

## SECTION 22 BUILDING CONSTRUCTION

### *Live Fire Training Prerequisite*

- 22-I.01 Trainee shall describe the relationship of building construction to fire behavior by:  
**NFPA 1001 4.3.4.A, 4.3.12.A**
- A. identifying the types of loads placed on a structure
  - B. identifying loads as to the direction in which they are placed on structural members
  - C. describing the effect of loads on various materials
  - D. identifying terms associated with building construction
- 22-I.02 Trainee shall identify the various types of building construction characteristics:  
**NFPA 1001 4.3.12.A**
- A. Type 1 – Fire Resistant
  - B. Type 2 – Noncombustible or limited combustible
  - C. Type 3 – Ordinary
  - D. Type 4 – Heavy Timber
  - E. Type 5 – Wood
- 22-I.03 Trainee shall describe the various structural elements in building construction by:  
**NFPA 1001 4.3.4.A, 4.3.12.A**
- A. defining fire resistance
  - B. identifying foundation assemblies, foundation walls, floor assemblies, ceilings and ceiling assemblies, various types of wall construction, roof types, roof coverings, roof supports
  - C. identifying potential hidden spaces in structural elements that would allow for communication of fire and smoke
- 22-I.04 Trainee shall identify the various building services for:  
**NFPA 1001 4.3.4.A, 4.3.12.A**
- A. movement of people throughout a structure; elevators and stairways
  - B. mechanical operations of a building; heating, ventilating and air conditioning systems, utility chases and vertical shafts
  - C. emergency accessibility in buildings; windowless walls, access panels, roof hatches, smoke and heat vents, and skylights
- 22-I.05 Trainee shall identify door and window assemblies by:  
**NFPA 1001 4.3.4**
- A. various types
  - B. describing fire doors and their method of operation
  - C. identifying typical types of door construction
  - D. identifying various window assemblies
  - E. identifying types of windows
- 22-I.06 Trainee shall identify signs of potential collapse of a structure:  
**NFPA 1001 4.3.12.A**
- A. cracks in walls
  - B. sagging roof
  - C. walls out of line

22-I.07 Trainee shall define the following terms as they relate to building construction:

**NFPA 1001 4.3.4**

- A. veneer wall (exterior)
- B. party wall
- C. fire wall
- D. partition wall
- E. cantilever or unsupported wall
- F. load bearing

*Firefighter I - There are no objectives required for this certification level.*

*Firefighter II*

22-II.01 Trainee shall identify causes of potential collapse in buildings:

**NFPA 1001 5.3.2**

- A. deterioration
- B. forces associated with the violence of a fire
- C. structural modifications found during pre-fire planning

22-II.02 Trainee shall describe at least three (3) hazards associated with light-weight truss construction.

**NFPA 1001 5.3.2**

22-II.03 Trainee shall describe the effects of fire and fire suppression activities on the following building materials:

**NFPA 1001 5.3.2**

- A. wood
- B. masonry, i.e. brick, block, stone
- C. cast iron
- D. steel
- E. reinforced concrete
- F. gypsum wall board
- G. glass
- H. plaster on lathe