



12th TERRITORIAL SKILLS COMPETITION - SCOPE DOCUMENT

10 - WELDING Post-Secondary Level

PURPOSE OF THE CHALLENGE

DURATION: 6 HOURS

Assess the contestant's ability in the field of welding. Contestants must demonstrate the ability to read plans, interpret welding symbols, and mastery of the main welding and cutting procedures used in the industry.

SKILLS AND KNOWLEDGE TO BE TESTED

PRACTICAL

- Shielded metal arc welding (SMAW).
- Gas metal arc welding (GMAW)
- Flux core arc welding (FCAW)
- 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 the industry and have acquired in their training, as well as extensive 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

SAFETY REQUIREMENTS

Note: Contestants who do not have the required protective gear or work in an unsafe manner will not be allowed to participate in the contest.

JUDGING CRITERIA

To be determined from "Skills and Knowledge to be Tested" (above)

POINT BREAKDOWN / 100 TOTAL

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