

A low-angle, upward-looking photograph of several tall skyscrapers. The buildings are covered in glass windows, and the perspective creates a sense of height and scale. The sky is a pale, hazy blue. The text is overlaid on the right side of the image.

Truss Marking Update

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The Hazard 2000-2009

- 138 Firefighters Died While Operating Inside at Structure Fires
- 71 Occurred at One-and Two-family Dwellings
 - 46 Died Due to Structural/Floor/Roof/Ceiling Collapse
 - Unknown How Many of the 46 were in Structures other than One-and Two-Family Dwellings

The Hazard for 2009

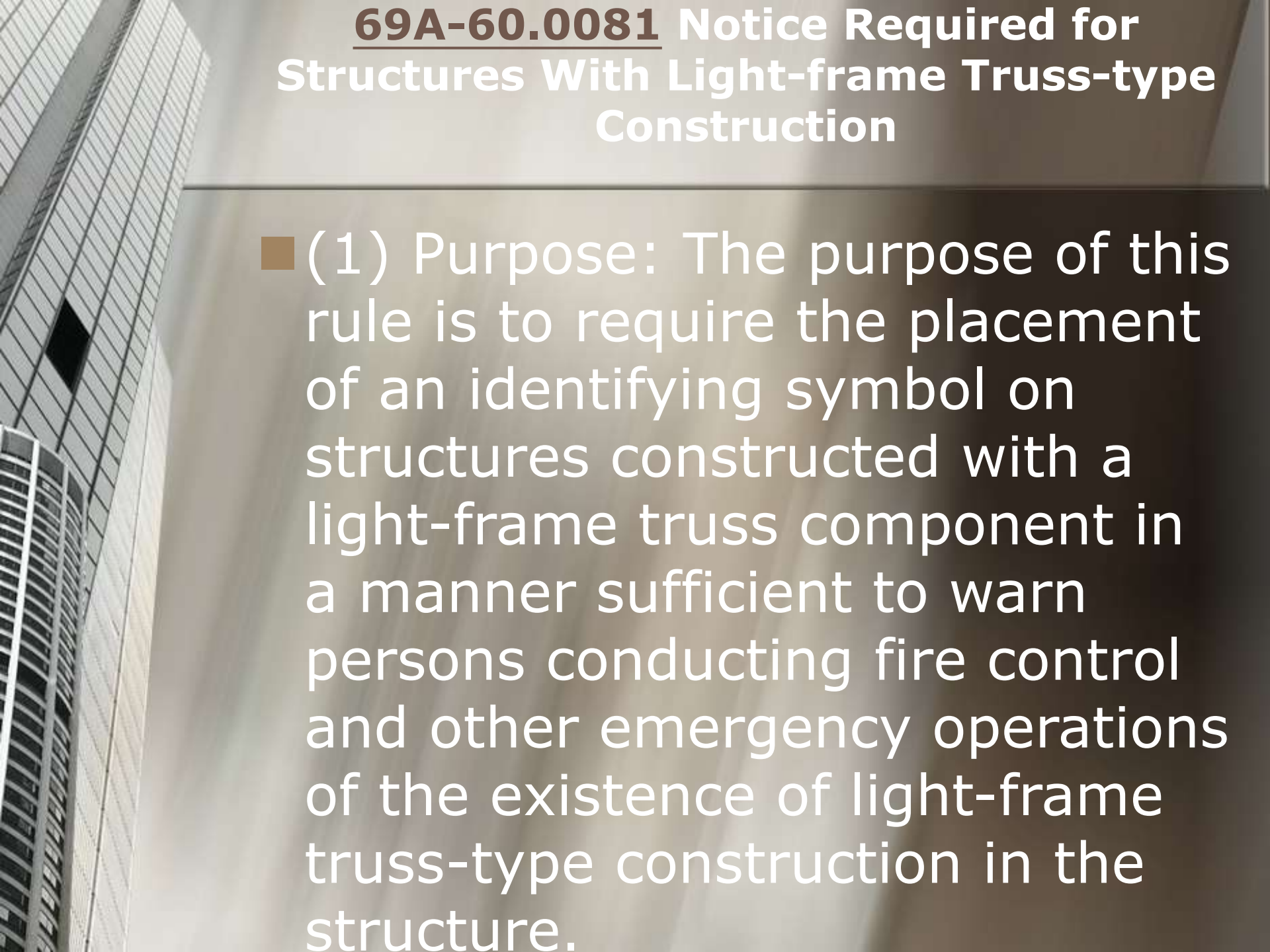
- A Total of 82 Firefighters Died in the Line of Duty
 - ⑩ Of Those, 27 Occurred on the Fireground
 - ⑩ Of Those, 17 Occurred in Structural Fires
 - ⑩ Of those, 6 Occurred in Structures Other Than SFDs
 - ⑩ Unknown How Many of the Six were Due to Structural Collapse

