



After the terrorist attacks on the World Trade Center in 2001, the New York City Department of Buildings assembled the World Trade Center Building Code Task Force to rethink high-rise building safety codes, review current building design, construction and operating requirements for high-rise office buildings and determine if modifications were needed to enhance public safety.

In February 2003, the task force released its findings, which recommended changes to how high-rise office buildings are designed and how they function during an extreme event. The task force focused on structural strength, evacuation and egress, fire protection and mechanical systems. On June 24, 2004, Local Law 26 of 2004 signed into law thirteen of the recommendations, which amended the New York City Building Code and Fire Prevention Code.

Part of Local Law 26 of 2004 mandates the retroactive installation of photoluminescent signs and markings in high-rise office buildings on or before July 1, 2006, and it requires the Commissioner of Buildings to adopt a reference standard that establishes the installation and placement of the standards on or before January 1, 2006.



PHOTOLUMINESCENT SIGN REQUIREMENTS

Markers are required in office buildings, hotels, schools and universities — over 75 feet in height — in Manhattan, Queens, Brooklyn, Bronx and Staten Island.

Local Law 26 requires New York City buildings to have visible Photoluminescent Egress Markers. The glow in the dark material is designed to help tenants escape and provide visibility during blackouts, fires or any other type of emergency.

DIRECTIONAL SIGNAGE UPON ENTERING AN EXIT

Photoluminescent directional signs are to be placed in the stairwell or exit at every entrance so that they are visible upon entering the door into the stairwell or exit. Such directional signs will include arrows that indicate the direction of travel leading to the final exit door. The word "Exit" is not required, and the signs may be located either high or low.

Existing buildings are exempt from the above requirements. However, this exception does not apply to entrances into the stairwell that are below grade or to other instances in which the travel direction is upstairs.

DIRECTIONAL SIGNAGE AT TRANSFER LEVELS AND WHERE EGRESS DIRECTION IS UNCLEAR

Under these requirements, photoluminescent directional signs that are designed in compliance with general directional sign standards and are installed at either high or low heights will be placed on the wall at transfer levels and wherever egress direction is unclear. These directional signs will include arrows that indicate the direction of travel leading to the final exit door. The word "Exit" is not required.

"NOT AN EXIT" SIGN

These requirements state that photoluminescent signs will be placed on doors that lead to dead ends. The signs will be designed in compliance with general door sign standards except that the size, color and style of the egress symbol will be different.

DOOR SIGNS

A photoluminescent wall-mounted door sign will be placed on the wall adjacent to all intermediate and final exit doors. At the final exit door, the sign will contain supplemental directional text.

**BUILDING CODES THAT REQUIRE
PHOTOLUMINESCENT EXIT PATH MARKINGS**

The International Code Council adopted into the 2009 International Building Code Section 1024 and International Fire Code, 4604.23, mandating that **all nonresidential buildings, new and existing, over 75 feet in height must install Photoluminescent Exit Path Markings in all enclosed emergency stairwells.**

The International Building Code, published every three years, is in use in every state in the United States of America. Most states are in the process of adopting the 2009 I-codes into their jurisdictions. For the latest information on your states position in the code adoption process, visit the ICC website and go to International Codes and Standards Adoption to see what's new in your state.

<https://www.iccsafe.org/international-code-adoptions/>

Below is the current list of US building codes that require Photoluminescent Exit Path markings:

- 2009 and 2012 International Building Code, 403.16 & 1024, a requirement that **all non-residential buildings** Groups A, B, E, I, M, and R-1 for **new construction over 75 feet in height** must install Photoluminescent Exit Path Markings in all enclosed emergency exit stairwells.
- 2009 and 2012 International Fire Code. Section 4604, requirement that **all non-residential buildings** Groups A, B, E, I, M, and R-1 for **existing construction over 75 feet in height must install Photoluminescent Exit Path Markings in all enclosed emergency exit stairwells.**
- **NFPA 101 and 5000** Section 7.2.2.5.5. Exit Stair Path Markings All Buildings. Effective January 2009.
- **State of California Building Code**, Chapter 10, Means of Egress requires in Group A, E, I, R-1, R-2 and R-3 Occupancies, in Exit corridors

**PHOTOLUMINESCENT SIGN
INSTALLATION**

One of the best features of photoluminescent signs is they do not directly use electricity; but **the charging luminaire that is required will use electricity.** Most installations of photoluminescent exit signs rely on already existing luminaires so that the electricity is not an additional load for the facility. But, one must consider the **typical sixty minutes charging time** required for these signs.

Let's do the math: a typical photoluminescent exit sign must be charged for one hour prior to being able to perform its function. The normal fluorescent ceiling grid type luminaire includes four lamps, each rated 32 watts. Not including the watts losses in the ballast, this results in 0.128 kW hours. This is only the amount of energy required to initially charge the photoluminescent exit sign. **That luminaire must remain on at all times while the building is occupied.**

The installation of photoluminescent signs requires an installer to use a light meter to verify the illumination level is in accordance with the product listing. The charging light source must be determined reliable and the lumen levels monitored. The electricity used to charge the photoluminescent sign for one hour can exceed the energy consumed by an electrically powered sign for 24 hours. **Photoluminescent exit signs are not a simple answer to a life safety issue. These signs require engineering review and constant maintenance.**

