



Construction Wireman/Electrician

Summary

A Construction Wireman (CW)/Construction Electrician (CE) is an entry-level electrical trainee learning the concepts and skills necessary to become a certified electrician. Skills that are typically learned include how to install and repair industrial, commercial or residential electrical systems, as well as how to install and maintain data-telecommunications wiring. Electricians must follow the National Electric Code and comply with State and local building codes when installing systems.

Primary Responsibilities

- Measure, cut, and bend wire and conduit, using measuring instruments and hand tools.
- Maintain tools, vehicles, and equipment and keep parts and supplies in order.
- Perform semi-skilled and unskilled laboring duties related to the installation, maintenance, and repair of a wide variety of electrical systems and equipment.
- Prepare sketches or follow blueprints to determine the location of wiring and equipment and to ensure conformance to building and safety codes.
- Disassemble defective electrical equipment, replace defective or worn parts, and reassemble equipment, using hand tools.
- Diagnose malfunctioning systems, apparatus and components using test equipment and hand tools to locate the cause of a breakdown and correct the problem.
- Inspect electrical systems, equipment, and components to identify hazards, defects and the need for adjustment or repair and to ensure compliance with codes.
- Thread conduit ends, connect couplings, and fabricate and secure conduit support brackets, using hand tools.
- Examine electrical units for loose connections and broken insulation and tighten connections, using hand tools.
- Drill holes and pull or push wiring through openings, using hand and power tools.
- Clean work area and wash parts.
- Dig trenches or holes for installation of conduit or supports.
- Strip insulation from wire ends, using wire stripping pliers, and attach wires to terminals for subsequent soldering.
- Trace out short circuits in wiring, using test meter.
- Install copper-clad ground rods, using a manual post driver.
- Break up concrete, using air hammer, to facilitate installation, construction, or repair of equipment.
- Erect electrical system components and barricades, and rig scaffolds, hoists, and shoring.
- Transport tools, materials, equipment, and supplies to work site by hand, hand truck, or heavy, motorized truck.
- Construct controllers and panels, using power drills, drill presses, taps, saws, and punches.
- Raise, lower, or position equipment, tools, and materials, using hoist, hand line, or block and tackle.
- Requisition materials, using warehouse requisition or release forms.
- Other duties as required.

Qualifications

- At least 18 years of age or older
- High School Diploma, GED, or Equivalency
- Valid driver's license
- Able to pass Basic Skills Test, Multi-Craft Aptitude Test, Color Identification Test and Drug Screen.

Skills Required

An apprentice electrician must have a high mechanical aptitude and be good with their hands. They must be able to follow direction, as most jobs begin with a blueprint that details where electrical devices need to be installed. Also, would need to know where to look for issues and be a capable problem solver. Should be organized, analytical and provide the necessary strength and stamina for a job that involves occasional heavy lifting and flexibility. On top of those things, apprentices need to be able to act on the instructions from a supervisor and work well alone or as members of a team.

Physical Job Description

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| Job Title: | Electrician Apprentice |
| Typical Working Conditions: (Describe environment including exposure to heat, cold, fumes, chemicals, allergens, mold, etc.) | Electricians' work is often strenuous. They may stand for extended periods and frequently work on ladders and scaffolds. Their working environment varies, depending on the type of job. Some may work in dusty, dirty, hot, or wet conditions, or in confined areas, ditches, or other uncomfortable places. Electricians risk injury from electrical shock, falls, and cuts; to avoid injuries, they must follow strict safety procedures. Some electricians may have to travel to jobsites, which may be up to 75 miles away. |
| Equipment Used: (List all manual and automated equipment used in the course of performing essential functions.) | Electricians use hand tools such as screwdrivers, pliers, knives, and saws. They also use power tools such as band saws, sawzalls and drills and testing equipment such as voltmeters, ammeters, and ohmmeters. |
| Essential Physical Tasks: (List all physical tasks encountered in performing | Identifying and separating wires by color. Digging trenches and working in trenches. Breaking concrete with jackhammer or other tools. Assisting in the moving, positioning and fastening of heavy electrical equipment. Lifting, positioning, and fastening objects such as light fixtures, wire, conduit, junction boxes, motors, and other equipment. Carrying material and tools from location to location or floor to floor. Working from A-Frames, extension ladders and scaffolds at various heights. Crawling under floors and working in attics where space is limited. Working under hot and cold weather conditions, indoors and outdoors. Lifting and working with tools and equipment above head. Able to regularly lift 21-50 pounds. |