Mechanical and Plumbing

Workshops

2020 Edu-code
Environmental Note:
In consideration of the environment, this handout has been designed to conserve printing costs.

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Content Disclaimer
The information herein is provided for educational purposes only and shall not be treated as an official interpretation of the referenced codes or standards. Always refer to the complete code or standard when installing, replacing, or repairing any plumbing or mechanical system.
Instructions:

- For the following mechanical and plumbing code problems, assume that you are visiting a project for the purpose of inspection.
- For each problem, study the drawing and look for anything in the installation that is not in compliance with the current edition of the UPC/UMC and IPC/IMC
- Cite the code sections that are violated.
- For some problems, answer the question as asked.
- If sizing or dimensions are not shown, assume they are correct.
- If sizing is shown, correct to the minimum size.
- If fittings are not named, assume they are correct.
- This workshop is intended for discussion and learning purposes only.
- The answers given in this booklet are not intended to be used as official interpretations of the code.

- Select a Spokesperson from your table for each drawing.
- You will be given until break time to analyze your assigned IPC/IMC and UPC/UMC drawings for Code Compliance; if there are violations, give Code Sections.
- Spokesperson will be given an opportunity to present the findings of their table to the Workshop participants.
Drawings 2020 Edu-Code
Mechanical Workshop
Given:
The correct size, materials, pressure, and support for the furnace has an excess of 300 degrees.

Underfloor space has an excess of 300 degrees and 200 degrees.

Furnace GS300 BTU listed for closest installation with fan start and temp limit at 300 degrees and 200 degrees respectively.
Drawings 2020 Edu-Code
Plumbing Workshop
GIVEN:
Elementary school
Rainwater catchment system designed by registered PE - design temp. above 40° F
Use: Supply toilets, traps and floor drains
Rainwater treated to minimum water quality standards as determined by AHJ
System requires maintenance, annual cross-connection and inspection testing
Gutter and downspout in compliance with 1103.3
Signage in compliance with Chapter 16
GIVEN:
- Multipurpose system
- Sprinklers rated 135-170
- CPVC sprinkler piping properly sized and supported
- Flush mount sprinkler heads
- Insulated floor ceiling assembly
- Attic sprinklers code compliant

Closet
4' x 8'

Skylight
(30 sq. ft.)

Attic
sheathing
(Conditioned space)

R-38 Insulation

Furnace

18"

Dining Room

Laundry

Garage
(unconditioned)

3/8" Drain down hose bibb

300 PSI Guage

CPVC adapter

PEX T to domestic

1 1/2" PEX

rounded ceiling

12"
Given:
36,000 gallon pool
350,000 BTU pool heater
Aluminum flexible connector through wall properly sized
Make-up water connected to boiler drain with garden hose
Plumbing piping PVC
All electrical code compliant
GIVEN:
Minimum pressure 52 PSI
Highest elevation above meter 12'
Most remote outlet 135'
Water piping is PEX
Seismic zone F
Piping is properly supported
1 1/4 inch pan under water heater
Public occupancy
Electric WH code compliant
GIVEN:
Second floor of public four story building
Cross sectional code compliant
Battery venting (circuit)
All trap arms code compliant
Horizontal piping installed with 1/4 slope
GIVEN:
Public use college chemistry lab
Partial second floor of three story building
Cross sectional area has been met
1 Men’s and 1 Women’s restroom
All ceilings are a hard lid
Sinks are 3 FU special purpose and piped in chemical resistant CPVC
All fittings compliant to 706 and 704.2
All ADA requirements have been met