



Safeguarding Construction, Alteration, and Demolition Operations

NFPA statistics show that numerous fires are started during construction or demolition work. NFPA 241 the standard for Safeguarding Construction, Alteration, and Demolition Operations is intended to prescribe minimum safeguards to provide reasonable safety to life and property from fire during such operations, as well as providing measures for preventing or minimizing fire damage during construction

Temporary Offices and Sheds.

Separation distances between buildings under construction and construction-related structures, such as temporary offices, trailers, sheds, and other facilities for the storage of tools and materials having combustible construction or contents, shall be in accordance with Table 4.2.1.

Temporary Enclosures.

only noncombustible panels, flame-resistant tarpaulins, or approved materials of equivalent fire-retardant characteristics shall be used.

Any other fabrics or plastic films used shall be certified as conforming to the requirements

Fire Extinguishers.

Temporary enclosures shall be equipped with a minimum of one fire extinguisher suitable for all classes of fires that are expected inside the enclosure.

Fire extinguishers shall be located so that travel distance to a fire extinguisher does not exceed 15 m (50 ft).

At least one approved fire extinguisher also shall be provided in plain sight on each floor at each usable stairway as soon as combustible material accumulates.

Suitable fire extinguishers shall be provided on self-propelled equipment.

Equipment.

Internal combustion engines and associated equipment, such as air compressors, hoists, derricks, pumps, and similar devices, shall be located so that the exhausts discharge well away from combustible materials.

Where the exhausts are piped outside the structure under construction, alteration, or demolition, a clearance of at least 230 mm (9 in.) shall be maintained between such piping and combustible material.

Internal combustion engines and associated equipment shall be shut down and allowed to cool sufficiently prior to refueling.

Temporary Heating Equipment.

temporary heating equipment shall be listed and shall be installed, used, and maintained in accordance with the manufacturer's instructions.

Smoking.

Smoking shall be prohibited at or in the vicinity of hazardous operations or combustible/flammable materials. "No smoking" signs shall be posted in these areas.

Smoking shall be permitted only in designated areas.

Where smoking is permitted, safe receptacles for smoking materials shall be provided.

Waste Disposal.

Accumulations of combustible waste material, dust, and debris shall be removed from the structure and its immediate vicinity at the end of each work shift or more frequently as necessary for safe operations.

Rubbish shall not be burned on the premises without first obtaining a permit from the authority having jurisdiction.

Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a listed disposal container.

Electrical.

All construction-operation electrical wiring and equipment for light, heat, or power purposes shall be in accordance with the applicable provisions of NFPA 70, National Electrical Code.

Lighting.

Temporary lights shall be equipped with guards to prevent accidental contact with the bulb unless the construction of the reflector is such that the bulb is deeply recessed.

Temporary lighting fixtures, such as quartz, that operate at temperatures capable of igniting ordinary combustibles shall be fastened securely so that the possibility of their coming in contact with such materials is precluded.

Fire Safety Program.

An overall construction or demolition fire safety program shall be developed. Essential items to be emphasized include the following:

- (1) Good housekeeping
- (2) On-site security
- (3) Installation of new fire protection systems as construction progresses
- (4) Preservation of existing systems during demolition
- (5) Organization and training of an on-site fire brigade
- (6) Development of a pre-fire plan with the local fire department
- (7) Rapid communication
- (8) Consideration of special hazards resulting from previous occupancies
- (9) Protection of existing structures and equipment from exposure fires resulting from construction, alteration, and demolition operations

Owner's Responsibility for Fire Protection.

The owner shall designate a person who shall be responsible for the fire prevention program and who shall ensure that it is carried out to completion.

Site Security.

Guard service shall be provided where required by the authority having jurisdiction.

Where guard service is provided, the guard(s) shall be trained in the following:

- (1) Notification procedures that include calling the fire department and management personnel
- (2) Knowledge of fire protection equipment
- (3) Familiarization with fire hazards
- (4) Use of construction elevators

Entrances (e.g., doors and windows) to the structure under construction, alteration, or demolition shall be secured where required by the authority having jurisdiction.

Fire Alarm Reporting.

There shall be a readily available public fire alarm box near the premises, telephone service to the responding fire department, or equivalent facilities.

Instructions shall be issued for the immediate notification of the fire department in the case of a fire. Where telephone service is employed, the local fire department number and site address shall be conspicuously posted near each telephone.

Access for Fire Fighting.

A suitable location at the site shall be designated as a command post and provided with plans, emergency information, keys, communications, and equipment, as needed.

The person in charge of fire protection shall respond to the location command post whenever fire occurs.

Where access to or within a structure or an area is unduly difficult because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the authority having jurisdiction shall be permitted to require a key box to be installed in an accessible location.

Access Roadways.

Every building shall be accessible by fire department apparatus by means of roadways having an all-weather driving surface of not less than 6100 mm (240 in.) of unobstructed width, having the ability to withstand the live loads of fire apparatus, and having a minimum of 4100 mm (162 in.) of vertical clearance.

Access for use of fire department apparatus shall be provided to the immediate job site at the start of the project and maintained until completion.

The required width of access roadways shall not be obstructed in any manner, including obstruction by parked vehicles.

The access roadway shall be extended to within 46 m (150 ft) of all portions of the exterior walls of the first story of any building.

Where an access roadway cannot be provided, an approved fire protection system or systems shall be provided as required and approved by the authority having jurisdiction.

Stairs.

In all buildings over one story in height, at least one stairway shall be provided that is in usable condition at all times and that meets the requirements of NFPA 101, Life Safety Code. This stairway shall be extended upward as each floor is installed in new construction and maintained for each floor still remaining during demolition.

The stairway shall be lighted.

During construction, the stairway shall be enclosed where the building exterior walls are in place.

Hydrants.

Free access from the street to fire hydrants and to outside connections for standpipes, sprinklers, or other fire extinguishing equipment, whether permanent or temporary, shall be provided and maintained at all times.

Protective pedestrian walkways shall not be constructed so that they impede access to hydrants.

No material or construction shall interfere with access to hydrants, siamese connections, or fire extinguishing equipment.

Standpipes.

In all new buildings in which standpipes are required or where standpipes exist in buildings being altered or demolished, such standpipes shall be maintained in conformity with the progress of building construction in such a manner that they are always ready for use.

Building Separation Walls.

Fire walls and exit stairways, where required for the completed building, shall be given construction priority for installation.

Fire doors with approved closing devices and hardware shall be installed as soon as is practicable and preferably before combustible material is introduced.

Water Supply.

A water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible material accumulates.

There shall be no delay in the installation of fire protection equipment.

Sprinkler Protection.

If automatic sprinkler protection is to be provided, the installation shall be placed in service as soon as practicable.

Where sprinklers are required for safety to life, the building shall not be occupied until the sprinkler installation has been entirely completed and tested so that the protection is not susceptible to frequent impairment caused by testing and correction, unless otherwise permitted.

The provision shall not prohibit occupancy of the lower floors of a building, even where the upper floors are in various stages of construction.

OFFICE OF THE STATE FIRE MARSHAL & STATE FIRE ACADEMY

Central Office Berlin 802-479-7561 **State Fire Academy Office** Pittsford 802-483-2755
Regional Offices Barre 802-479-4434 * Rutland 802-786-5867 * Springfield 802-885-8883 * Williston 802-879-2300

www.vtfiresafety.org