Note: None of the Structural Fire Deaths Occurred in Buildings Protected by a Fire Sprinkler System

Source: US Fire Administration

Current Statutory Language

- 633.027 Buildings with light-frame truss-type construction; notice requirements; enforcement.— (1) The owner of any commercial or industrial structure, or any multiunit residential structure of three units or more, that uses light-frame truss-type construction shall mark the structure with a sign or symbol approved by the State Fire Marshal in a manner sufficient to warn persons conducting fire control and other emergency operations of the existence of light-frame truss-type construction in the structure.



69A-60.0081 Notice Required for Structures With Light-frame Truss-type Construction

- (1) Purpose: The purpose of this rule is to require the placement of an identifying symbol on structures constructed with a light-frame truss component in a manner sufficient to warn persons conducting fire control and other emergency operations of the existence of light-frame truss-type construction in the structure.

Definitions

- 10 (a) “Light-frame truss-type construction” means a type of construction whose primary structural elements are formed by a system of repetitive wood or light gauge steel framing members.
- 10 (b) “Approved symbol” means a Maltese Cross measuring 8 inches horizontally and 8 inches vertically, of a bright red reflective color, designed in accordance with Figure 1.

Application

- (3) Any commercial, industrial, or multiunit residential structure of three units or more, which uses horizontal or vertical light-frame truss-type construction in any portion shall be marked with an approved symbol. Townhouses are not multiunit residential structures and therefore not subject to this rule. . . .

Location

- (4) The approved symbol shall be placed within 24 inches to the left of the main entry door and. . .:
- (5) The distance above the grade, walking surface or the finished floor to the bottom of the symbol shall be not less than 4 feet (48 in.).
- (6) The distance above the grade, walking surface or the finished floor to the top of the symbol shall be not more than 6 feet (72 in.).

Multiple Entrances

- (7) In single tenant structures with multiple main entry doors, such as big box retail stores, department stores and grocery stores, the authority having jurisdiction is authorized to require that other main entry doors of the structure be marked with an approved symbol to carry out the purpose in subsection (1) above.

Multiple Tenants

- (8) In Multiple tenant structures and covered mall structures with multiple main entry doors, the authority having jurisdiction is authorized to require that other main entry doors of the structure be marked with an approved symbol to carry out the purpose in subsection (1) above.
- (9) In multiple tenant structures and covered malls with multiple main entry doors, the authority having jurisdiction is authorized to require that other main entry doors be marked with an approved symbol to carry out the purpose in subsection (1) above. In such structures, approved symbols shall be marked on one side of the structure only and spaced not closer than 100 feet or at each end of the structure when such structure is less than 100 feet in length.



Time Frame for Compliance

- (10) The owner of each new structure required to comply with this section shall mark the structure with the approved symbol prior to receiving a certificate of occupancy.
- (11) The owner of each existing structure required to comply with this section shall mark the structure with the approved symbol within 90 days of the effective date of this rule.

