

CM 352 – Electrical and Mechanical Construction Estimating



Homework #2: Accubid Office Building - Electrical Specifications

Due: 9/7

Name: _____

1. Reflective plates shall be _____ gauge metal minimum.
2. List the 3 acceptable manufacturers for Lamps.
3. Incandescent lamps shall be extended service, _____ hour, _____ volts.
4. The maximum continuous operating voltage for transient voltage surge suppressors is at least what percent on a nominal system operating voltage?
5. T / F The omission of architectural or structural or mechanical details from the electrical drawings may be used to generate a change order to receive additional compensation.
6. With whom should any code violations found in the contract documents be resolved?
7. What is the minimum clearance (in inches) between conduit and heat sources such as flues, steam pipes and heating appliances?
8. Describe the outlet boxes for fixture installations on the ceiling.
9. Unless noted otherwise, how many inches above the finished floor should wall outlets be mounted?
How many inches above the counter surface?
10. Labels shall be applied every how many feet of pipe or raceway length?
11. Wiring devices, cover plates, and fittings serviced from an emergency power system should have what color finish?

12. Furnish a number of spare fuses equaling _____ % of quantity installed but not less the three (3) fuses of each type and rating.
13. Who is to furnish and install all of the service metering equipment?
14. T / F ATS mounting height shall be 48” to top where wall mounted, unless otherwise indicated by contract documents.
15. What should a 50kVA floor mounted dry type transformer be mounted on?
16. What should the parking lot area luminaries be mounted on?
17. What is the minimum size of raceway that may be used for fire alarm branch wiring?
18. What 4 things should submittals include?
19. How many days in advance of the actual operation must work that involves the interruption of building services be scheduled with the architect and the owner?
20. Unless field conditions dictate otherwise, what is the minimum size an access panel may be?
21. What is the minimum ampere frame size for circuit breakers?
22. T / F Circuit breakers may be made by a different manufacturer than the panel boards.
23. T / F You must test all parts of the electrical system and prove that the systems function electrically in the required manner in the presence of the Owner.
24. What is the maximum distance between supports on straight runs of cable tray?

25. T / F 'Raceway' and 'Cable Tray' are interchangeable terms.
26. Wire size #10 AWG and smaller shall be _____ conductor; #8 AWG and larger shall be _____ conductor.
27. Excluding communication wiring, what is the maximum voltage acceptable for building wire?
28. T / F Control wiring for a motor branch circuit may be installed in the same conduit as that motor's power circuit.
29. What two tests must be performed on 600 volt feeder wiring?
30. Disconnect switches shall be as specified under what section?

Multiple Choice Questions

1. The omission of architectural or structural or mechanical details from the electrical drawings may be used to generate a change order to receive additional compensation.
 - A. True
 - B. False
2. If there are any code violations discovered in the contract documents they shall be resolved with the:
 - A. General Contractor prior to awarding of the contract.
 - B. Mechanical Contractor prior to awarding of the contract.
 - C. Architect prior to awarding of the contract.
 - D. Owner prior to awarding of the contract.
3. When installing conduit near heat sources such as flues, steam pipes, and heating appliances, the minimum clearance shall be:
 - A. 6 inches
 - B. 8 inches
 - C. 10 inches
 - D. 12 inches
4. In the installation of building wiring the minimum conductor size that may be used for 20 A, 120 V branch circuits that are 100 feet and longer is:
 - A. #14 AWG
 - B. #12 AWG
 - C. #10 AWG
 - D. #8 AWG
5. In compliance with Div. 16 electrical identification all:
 - A. Fire alarm junction boxes shall be painted red.
 - B. Lighting junction boxes shall be painted orange.
 - C. Power junction boxes shall be painted red.
 - D. Equipment junction boxes shall be painted blue.

6. Wiring devices, cover plates and fittings that are serviced from an emergency power system shall have:
 - A. Ivory color finish
 - B. Light color finish
 - C. Stainless color finish
 - D. Red color finish

7. All the service metering equipment shall be furnished and installed by the:
 - A. Power Company
 - B. General Company
 - C. Electrical Company
 - D. Mechanical Company

8. Overcurrent protection provided by Fuses 600V and 600 A shall be of type:
 - A. UL Class L
 - B. UL Class RKI
 - C. UL Class KRP
 - D. UL Class K

9. Who shall be notified by the Electrical Contractor four weeks prior to performing a test of the isolated power and equipotential grounding systems?
 - A. Owner
 - B. General Contractor
 - C. Architect
 - D. Mechanical Contractor

10. An acceptable manufacturer of lighting, branch circuit and distribution panelboards and isolation panelboards is:
 - A. General Electric
 - B. Cutler-Hammer
 - C. Hevi-Duty
 - D. Square D Company

11. A 50 KVA floor mounted dry type transformer shall be mounted on:
 - A. Steel spring isolator
 - B. 1" static deflectors
 - C. Rubber isolators
 - D. ¼" neoprene pads

12. Who is responsible for testing and commissioning the operation of automatic transfer switch used in the emergency power system?
 - A. Electrical contractor and manufacturer's service representative
 - B. Electrical contractor and Underwriters Laboratories representatives
 - C. Electrical contractor and owner
 - D. Electrical contractor and architect

13. Parking lot are luminaries shall be mounted on:
 - A. 25 foot, square tapered pole.
 - B. 35 foot, square tapered pole.
 - C. 25 foot, round tapered pole.
 - D. 35 foot, round tapered pole.

14. The minimum size of a raceway that may be used for fire alarm branch wiring is:
- A. 1/2" conduit
 - B. 3/4" conduit
 - C. 1" conduit
 - D. 1 1/4" conduit
15. State the section and part where you find the size of telephone cabinet that is required for this project.
- A. Section 16470, Part 2.2
 - B. Section 16470, Part 3.1
 - C. Section 16740, Part 2.4
 - D. Section 16740, Part 3.2
16. Any temperature regulating equipment, sump pumps and sewage ejector pumps will be furnished and installed under:
- A. Division 13
 - B. Division 14
 - C. Division 15
 - D. Division 16
17. What is the minimum size conductor for communications service conductors?
- A. #2 AWG Copper
 - B. #6 AWG Copper
 - C. #4 AWG Aluminum
 - D. #6 AWG Aluminum
18. TVSS is an acronym for?
- A. Transient Voltage Suppression System
 - B. Transient Voltage Surge Suppressor
 - C. Transient Voltage Surge System
 - D. Transient Voltage System Suppression
19. Sprinkler water flow and tamper switches are supplied and installed by which CSI Division?
- A. Division 16
 - B. Division 13
 - C. Division 15
 - D. Division 20
20. What must be installed in each empty conduit run?
- A. Grease
 - B. Soap
 - C. Pull line
 - D. Pipe Cap