

Chapter 01: Commercial Building Plans and Specifications

Multiple Choice

Allowing metal shavings from a drilling operation to fall onto live parts of electrical equipment generally results in a(n) ____, which can cause deadly burns.

1. Allowing metal shavings from a drilling operation to fall onto live parts of electrical equipment ge...
 - a. lockout
 - b. arc blast
 - c. tagout
 - d. pressure wave

ANSWER: b

The NEC® defines a(n) ____ as one who has skills and knowledge related to the construction and operation of the electrical equipment and installations and has received safety training to recognize and avoid the hazards involved.

2. The NEC® defines a(n) ____ as one who has skills and knowledge related to the construction and operation...
 - a. qualified person
 - b. engineer
 - c. expert
 - d. employee

ANSWER: a

3. On large electrical installations, an arc flash can generate temperatures of ____ degrees F.

- a. 15,000
 - b. 25,000
 - c. 35,000
 - d. 45,000

ANSWER: c

4. When turning a standard disconnect switch on, ____ of the switch.

- a. do not stand to the right
 - b. do not stand to the left
 - c. always stand in front
 - d. do not stand in front

ANSWER: d

5. Which item in the General Clauses and Conditions is of value to the contractor and his estimator only?

- a. Proposal

- b. Schedule of Drawings
- c. Agreement
- d. Notice to Bidders

ANSWER: d

6. According to the Supplementary General Conditions, who is responsible for any utilities that are damaged?

- a. the municipal government
- b. the contractor
- c. the crew
- d. the site owner

ANSWER: b

7. The construction plans for a building are often called ____.

- a. shop drawings
- b. architecturals
- c. blueprints
- d. plots

ANSWER: c

8. In the areas where ____ is enforced, the NEC® is the law.

- a. EWC
- b. COBRA
- c. OSHA
- d. NFPA

ANSWER: c

9. Who may submit a proposal to change the NEC® using the Proposal Form found in the back of the NEC®?

- a. anyone
- b. a member of the Code-Making Panel
- c. a professional engineer
- d. a registered electrician

ANSWER: a

10. Which nonprofit organization publishes the Electrical Appliances and Utilization Equipment Directory (Orange Book)?

- a. FPN
- b. UL
- c. NECâ
- d. NFPA

ANSWER: b

11. The wording on a counterfeit UL logo might say “approved” instead of “____.”

- a. SAFE
- b. TESTED
- c. OK
- d. LISTED

ANSWER: d

12. The ASHRAE Handbook is considered the Bible of the ____ industry, much like the NEC® is to the electrical industry.

- a. heating, refrigerating and air-conditioning
- b. lighting
- c. mechanical manufacturers
- d. wire and cable

ANSWER: a

A ____ is when the dimensions of a product already designed and manufactured to the inch-pound system have their dimensions converted to metric dimensions.

13. A ____ is when the dimensions of a product already designed and manufactured to the inch-pound system have...

- a. soft metric conversion
- b. soft metric measurement
- c. hard metric conversion
- d. hard metric measurement

ANSWER: a

14. What is the metric designator for a raceway of trade size 3?

- a. 12
- b. 21
- c. 41
- d. 78

ANSWER: d

15. In the metric system, what is the prefix for 1000?

- a. centi-
- b. kilo-
- c. mega-
- d. giga-

ANSWER: b

Essay

16. How can one become qualified to work on or near exposed energized equipment?

ANSWER: Only qualified persons are permitted to work on or near exposed energized equipment. To become qualified, a person must:
·have the skill and technique necessary to distinguish exposed live parts from other parts of electrical equipment.
·be able to

determine the voltage of exposed live parts and be trained in the use of special precautionary techniques, such as personal protective equipment, insulations, shielding material, and insulated tools.·be trained in the use of special precautionary techniques, such as personal protective equipment, insulations, shielding material, and insulated tools.

17. In the General Clauses and Conditions, what does the “Instructions to Bidders” section encompass?

ANSWER: This section provides the contractor with a brief description of the project, its location, and how the job is to be bid (lump sum, one contract, or separate contracts for the various construction trades, such as plumbing, heating, electrical, and general). In addition, bidders are told where and how the plans and specifications can be obtained prior to the preparation of the bid, how to make out the proposal form, where and when to deliver the proposal, the amount of any bid deposits required, any performance bonds required, and bidders’ qualifications. Other specific instructions may be given, depending on the particular job.

18. What does the appropriate section of the NEC® state about submitting plans?

ANSWER: In most communities, building plans and specifications must be submitted to a building department for review prior to the issuance of a construction permit. NEC 215.5 states, If required by the authority having jurisdiction, a diagram showing feeder details shall be provided prior to the installation of the feeders. Such a diagram shall show the area in square feet of the building or other structure supplied by each feeder, the total calculated load before applying demand factors, the demand factors used, the calculated load after applying demand factors, and the size and type of conductors to be used.

19. How is the term “LABELED” different than “IDENTIFIED” as used in the NEC®?

ANSWER: IDENTIFIED (as applied to equipment): Recognizable as suitable for the specific purpose, functions, use, environment, application, and so forth, where described in a particular Code requirement. LABELED: Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

20. How are commas, periods, and spaces used to make long numbers easier to read?

ANSWER: In the United States, it is the practice to use a period as the decimal marker and a comma to separate a string of numbers into groups of three for easier reading. In many countries, the comma has been used in lieu of the decimal marker and spaces are left to separate a string of numbers into groups of three. The SI system, taking something from both, uses the period as the decimal marker and the space to separate a string of numbers into groups of three, starting from the decimal point and counting in either direction. An example is 12 345.789 99. An exception to this is when there are four numbers on either side of the decimal point. In this case, the third and fourth numbers from the decimal point are not separated, e.g., 2015.1415.