Disputes Over Construction Type

- (12) Where the owner of the structure and the authority having jurisdiction disagree as to the use of light-frame truss-type construction within the structure, the owner shall be granted not more than 45 days to provide written verification from a licensed engineer or licensed architect; otherwise, the owner shall comply with the rule.

What is Light Frame Construction?

- Wood or Lightweight Steel Cold Formed Trusses
- Wooden I-Joists
- Composite wood Joists
- Cold Formed Steel Joists
- Engineered Components
- Does Not Include:
 - Steel Bar Joists-DEC Statement
 - Heavy Timber
 - Conventional Wood Construction

Included



Included



Included



Included



Not Included



Not Included



Proposed Statutory Revision 2011 Legislative Session

- Expanded Definition to Include:
 - Conventional Lumber
 - Steel Joists
 - Added Dimensions
 - Would Have Resulted in Marking 90%+ of Buildings in the State
- Allowed Signs at the Entrances to Large Complexes
- Died Before Committee Hearing

112.182 "Firefighter rule" abolished.

- (1) A firefighter or properly identified law enforcement officer who lawfully enters upon the premises of another in the discharge of his or her duty occupies the status of an invitee. The common-law rule that such a firefighter or law enforcement officer occupies the status of a licensee is hereby abolished.
- (2) It is not the intent of this section to increase or diminish the duty of care owed by property owners to invitees. Property owners shall be liable to invitees pursuant to this section only when the property owner negligently fails to maintain the premises in a reasonably safe condition or negligently fails to correct a dangerous condition of which the property owner either knew or should have known by the use of reasonable care or negligently fails to warn the invitee of a dangerous condition about which the property owner had, or should have had, knowledge greater than that of the invitee.

Operational Issues

- Training is a Priority
 - When are signs required?
 - What types of building are exempt?
 - What does the presence of a sign mean?
 - What does the lack of a sign mean?
 - Marked buildings maybe safer than unmarked Buildings!

Operational Issues

- No Substitute for Pre-fire Planning
- Some Jurisdictions are not Requiring Compliance
- Mutual Aid/First Response
- Rural/Urban
- Time Frame for Compliance
- Lack of Consistent Statewide Training Message
- When the System Fails, It Provides a False Safe Indication

Customer Issues

- Sign is Ugly
- Sign Creates a “Scarlet Letter”
- What is wrong with my building?
- No Exemption for Small Buildings (sheds)
- No Exemption for Historical Buildings
- No Alternatives for Location When Impractical
- Due to Liability, Marking Buildings that Should not Be Marked

A low-angle, upward-looking photograph of a modern skyscraper with a grid-like facade, partially obscured by a dark, semi-transparent overlay that serves as a background for the text.

Enforcement Issues

- Location is Very Prescriptive
- No Exceptions
 - Building Size
 - Minor Use of Elements
 - Historical Buildings
- Misinterpretation of Statute and Rule
 - Statute only states: Commercial, Industrial, Multi-Family Residential
- Identification of Construction Elements
- If in Doubt, Mark Approach
- Buildings that Should Not Be Marked
- High Profile Issue=High Liability

A low-angle, upward-looking photograph of a modern skyscraper with a grid-like facade. The building is on the left side of the frame, and the rest of the background is a blurred, warm-toned sky or interior space.

UL Testing and Education

- UL Testing

- UL University Course









FIELD ISSUES



Light Weight Truss

Floor System









A low-angle, upward-looking photograph of a modern skyscraper with a grid-like facade of windows. The building is partially obscured by a semi-transparent dark grey rectangular overlay that serves as a background for the text.

Needs

- Further Testing of Bar Joist Assemblies
- A BFST Education Program for Firefighters with Consistent Messages
- Review Technical Aspects of Statute and Rule and
- Look at Comprehensive Approach to Objective of Firefighter Safety Due to Light-Frame Construction-Not Just Place a Sign



QUESTIONS