

Electrical Construction Wiring



District 8 Competition

Monday, January 20, 2020

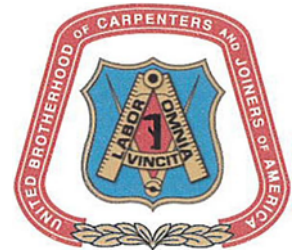
Keystone+Mountain+Lakes

Carpenters Training Center

652 Ridge Road

Pittsburgh PA. 15205

(412) 262-1830



Location Chair - John Brown
412-847-1944 or john.brown@beattietech.com

Electrical Construction Wiring

SCOPE OF THE CONTEST

The contestants will demonstrate their knowledge and ability of residential wiring.
(Time will serve as the main deciding factor in the event of a tie.)

TASKS:

- 1.) Residential Wiring
- 2.) Doorbell Control
- 3.) Written Test

EQUIPMENT/MATERIALS:

1.) Supplied by contestants:

-Diagonal pliers, side cutters, claw hammer, needle nose pliers, torpedo level, assorted flat blade and Phillips screwdrivers, measuring tape, wire strippers, knife, scratch awl, volt/Ohm meter and National Electrical Code book (most current edition)

2.) Supplied by site:

-All wiring panels, electrical supplies and materials needed for the contest

SAFETY REQUIREMENTS

- 1.) Contestants must have knowledge of operational and safety procedures when using equipment and tools.
- 2.) All standard shop and safety procedures must be observed.
- 3.) During shop completion, all contestants must wear safety glasses or goggles and work shoes.

Task # 1

Residential Wiring

Using number 14 A.W.G nonmetallic sheathed cable (ROMEX), wire a wall light controlled from three different locations and a split circuit duplex receptacle controlled from a single location. The top half of the duplex receptacle is hot all the time and the bottom is switched. Boxes should be installed to comply with National Electric Code requirements for ½" dry wall (noncombustible material).

You will have 60 minutes to complete this task

Instructions:

- 1.) Wiring shall meet all NEC requirements according to the latest edition available.
- 2.) The total job should be done in a neat and professional manner.
- 3.) Each contestant will use four studs marked with the contestant number.
- 4.) Attach outlet boxes with pan head tapping screws, staples or nails.
- 5.) Switches should be mounted on three different studs.
- 6.) Your time will be the main deciding factor in the case of a tie.
- 7.) All necessary materials is located on the workbench. Take only what you need (to be checked by the judge.)
- 8.) All measurements are to the center of the outlet box from the floor.
- 9.) A.C. power will come from a 15-amp fuse or 15-amp breaker and must enter the double gang device box.
- 10.) A.V.O.M. and a continuity tester will be provided to check your circuit.
- 11.) Boxes must be mounted so its face extends beyond the stud to allow for ½" drywall.
- 12.) After completion of assigned job, notify the judge **(DO NOT APPLY POWER)**.
- 13.) Tie your home run into the 4x4 box located at the top left of your project.
- 14.) All of the boxes have been mounted except the two gang switch box. The contestant must mount this box accordingly to the box mounting instructions.
- 15.) The contestant will be given extra materials that **are not** needed.

Contestant # _____

Student #: _____

Time Started: _____

Time ended: _____

Task # 2

Doorbell Control

Directions:

Install a doorbell system consisting of two push buttons, a chime and a step-down transformer from 120V to 24V.

All needed components will be ready for each contestant at their designated work area.

The doorbell will then be installed on the provided framework.

You will have thirty (30) minutes to complete this task.
Notify the judge when you have completed the task.

Contestant Number: _____

Time Started: _____

Time Ended: _____

Total time on task: _____

Judges Initials: _____

SkillsUSA

Electrical Construction Wiring - Tally Sheet

Contestant Number: _____

Items Evaluated	Possible Points	Task # 1	Task # 2	
Procedure	15			
Accuracy	15			
Quality/Appearance	10			
Speed	10			
Tool/Equipment Usage	10			
Safety Practices/Clean Up	10			
Total	70			
Judges Initials				

Task	Total Points
Task # 1	
Task # 2	
Written Test	
Total	

Judges Initials: _____