



Pennsylvania State Fire Academy

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Minimum Standard for Accreditation (MSA)

July 1992

Course Title: Building Construction for Fire Suppression Forces: Fire Resistive and Non-Combustible Construction (NFA) (BCN)

Length of Course: 16 Hours

Lecture/Lab Breakdown: 16/0

Prerequisites: IST

Referenced Texts: NFA Instructor Guide and Student Manual.

Course Goal: Upon completion of this course, the student will be able to recognize the key features of non-combustible and fire-resistive structures that affect emergency operations.

Description of Course: The failure of a building or building components under fire conditions is a leading cause of fire fighter death and injury. The ability to recognize and locate relevant information about a building before a fire, and to "read" a building during the course of a fire incident, are essential survival skills. This course gives the student the ability to accomplish these tasks when confronted with a building of fire-resistive or non-combustible construction. The unique problems of conducting emergency operations in buildings under construction are also addressed.

Description of Methodology to be used: (Brief) A combination of lecture and guided discussion, with some individual and group activity, is used.

Student Equipment/Supply Needs: Pen/Pencil, Notebook; 1 copy of Student Manual for this course.

Equipment/Audiovisual/Supply requirements: Classroom with adequate seating; chalkboard or flip chart; 35 mm slide projector with synchronized tape player; OHT projector; adequate screen(s); 1 copy of Student Manual for each student; BCN AV kit.

COURSE OUTLINE

<u>Time</u>	<u>Content</u>
1:30	Introduction
2:45	Steel as a Structural Material
2:45	Concrete as a Structural Material
3:00	The Principles of Fire Growth in Buildings
3:00	The Principles of Smoke Spread in Buildings
2:00	Special Problems of Buildings Under Construction
1:00	Summary/Examination

(continued)

MINIMUM STANDARDS FOR ACCREDITATION

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Page 2 of 2

Competency Evaluation Mechanism (Brief description-attach copy): 20 question written exam selected from exam bank provided with the Instructor's Guide.

Course Objectives (specific):

1. The student will cite key features of non-combustible or Fire-resistive buildings that affect emergency operations.
2. Given appropriate visual or verbal information on the use of steel in a structure, the student will identify key factors that may be expected to lessen or increase its resistance to stress and fire.
3. Given appropriate visual or verbal information on the use of concrete in a structure, the student will identify key factors that increase or lessen its resistance to stress and fire.
4. The student will apply basic principles of fire growth analysis to assess the implications for fire growth of two trends in modern building design.
5. The student will identify and discuss fire concerns related to interior finish.
6. Given appropriate visual or verbal information on a given non-combustible or fire-resistant structure the student will assess the probable impact of the following factors on smoke spread buoyancy, expansion, stack effect, wind, HVAC, smoke control systems, fire protection systems, detection systems, and spatial characteristics.
7. Given appropriate visual or verbal information on buildings under construction, the student will list features that may adversely affect effectiveness or safety of emergency operations.

BCN92