What are Commercial Building Design Standards?

Worksheet

Commercial building design standards are the building codes, occupancy rules and accessibility requirements that govern the safe, functional design of non-residential buildings, including egress width, occupant load and accessibility compliance.

Questions

1. How is occupant load calculated?

A) Floor area occupant load factor
B) Floor area occupant load factor
C) Number of doors 2
D) Ceiling height floor area

2. What does 'egress' refer to in commercial design?

A) The main entrance only
B) The path and means for safely exiting a building
C) The building's roof structure
D) Interior decoration

3. Why do accessibility standards matter in commercial design?

A) They are optional design trends
B) They ensure people with disabilities can access and use the building
C) They only apply to residential buildings
D) They replace fire codes

4. An office floor of 465 m has an occupant load factor of 9.3 m per person. What is the occupant load?

A) 50
B) 500
C) 4,325
D) 9.3

5. An open office floor is 600 m. The code's occupant load factor for business use is 9.3 m per person. What is the maximum occupant load?

6. A retail store is 300 m with an occupant load factor of 2.8 m per person (sales area). How many exits are required if code mandates two exits for occupant loads above 49?

7. A corridor must handle 200 occupants and code requires 5 mm of exit width per person for stairs. What minimum stair width is needed?

8. Define: What is occupant load?

9. Define: What is egress?

10. Define: Why does occupancy classification matter?

Answer Key

1. B) Floor area occupant load factor - Occupant load = floor area divided by the code's occupant load factor for that use.

2. B) The path and means for safely exiting a building - Egress covers all exits, corridors and stairs used to evacuate a building safely.

3. B) They ensure people with disabilities can access and use the building - Accessibility standards are legally required to ensure equal access.

4. A) 50 - 465 9.3 = 50 occupants.

5. Occupant load = floor area occupant load factor 600 9.3 64.5 Rounded, the maximum occupant load is 64 people.

6. Occupant load = 300 2.8 107 people Since 107 exceeds 49, the code requires at least two separate exits, remote from each other.

7. Minimum width = occupants width per person 200 5 mm = 1,000 mm = 1.0 m The stairway must be at least 1.0 m wide (subject to code minimums, often a larger absolute minimum applies).

8. The maximum number of people a space is designed to safely hold, calculated from floor area and an occupant load factor.

9. The path and means by which occupants exit a building safely, including exits, corridors and stairs.

10. It determines which code requirements - fire rating, exits, sprinklers - apply to the building.