



Provincial Scope Document

ELECTRICAL WIRING 2011(Secondary)

Contest Length: 6 hrs

Registration at site: 7:30am

Orientation & documentation: 7:30 to 8:00 am

Contest Start: 8:00 am

Purpose of the Challenge:

Assess the contestant's skills and abilities performing various installation tasks in the field of residential and commercial electrical wiring.

Skills & Knowledge to be tested:

Throughout the contest, contestants can expect to be evaluated in one, two, three or all of the following areas:

- Installing residential, commercial wiring and control systems;
- Installing branch circuit components;
- Installing heating equipment and controls;
- Installing motor starter and controls;
- Installing communication systems, warning devices and various types of detectors;

Pre-requisites:

- Contestants must demonstrate mastery of the following technical skills:
 - Measuring and marking dimensions on a on a work surface using scale plans and drawings based on the metric measuring system;
 - Installing electrical equipment, cables, conduit, tubing and raceways;
 - Measuring and bending tubing and conduit;
 - Assembling components using screws, staples and bolts;
 - Linking lines and equipment to control panels and their components;
 - Wiring and connecting electrical components;
 - Identifying and marking conductors according to plans and drawings;
- Contestants must demonstrate mastery of the following theoretical skills:
 - Reading, interpreting and executing plans, drawings, diagrams and schematics in compliance with standards;
 - Reading, interpreting and executing manufacturer's technical specifications for the electrical components to be installed;
 - Knowledge and application of electrical materials and work methods;

- Knowledge and application of basic electrical circuits;
- Knowledge and application of basic electrical devices and equipment;
- Knowledge and application of occupational health and safety regulations;
- Knowledge and application of electrical code requirements in Canada and installation to comply with the current Canadian Electrical Code Book (21st Edition 2009).

Equipment, Tools, Supplies, Clothing, Safety Equipment

- Contestants should have the following tools and equipment available in their toolkits:
 - Supplies for drawing and writing (i.e. paper, pencil, eraser, ruler.)
 - Set of screwdrivers (Robertson, flat, Phillips)
 - Electrician's pliers (linesman pliers)
 - Cutting pliers (diagonal)
 - Wire strippers
 - Knife
 - Needle-nose pliers
 - Hammer
 - Adjustable wrench
 - Set of hex wrenches (Allen keys)
 - 1 set of manual knock-out punches for 1/2", 3/4", 1" conduit (not hydraulic)
 - Wire markers / Tape dispenser
 - Tapping screwdriver or set of taps (6/32 - 8/12 - 10/32 - 10/24 - 1/4x20).
 - File or conduit reamer
 - Hack saw
 - Torpedo level
 - Multimeter
 - Adjustable pliers (water pump pliers)
 - 1 Unibit metal bit
 - Wood bit (3/8" chuck)
 - Robertson and Phillips screw bits for cordless drill
 - Canadian Electrical Code Book (21st Edition 2009)

Contestants may bring tools other than those listed above. Any tools not on the list will have to be approved by the judges prior to use.

- Equipment provided by Technical Committee at event
 - Manual 1/2" EMT pipe bender
 - Cordless drill (3/8" chuck)
 - Ladder if needed
- Safety & Clothing provided by contestant
 - CSA approved safety gear hard hat, safety footwear, safety glasses, hearing protection, gloves.
 - Safety equipment must be worn at the competition site
 - Contestants must wear the appropriate safety gear in accordance with health and safety regulations
 - Neat and clean clothing is required – torn clothing is not allowed

Project Documents:

There will be no more documentation available to the competitors before the day of the event.

Judging Criteria:

POINT BREAKDOWN	TOTAL	1000
A Operation		350
B Equipment and component installation		100
C Use of supplies		50
D Measurement		100
E Cable installation		100
F Tubing and conduit installation		100
G Connection of conductors to components and equipment		100
H Compliance with health and safety rules		100

- There are no ties allowed a tie break procedure will be as per the following criteria:
 - First criteria – operational score
 - Second criteria – completion time
 - Third criteria – safety score

Technical Committee:

Rod McLeod Technical Chair
Miles Andrew
Norm Chamberlain

rod.mcleod@ufv.ca

Gold medal winners at the BC Skills Competition are eligible to compete at the Canadian Skills Competition June 1-4, 2011 in Quebec City, Quebec.

Skills Canada BC reserves the right to update contest information. Please check the website for changes.