

**SECTION 30 BUILDING CONSTRUCTION**

The Certification Board suggest it will take a class of **40** individuals **12** hours to cover the following objectives in this section (actual time may vary based on class size).

**BASIC**

*No objectives currently required*

**INTERMEDIATE**

*No objectives currently required*

**ADVANCED**

- 30-03.01 Trainee shall describe the relationship of building construction to fire behavior by:
- identifying the types of loads placed on a structure
  - identifying loads as to the direction in which they are placed on structural members
  - describing the effect of loads on various materials
  - identifying terms associated with building construction
- 30-03.02 Trainee shall identify the various types of building construction characteristics:
- |             |                   |                    |
|-------------|-------------------|--------------------|
| A. wood     | C. steel          | E. heavy timber    |
| B. ordinary | D. fire resistive | F. non-combustible |
- 30-03.03 Trainee shall describe the various structural elements in building construction by:
- defining fire resistance,
  - identifying foundation assemblies, foundation walls, floor assemblies, ceilings and ceiling assemblies, various types of wall construction, roof types, roof coverings, roof supports, and
  - identifying potential hidden spaces in structural elements that would allow for communication of fire and smoke
- 30-03.04 Trainee shall identify the various building services for:
- movement of people throughout a structure; elevators and stairways,
  - mechanical operations of a building; heating, ventilating and air conditioning systems, utility chases and vertical shafts, and
  - emergency accessibility in buildings; windowless walls, access panels, roof hatches, smoke and heat vents, and skylights.
- 30-03.05 Trainee shall identify door and window assemblies by:
- various types
  - describing fire doors and their method of operation
  - identifying typical types of door construction
  - identifying various window assemblies
  - identifying types of windows
- 30-03.06 Trainee shall identify signs of potential collapse of a structure:
- cracks in walls
  - sagging roof
  - walls out of line
- 30-03.07 Trainee shall identify causes of potential collapse in buildings:
- deterioration
  - forces associated with the violence of a fire
  - structural modifications found during prefire planning
- 30-03.08 Trainee shall describe at least three (3) hazards associated with light-weight truss construction.
- 30-03.09 Trainee shall describe the effects of fire and fire suppression activities on the following building materials:
- |                                      |                        |
|--------------------------------------|------------------------|
| A. wood                              | E. reinforced concrete |
| B. masonry, i.e. brick, block, stone | F. gypsum wall board   |
| C. cast iron                         | G. glass               |
| D. steel                             | H. plaster on lathe    |
- 30-03.10 Trainee shall define the following terms as they relate to building construction:
- |                           |                                   |
|---------------------------|-----------------------------------|
| A. veneer wall (exterior) | D. partition wall                 |
| B. party wall             | E. cantilever or unsupported wall |
| C. fire wall              | F. load bearing                   |