
- SMAW processes analysis and descriptions
- welding symbols

Contestants must have mastered the main manual welding and cutting procedures used in industry and acquired in their training, as well as knowledge of reading plans, and the ability to interpret welding symbols.

## EQUIPMENT, TOOLS, SUPPLIES, AND CLOTHING

### Note:

Contestants who do not have the required protective gear will not be allowed to participate in the contest.

### Provided by the organizing Committee:

- leather coat;
- safety goggles;
- ear plugs or protectors;
- cutting goggles, # 4 or #5 lens;
- helmet, #10 and/or #11 and/or #12 lens.
- Welding machines and accessories
- Mobile cutting stations
- Instructions and welding plans and procedures
- All basic materials required to complete projects
- Set of practice materials
- Tape measure (Imperial and/or Metric)
- Soap Stone
- Scriber
- Divider
- 12" Set Square
- Vice Grip, clamps
- Chipping Hammer
- Wire Brush
- Striker
- Half Round Bastard File
- Hammer
- Centre Punch
- All auxiliary materials

### Provided by the Contestant:

- work clothes
- CSA-approved steel-toed boots c/w leather soles

## POINT BREAKDOWN / 100 TOTAL

Weighting (%)

Subjective visual	10%
Objective visual	40%
Assembly according to prints	20%
Working correctly to welding procedures	20%
Competency interpretation (including safety)	10%

## TECHNICAL COMMITTEE MEMBERS - JUDGES

### *Doug Wourms, Tech Chair*

Kimberlite Career & Technical Centre, YCS, Yellowknife