

CMGT 235 – Electrical and Mechanical Systems

In Class Activity #2 – Mechanical Plans and Specifications

Points: 50 [4 points each properly formatted answer]

Due: At the End of Class Today

WRITE NEATLY

Check One: Worked as a: GROUP INDIVIDUAL

Name	Solution
Name	
Name	

- To answer the following questions, you will need a copy of the HomeGoods Distribution Center Mechanical Plans (M-001 through M-210) See: <https://lorisweb.com/cmgt235.html>
- Format for answers. Write answer and directly below answer indicate the location it was found (be specific).
Example Answer:
15 KW
M2.0 Mechanical Schedules - Burlington Electric Unit Heater Schedule, Note 5

Plan Questions

1. What color shall portion of ductwork and pipe insulation visible through air distribution devices in finished areas be painted?
Flat Black
M-001 Notes, Legend, & Abbreviations H.V.A.C. - HVAC General Notes
2. Who supplies and installs the Splash Block for the Rooftop Air Conditioners condensate drain?
General Contractor
M-003 Details – H.V.A.C. – Detail 8 Rooftop Air Conditioner Detail
3. What is the required size for the RTU Condensate Drain for 6 thru 10 tons?
1"
M-003 Details – H.V.A.C. – Detail 1 RTU Condensate Drain Detail
4. What Minimum Efficiency Rating Value (MERV) is required for the RTUs?
U.L. Class 2 MERV 13
M-002 Equipment Schedules – H.V.A. C. – Packaged DX Rooftop Air Conditioner, Accessories 17.
5. What is the cooling Design Conditions for the Warehouse?
78°F Dry Bulb and 50% RH Indoor Design (Cooling – Warehouse)
M-001 Notes, Legend, & Abbreviations H.V.A.C. – Design Conditions
6. What is the supply duct trunk size for the Mail/Work Room A20?
10x10
M-208 Main Office Floor Plan – H.V.A.C.

7. How many CFM are delivered to General Manager Room A13
350
M-208 Main Office Floor Plan – H.V.A.C.

8. What is the duct trunk size for the Return Air (RA) for RTU-5?
30x18
M-208 Main Office Floor Plan – H.V.A.C.

9. How many nominal tons is RTU-5?
7.5
M-002 Equipment Schedules – H.V.A. C. – Packaged DX Rooftop Air Conditioner

10. Where is EF-P1 installed?
Pump House
M-207 Partial Floor Plan and Enlarged Pump House – H.V.A.C.

11. What must be installed by the Mechanical Contractor for the Guard House?
Rooftop A/C Unit, Wall-Mounted Thermostat, and non-fused disconnect
M-210 Warehouse Offices and Restrooms Floor Plan – H.V.A.C. - Detail 8 Guard House – H.V.A.C.

12. What shall be used to connect Flex Duct Ends to Sheet Metal Duct and Diffuser Neck?
Nylon Ties
M-003 Details H.V.A.C. – Detail 9 Flexible Duct Take-Off Detail

13. What is HVLS and acronym for?
High Volume Low Speed Fan
M-003 Details H.V.A.C. – Detail 7 High Volume Low Speed (HVLS) Fan Detail

14. What manufacturer is identified for providing the Building Automation System?
Trane Tracer Summit or Equal
M-001 Notes, Legend, & Abbreviations – H.V.A.C. - HVAC General Notes

15. What manufacturers are acceptable for the HVLS Fans?
Products by Serco. Equal products by Big Ass Fans, Microaire
M-002 Equipment Schedules – H.V.A. C. – HVLS Fans

16. How many HVLS-A fans are installed in the warehouse?
19
M-202 Partial Floor Plan – H.V.A.C.

Specification Questions

17. What manufactures are specified for the Roof Curbs?

Custom Curb, Inc., Pate, Thycurb, Roof Products and Systems, Inc., or approved equal.
Section 23 0300 Roof Curbs – Products 2.1 A.

18. How shall Grilles, Registers and Diffusers be installed in the T-bar ceiling tiles?

All units located in ceiling tiles shall be centered or shall be on quarter points of 2 ft. x 2 ft. tiles.
23 3700-2 3.2 A

19. For Heating System Steam & Hot Water High Pressure/Temp how thick must the insulation be for pipe sizes 8 in. and larger?

4.5 in.
23 07700-1, 2.1 B.

20. What type piping shall be used for refrigerant piping?

Type L or refrigeration service copper tubing
23 2300 2.1 A.

21. Within what radius of the job site must the manufacturer of the Single Package Rooftop Air Conditioners have inventory or available parts?

100-mile
23 7400-1 1.1 A.

22. What shall the Electric Wall Heaters Front Grille be made of?

16 – Gauge steel or aluminum
23 8239.19-1, 2.1 B.

23. What must be provided for holes drilled in ductwork for test purposes?

Plastic Plugs
23 0593-1, 2.1 A.

24. How thick of a filter must the air handling unit for the split system heat pump be capable of accepting?

1" thick
23 8128-1 , 2.2 C.

25. What shall be provided for all floor mounted equipment?

4" thick housekeeping pads
23 0000-7, 3.4 B.