

# STEP GLOW®

*A Step ahead*





## STEP-GLOW®

Visual guidance products offer the the most advanced photoluminescent technology available today.

Bright & Long Lasting, STEP-GLOW® is over 80% brighter than ASTM standards and durable enough to carry a 10 year guarantee. Use STEP-GLOW for safe illuminated indoor and outdoor environments

## Reduce slips and falls with recycled light

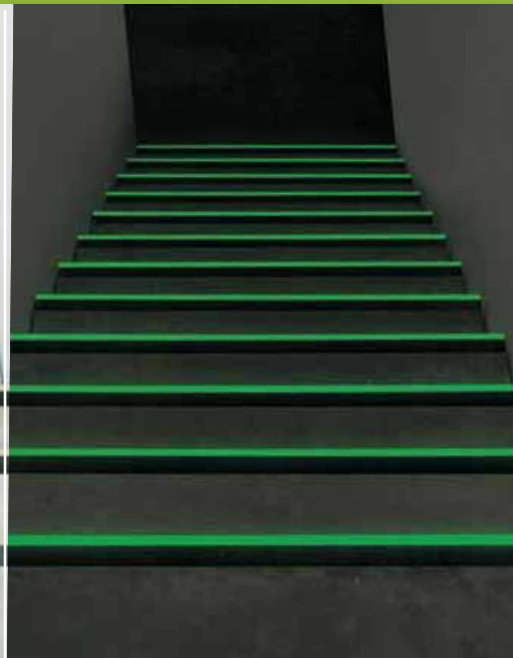
NO STEP-GLOW - Lights on



STEP-GLOW - Lights on



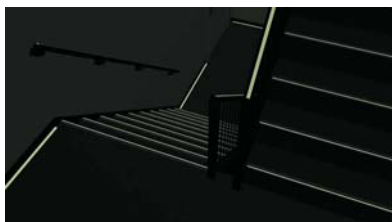
STEP-GLOW - Lights off



*Photoluminescent step edge, path finding, handrail and exit sign products for both indoor and out door applications*

## STEP-GLOW Strengths

High quality anti-slip material  
High quality photoluminescence  
Baked in process  
Step edge contrast  
Recycles natural or artificial light  
UV resistance  
Internationally accredited testing  
Green Attributes



## BENEFITS

Reduces slips and falls  
Visible for hours in dark conditions  
hardwearing, no repainting  
Reduces falls in light or dark conditions  
Decrease electricity usage, increased sustainability  
Inside or outdoor use  
Specify with confidence  
Non-toxic, non-radioactive, made with recycled aluminium & long life

- ≡ 2009 IFC Exit Lighting, January 2009
- ≡ 2009 IBC Section 1027, January 2009
- ≡ NFPA 101 and 5000, January 2009
- ≡ California, Chapter 10, January 2008
- ≡ Connecticut, Section 1026, January 2008
- ≡ New York City Code, July 2008
- ≡ ICC Acc169 (US Stadia, arenas & theaters)
- ≡ GSA f o all Buildings, January 2009
- ≡ British & ISO Standards for PL Brightness
- ≡ Tokyo Fire Department
- ≡ Fire & Disaster Management Agency (Japan)
- ≡ Building Code of Australia
- ≡ New Zealand Building Code



## Reduce slips and falls with recycled light

- step edge contrast
- slip-resistance
- visibility in all light conditions
- resistance to wear



### ROUGH

The hard wearing silicon carbide non-slip material is just what you need to reduce slips and falls in all weather conditions. Your patrons will commend you, not complain to you.

With their UV resistance and good looks, you can confidently install Step-Glow products inside and out.

### TOUGH

Our patented process bakes in the photoluminescent powder and non-slip material and you get to savor the results. Thousands of people can walk on these products thousands of times with no wear and tear. And just to make sure, we've put them through extensive testing at internationally accredited laboratories relating to durability, weather resistance, UV resistance, stain resistance, abrasion and cleaning. And they passed with flying colors.

### SEEN

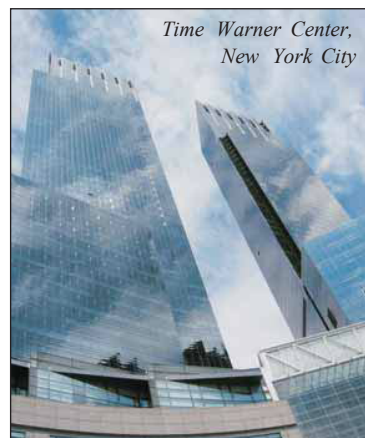
Unlike electrical or battery lighting, Step-Glow products will never let you down. They will glow brightly in the dark for many hours giving your patrons confidence in exiting, even in an emergency. Some steps are just too hard to see, whether it be day or night. With Step-Glow, you can be sure your patrons will see the steps, not fall down them, whatever the light conditions. It's the combination of the photoluminescent-strip and the non-slip material that creates such great step edge definition.

