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# Informational Guide: Considerations For Purchasing An Evacuation Devise For Use In Your Building

Emergency evacuation devices (often referred to as stair chairs) allow provide people with mobility disabilities with a potential option to exit a building during a fire or other emergency using the stairs prior to the arrival of the New York City Fire Department’s (FDNY) Fire and EMS Units. The devices may also be of assistance during power outages or when elevators are not functioning for extended periods of time. The decision to purchase and pre-position the devices in your building requires many considerations and careful planning as outlined below.

## General Considerations:

* The device can only be operated with assistance.
* The device would be for use by building staff and/or volunteers alone because the FDNY and EMS uses their own specialized equipment.
* Not all emergencies require immediate evacuation. In fact, in many fire emergencies it is safer to shelter in place and await instructions.
* Elevators can generally be used in non-fire situations.
* Ultimately, you should to do your own research and make decisions based on the specific considerations below and the characteristics of your individual building and its occupants.

## Specific Considerations:

* Building Construction and Evacuation Guidance: The FDNY’s guidance on fire safety evacuation instructions for residents is based on whether a building is fireproof or non-fireproof and whether the fire is in your apartment or some other part of the building. A fireproof or non-combustible building is constructed with materials that do not burn or are resistant to burning. However, even if a building is fireproof, the buildings’ internal components (carpets, furniture, etc.) will burn. Generally, if a building is considered to be fireproof, residents are encouraged to stay inside their apartments unless the fire is in your apartment. In contrast, residents in non-fireproof building are encouraged to evacuate. We encourage you to review FDNY’s [Know if You Live in a Fireproof or Non-Fireproof Building](http://www.fdnysmart.org/wp-content/uploads/2016/10/final-tip-sheet-on-fireproof-nonfireproof-english.pdf) webpage.
* Building Occupant Characteristics: National groups that have reviewed the use of evacuation devices such as the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) suggest matching the device to the anticipated user. Considerations should be given to the location within the building of the person with a disability, the person’s physical abilities, the person’s willingness to use the device, and ability to understand instructions while being provided assistance. This means discussions between residents and building management to determine specific situations and needs.**[[1]](#footnote-1)**
* Stairway Characteristics: According to the National Institute of Standards and Technologies (NIST) the width of evacuation chairs generally ranges from 16.8 to 23 inches. It is important to know the width and turning radius of the device selected to ensure that the stairwells, landings, and exit corridors in your building allow for the safe movement for both the evacuee using the evacuation device and others using the same staircase to leave the building. The assessment should be based on the width of stairs and landing size; the width of the device; the number of people or volunteers assisting with the evacuation chair**[[2]](#footnote-2)**; and the number of other people who may be using the same staircase to evacuate. The additional resources listed below may provide valuable assistance.
* Volunteers: Individuals in the building willing to assist the person with a disability using the device should be identified in advance (between 1-4 persons may be necessary, depending on the individuals involved and the type of device being used). Office buildings and hotels are required to prepare fire safety plans that include procedures for providing assistance to persons who would have difficulty evacuating or relocating within the building evacuation assistance.**[[3]](#footnote-3)** Individual buildings should assess potential liability for staff and volunteers.
* Training: Consult the manufacturer’s user manual for information about recommended training and other guidance.
* Storage: Store the devices in a safe, secure, and readily accessible location. Consult the NYC Building and Fire Code requirements listed below to make sure the location chosen meets NYC code requirements for hallway and/or staircases.

* Maintenance: Regular inspection and maintenance will help ensure that the evacuation device will operate appropriately and effectively when needed. Consult the manufacturer’s user manual for inspection and maintenance guidelines. When using maintenance products, remember to follow the manufacturer’s instructions.
* Emergency Action Plan for Commercial Buildings: If you purchase and place an evacuation device in a commercial building, NYC Fire Code generally requires that the presence of the evacuation device be noted in your building’s Emergency Action Plan.**[[4]](#footnote-4)**

## Types of Chairs Available:

* There are two main types of evacuation devices chair*s* on the market. Prices vary considerably and there are presently no national safety standards to which they are held. It is, therefore, important to conduct your own research.
* Track-Type Devices use a motorized track or belt system that is in contact with the stair steps. Some track-type devices allow for a single-operator to assist because the operator is not required to support the weight of the device and its occupant. The operator need only guide the occupant and device down the stairs.
* Carry-Type Devices are specially designed metal chairs that require the assistance of two or more people or volunteers to carry the device and its occupant down the stairs.
* Other carry-type devices could include customized fabric slings, and slip mats. Most carry-type devices require more than one person to assist with carry handles because the operators need to support the weight of the occupant.

## Additional Research Resources:

* National Institute of Standards and Technology, U.S. Department of Commerce, “[Guidance on Fire Emergency Procedures for Emergency Stair Travel Devices](http://dx.doi.org/10.6028/NIST.TN.1824)”, Erica D. Kuligowski
* [NYC Fire Code On-Line](https://www1.nyc.gov/assets/fdny/pdfviewer/viewer.html?file=Chapter-04.pdf&section=firecode_2014)
* [NYC Fire Department Rules, Code Development Unit](http://www1.nyc.gov/assets/fdny/downloads/pdf/business/nyc-fire-code-guide.pd)
* [National Fire Prevention Association (NFPA) Emergency Evacuation Planning Guide for People with Disabilities](http://www.nfpa.org/Public-Education/By-topic/People-at-risk/People-with-disabilities)
* Rehabilitation, Engineering and Assistive Technology Society of North America (RESNA)
* [Position Paper on the Use of Evacuation Chairs](http://www.resna.org/sites/default/files/legacy/atStandards/documents/RESNA%20Position%20Paper%20Evac%20Chairs_0.pdf):
* ANSI/RESNA ED-1:2013, American National Standard for Evacuation Devices – Volume 1: Emergency Stair Travel Devices Used by Individuals with Disabilities. This standard covers evacuation chairs which have a track system to enable controlled travel down stairs during emergency evacuations. The standard covers device terminology, measurement methods, minimum weight capacities, acceptable storage locations, and annual inspection requirements. To find out more about the standard and order information visit [RESNA.org](https://www.resna.org/sites/default/files/legacy/atStandards/documents/ED1_SellSheet_).

1. See National Institute of Standards and Technology, U.S. Department of Commerce, “[Guidance on Fire Emergency Procedures for Emergency Stair Travel Devices](http://dx.doi.org/10.6028/NIST.TN.1824)”, Erica D. Kuligowski, [↑](#footnote-ref-1)
2. See “[NIST Technical Note” 1923 Perspectives of Occupants with Mobility Impairments on Fire Evacuation and Elevators August 2016](https://nvlpubs.nist.gov/nistpubs/TechnicalNotes/NIST.TN.1923.pdf) [↑](#footnote-ref-2)
3. See [Chapter 4, NYC Fire Department Rules, Code Development Unit, December 1, 2016](https://www1.nyc.gov/assets/fdny/downloads/pdf/about/fdny-rules-7-01-15.pdf) [↑](#footnote-ref-3)
4. See [Section 401.4.3, 10.14 of the New York City Fire Code](https://www1.nyc.gov/assets/fdny/pdfviewer/viewer.html?file=Chapter-04.pdf&section=firecode_2014) at [↑](#footnote-ref-4)