SECTION 22  BUILDING CONSTRUCTION

Live Fire Prerequisite

22-I.01 Trainee shall describe the relationship of building construction to fire behavior by:

**NFPA 1001 5.3.4.A, 5.3.12.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 5.3.12.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 5.3.4.A, 5.3.12.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 5.3.4.A, 5.3.12.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 5.3.4**

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 5.3.12.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 5.3.4**

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 6.3.2**

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 6.3.2**

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

**NFPA 1001 6.3.2**

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