### GREEN

Every small step you take to reduce electricity usage helps save our environment. Step-Glow products let you recycle natural sunlight or artificial light into visual night time guidance systems without the need for electricity. Step-Glow also goes green by using recycled aluminum. All products are non-toxic and non-radioactive. Designed to last the life of your facility, Step-Glow avoids maintenance costs. Ultimately, Step-Glow is recyclable which avoids the cost of landfill dumping.

### FEATURES

- Visible glow-in-the-dark stripe
- Safely identifies steps during power failure
- Non-toxic/Non-radioactive
- Meets OSHA requirements
- Rechargeable from any light source
- Easy to clean
- Long-wearing, mineral abrasive tread
- **Green Attributes**



## Reduce slips and falls with recycled light

The Step-Glow Photoluminescent (PL) range of products provide significant benefit during low light conditions and emergency blackout situations. With a proven track record in reducing slips and falls Step-Glow products provide improved health and safety with additional benefits in any smoke hazard situation. Used for way-marking, step nosings and signage, the products are UV stable and highly durable, lasting for many years. The products are easily installed and have minimal maintenance costs.

### Comparative Advantage

#### STEP-GLOW

##### Luminance

Step-Glow products are manufactured using a patented process that is only used by Step-Glow. This tightly controlled application embeds the photoluminescent particles in a clear durable polymer.

The physical nature of the dry powder embedding process and the optical properties of the polymer ensure maximum efficiency of the photoluminescent particles to absorb useful wavelengths from a natural or artificial light source. This light the re-emits from the product towards a viewers eye.

Step-Glow products use a custom produced photoluminescent pigment which has greater longevity of glow than all the other pigments (over 100) which Step-Glow has sampled since 2001.

Step-Glow uses dry powder for maximum luminance.

##### Visibility

All Step-Glow products are engineered to provide greater visibility than relevant codes and standards currently require. Photoluminescent visibility is affected by more than just brightness ('Luminance'); the other factor is contrast against adjacent surfaces.

Contrast against adjacent surfaces is the critical parameter for visibility on a step edge. Step-Glow step-edge products incorporate a black anti-slip strip that provides excellent luminance contrast and color contrast to the PL strip, so the step edge is clearly defined in all lighting conditions: dark conditions, light conditions and twilight or dim conditions.

This means the Step-Glow products are visible from a greater distance and for a longer time after the lights go out. Step-Glow incorporates a black anti-slip strip for maximum visibility and edge contrast.

#### NON-STEP-GLOW

A widely used alternative manufacturing process uses liquid formulations that carry the photoluminescent particles.

Liquid formulations can suffer from settling out of the dense photoluminescent particles resulting in inconsistent luminance properties.

## Reduce slips and falls with recycled light

### STEP-GLOW

#### Durability of Photoluminescence

The Step-Glow range has been subjected to accelerated UV/weathering exposure, and proven to be highly resistant to the effects of UV/weathering.

Testing has been extended from the usual 1000 hour or 2000 hour test, out to 6000 hours, which can be interpreted to be similar to around 30 years of outdoor exposure.

At 6000 hours exposure, while there is noticeable loss of gloss of the top surface, the loss in PL brightness is less than can be detected by the human eye (measured reduction of 5-8%). The unique ridges in the photoluminescent strips protect the glowing areas from most abrasive wear, and other incidental abuse.

Step-Glow uses its patented process for maximum durability. Using powder means the polymer we use is “long chain” which forms a strong UV resistant product when bonding.

#### Installed Durability

The manufacture of all Step-Glow products involves the integral bonding of the photoluminescent layer to a rigid aluminium substrate, so there is no chance of delamination or peeling. Rigid products spread any applied loads over a greater area of installation adhesive.

Step-Glow signage uniquely incorporates an integrally bonded anti-graffiti protective top coat over the print, which also protects the print from abrasive wear. Because this top layer bonds into the substrate, there is no chance of delamination or peeling.

Step-Glow bonds onto rigid aluminium and applies a protective top coat for greater installed durability. Slip Resistance, the unique ridges in the Step-Glow photoluminescent strips and the integrated anti-slip contrast strips provide all-weather slip resistance.

Step-Glow combines ridges and anti slip contrast strips for slip resistance.

### NON-STEP-GLOW

PVC based products have reduced durability, may turn brown during weathering exposure after a short time.

Flexible base products, such as PVC, are more prone to coming loose because the installation adhesive is more highly stressed.

For outdoor use, protective film which is not integrally bonded is only as good as the quality of the adhesive.

Smooth surface PL products do not provide slip resistance.

