



# CONSTRUCTION SITE FIRE SAFETY



There have been several recent large-scale fires at construction sites, causing multi-millions of dollars in damage, as well as potential personal injury and loss beyond the structure of origin. Much, if not all, of these losses could have been eliminated with the proper safeguards. The leading causes of fires in structures under construction are cooking equipment, electrical distribution and lighting equipment, and heating equipment. NFPA® 241, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*, provides measures for preventing or minimizing fire damage to structures during construction, alteration, or demolition.

## Risk Factors for Buildings Under Construction

Complying with NFPA 241 helps you manage and mitigate risks that can lead to catastrophic and costly events at construction sites. From a carelessly disposed cigarette to failure to properly store or dispose of combustible materials, these fires often result from lack of awareness and understanding of fire risks and consequences, and they are almost always preventable. Some of the risk factors for these buildings include the following:

- Buildings under construction may not have all the fire protection systems they will have once the building is completed. Systems such as sprinklers, smoke detection, and fire alarms may not yet be installed and operational.
- Construction sites are often unsecured and are vulnerable to trespassing, which can lead to vandalism, theft, and intentionally set fires.
- Ignition sources are common on construction sites, including equipment (such as heaters) and hot work (such as welding, cutting, grinding, soldering, and roofing of various kinds). Any lapse in adherence to safety procedures may result in damage to the site itself as well as to adjacent buildings and can put site workers, civilians, and first responders at risk of injury and death.

## Key Issues

- NFPA 241 must be followed regardless of the building materials used.
- Construction sites must be safeguarded around the clock, not just when work is being done.
- Even if you avoid an incident, or only experience a small incident, failure to comply with the requirements of NFPA 241 may result in work stoppage, delays, and/or costly fines.
- Beyond potential personal injury, death, and direct dollar loss, the impacts of construction site fires can have far-reaching, long-term economic and other community impacts.

## CONSTRUCTION SITE FIRE DATA

Annual Averages from 2013-2017

- ▶ 3,840 construction site fires/year
- ▶ 4 civilian deaths/year
- ▶ 49 civilian injuries
- ▶ \$304M in direct property loss

For more details, visit [nfpa.org/constructionfires](https://www.nfpa.org/constructionfires) to access the latest data in "Fires in Structures Under Construction or Renovation," (2020) from NFPA Applied Research.



# CONSTRUCTION SITE FIRE SAFETY *continued*

## Application and Compliance

NFPA 241 covers the following topics:

- Temporary construction, equipment, and storage
- Processes and hazards
- Utilities
- Fire protection
- Safeguarding various operations, such as:
  - Construction and alterations
  - Roofing
  - Demolition
  - Underground operations

The following documents all require compliance with NFPA 241:

- NFPA® 1, *Fire Code*
- NFPA 5000®, *Building Construction and Safety Code*®
- *International Building Code*® (IBC®)
- *International Fire Code*® (IFC®)
- *International Residential Code*® (IRC®)

## WHAT YOU SHOULD KNOW



If you are a **code official**, you **MUST** know and enforce the requirements of NFPA 241 on the building owner.



If you are a **fire chief**, you **MUST** be involved in the creation of a prefire plan and train all personnel on the plan.



If you are a **building owner** with a building under construction, alteration, or demolition, you **MUST** have a fire prevention program manager (FPPM) per NFPA 241.



If you are a **contractor** or **someone working on a job site** you **MUST** follow NFPA 241 and the direction of the FPPM.

## DID YOU KNOW?

If you live in a state where NFPA 1, the IFC, or the IRC has been adopted, the requirements of NFPA 241 are not optional—they must be followed, regardless of job size.

## Learn More

- ▶ Visit [nfpa.org/241](https://nfpa.org/241) to get free digital access to the standard.
- ▶ Register for NFPA training programs: [nfpa.org/buildingsafetyfundamentals](https://nfpa.org/buildingsafetyfundamentals).
- ▶ Read the *NFPA Journal*® article: “**Danger: Construction.**”
- ▶ Contact your fire department or building official for specific local information.
- ▶ Access the latest research: [nfpa.org/constructionfires](https://nfpa.org/constructionfires).
- ▶ Review the latest news and resources: [nfpa.org/241news](https://nfpa.org/241news).
- ▶ Subscribe to NFPA LiNK™ for digital access to NFPA 241 and other NFPA codes and standards: [nfpa.org/link](https://nfpa.org/link).



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