### The product range includes:

- |                               |                                    |
|-------------------------------|------------------------------------|
| • Way marking guidance strips | • Signage (inc. tactile & Braille) |
| • Handrail guidance strips    | • Seat and aisle identification    |
| • Floor marker discs          | • Step edge definition trim        |
| • Hazard strips               | • Step nosings                     |

## **Reduce slips and falls with recycled light**

A luminance level of 5 millicandelas per m<sup>2</sup> (mcd/m<sup>2</sup>) after 90 minutes of darkness is considered adequately visible for photoluminescent emergency lighting in the following international codes and standards. Step-Glow products EXCEED ALL these requirements.

**New York City Reference Standard RS6-1 Photoluminescent exit path markings** This reference standard was promulgated in May 2005, and is referenced into the New York City building code by New York City Local Law 26 of 2004.

This law requires high-rise office buildings in New York City to have photoluminescent way-finding markings in all exit pathways. This is supplementary to existing emergency lighting requirements, and applies to all buildings, old and new. RS6-1 defines the size and location of the markings and signage, as well as their performance requirements. Markings are required on all step edges, and as perimeter markings of the exit pathways, stairwell landings, and exit doors. Exit-signs are also required. New buildings require handrail markings. Performance requirements include a minimum luminance at ninety minutes of 5mcd/m<sup>2</sup> after charging at 2f/c for 120 min in fluorescent light. Conforms to tests for flammability, toxicity, radioactivity, washability, and (optionally) UV stability.

**ICC International Building Code and International Fire Code** New code has been added to Chapter 10, Means of Egress, in the 2009 International Building Code and International Fire Code. The International Building Code is used at local or state level in 47 states of the USA plus Washington, DC, and is in the process of being adopted by two additional states. The new code requires photoluminescent exit path markings in new non-residential buildings of 75ft height or more. Photoluminescent markings are required on all step edges and handrails, and as perimeter-markings of the exit pathways, including stairwell landings. For performance requirements the code prescribes compliance with either

- UL1994, Luminous Egress Path Marking Systems, 2005, or
- ASTM E2072-04 Standard Specification for Photoluminescent Safety Markings (subject to modified charging source requirements)

**UL 1994 Luminous Egress Path Marking Systems** UL 1994 is a standard that provides requirements for floor proximity and other egress path marking and lighting systems that provide a visual delineation of the path of egress. These systems are also used to identify significant egress path features such as doors, stair banisters, obstacles or information placards. Such systems are intended for installation and use as required by building and fire safety codes such as the Life Safety Code, NFPA 101; the Building Construction and Safety Code, NFPA 5000, and the International Building Code sponsored by the International Code Council. UL1994 requires each system element to be recognizable from a distance of 25 feet, and also requires all elements that maybe applied to a floor or step to meet UL410 Slip Resistance of Floor Surface Materials, and to be tested for the effects of cleaning.

**ASTM E2072, Standard Test Method for Photopic Luminance of Photoluminescent (Phosphorescent) Markings.** This standard requires that photoluminescent markings be tested for photoluminescent brightness (luminance) following charging for 2 hours at 21.6 lux from a Fluorescent lamp having a color temperature between 4000K and 4500K. The required luminance properties are:

- After 10 minutes, minimum luminance 20mcd/m<sup>2</sup>
- After 60 minutes, minimum luminance 2.8mcd/m<sup>2</sup>

**Reduce slips and falls with recycled light**

| Fluorescent charging of Step-Glow S10 Material (20 lux, 4000K)<br>In A Poorly Lit Area |                      |
|----------------------------------------------------------------------------------------|----------------------|
| Activation Time                                                                        | Hours of Visibility* |
| 5 minutes                                                                              | 0.5 hours            |
| 10 minutes                                                                             | 1 hours              |
| 20 minutes                                                                             | 2.25 hours           |
| 30 minutes                                                                             | 3 hours              |

\* A luminance level of 5 millicandelas is defined as visible when tested in accordance with UL1994

| Fluorescent charging of Step-Glow S10 Material (150 lux, 4000K)<br>In A Reasonably Lit Area |                      |
|---------------------------------------------------------------------------------------------|----------------------|
| Activation Time                                                                             | Hours of Visibility* |
| 5 minutes                                                                                   | 2.5 hours            |
| 10 minutes                                                                                  | 4 hours              |
| 20 minutes                                                                                  | 6 hours              |
| 30 minutes                                                                                  | 7 hours              |

\* A luminance level of 5 millicandelas is defined as visible when tested in accordance with UL1994

| Fluorescent charging of Step-Glow S10 Material (300 lux, 4000K)<br>In A Well Lit Area |                      |
|---------------------------------------------------------------------------------------|----------------------|
| Activation Time                                                                       | Hours of Visibility* |
| 5 minutes                                                                             | 4 hours              |
| 10 minutes                                                                            | 6 hours              |
| 20 minutes                                                                            | 7 hours              |
| 30 minutes                                                                            | 8 hours              |

\* A luminance level of 5 millicandelas is defined as visible when tested in accordance with UL1994