Guide to Photoluminescent Signage



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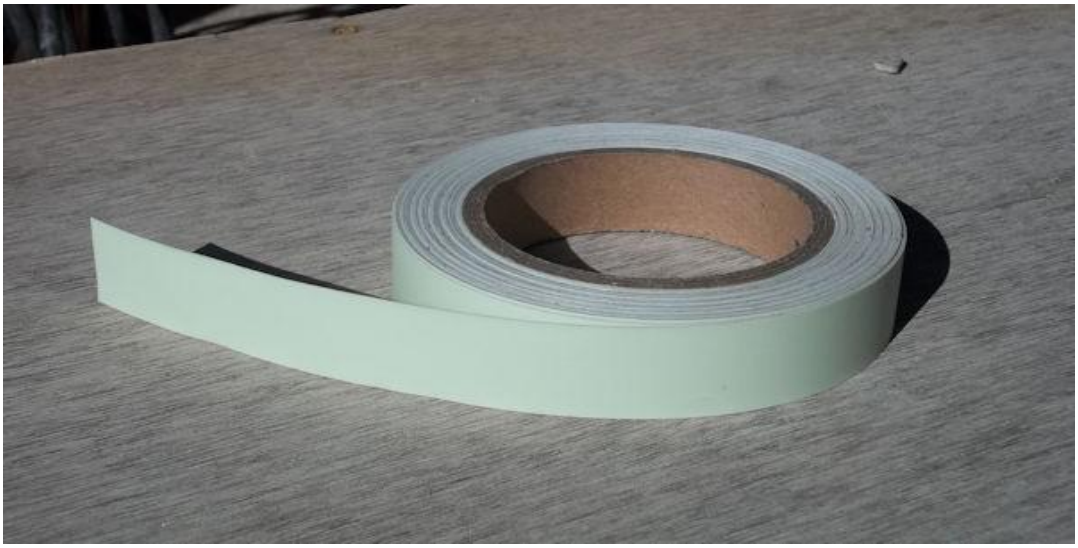
Summary

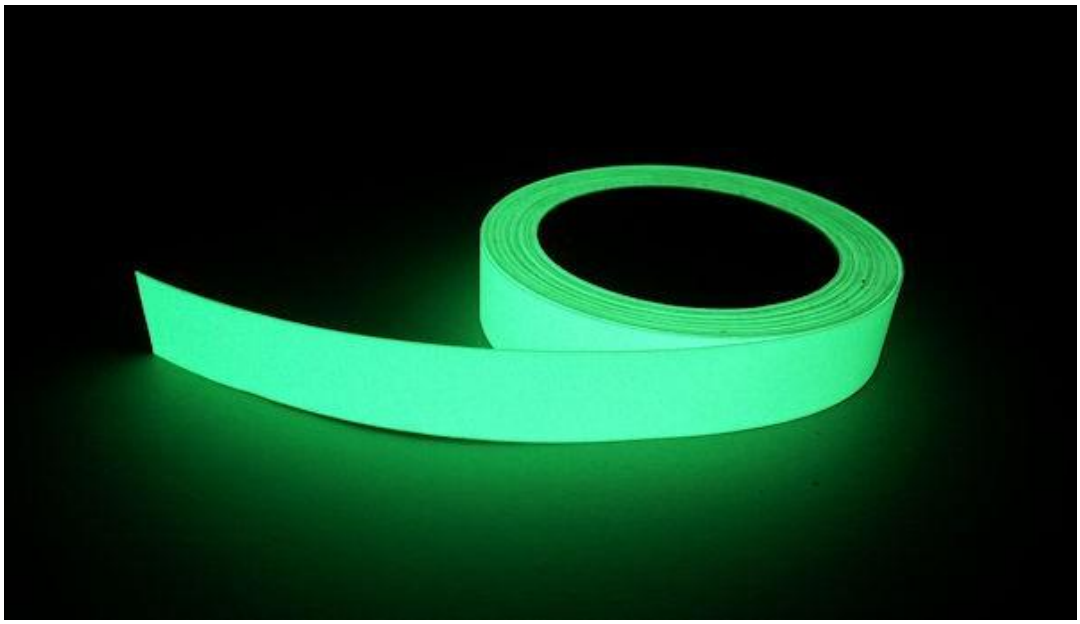
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Definition

Photoluminescence is the phenomenon of light emission following the reaction of a photoluminescent material subjected to "excitation" by exposure to ultraviolet, visible, or infrared optical radiation. Phosphorescence is the phenomenon of continuous, slow, and decreasing light release of the energy accumulated during excitation, over a certain period of time (postluminance or recovery time) and at a certain level of intensity (luminance). Phosphorescence differs from fluorescence in the rate of light release, which is immediate, brief, and complete in the case of fluorescence.





Signage in the workplace

Directive 92/58/EEC

Employers must ensure that safety and/or health signage is in place in the workplace. Such signage is required when risks cannot be avoided or sufficiently limited (*Directive 89 391 EEC*). It helps to reduce the number of hazardous situations and the risk of accidents.
The following must be indicated: hazards and obstacles, guidance to emergency exits, firefighting equipment, obligations and prohibitions.

Signs



Signs consist of visual, light, or acoustic safety signals.

► In case of poor natural lighting conditions, **phosphorescent colors**, reflective materials, or artificial lighting must be used.

The shape and colors of signs are defined according to their specific purpose (*page 4: Safety signs according to ISO 7010*):

The material is chosen based on its resistance to impact, weathering, and environmental damage.
(page 25: advice on choosing the right photoluminescent equipment)

Installation and Positioning:

- Signals must be installed as close as possible to danger zones.
- These safety signs, whether permanent or temporary, must be visible in all circumstances.
- They must be of sufficient size and installed at an appropriate height in relation to the observation point. (*page 16: Installation and observation distance*)
- They must be well designed, sufficient in number, and in good condition.
- To remain effective, they must not cause confusion by being too numerous and too close together.

Traffic lanes

Where necessary for the safety of workers, both indoors and outdoors, traffic lanes for vehicles and machinery must be clearly identified by continuous strips of a highly visible color, preferably white or yellow, taking into account the color of the ground.

LLL guidance

Some locations may require the installation of **photoluminescent evacuation guidance systems** using photoluminescent equipment: LLL strips and photoluminescent signs *(page 8: LLL guidance).*

***Reference text**: European Directive 92/58/EEC: Safety at work / Member States' laws, regulations, and administrative provisions relating to safety signs at work*
***Note**: The rules of this directive do not apply to road, rail, river, sea, and air traffic.*

Safety sign

The shape and colors of traffic signs are defined according to their specific purpose and are harmonized across Europe:

Signal colors		page
Danger, fire equipment, alarm, prohibition	Red	77-78
Rescue and emergency services, traffic routes	Green	76
Mandatory	Blue	77
Warning*	Yellow/Orange	79
Obstacles or danger	Alternating yellow/black Alternating red/white	

** or yellowish-white phosphorescent during the day for photoluminescent signals*

Safety pictograms according to EN ISO 7010

To ensure that signals are understood by everyone, regardless of country, ISO 7010 aims to harmonize safety sign pictograms internationally (graphics compliant with ISO 3864-3) (shapes and colors compliant with ISO 3864-1). ISO 7010 is the new European standard that replaced **NF X 08-003** in June 2012 for safety pictograms (accident prevention, firefighting, and emergency evacuation). Since January 1, 2014, signage covered by the NF EN ISO 7010 standard must comply with current regulations.

Examples of pictogram replacements according to the EN ISO 7010 standard:

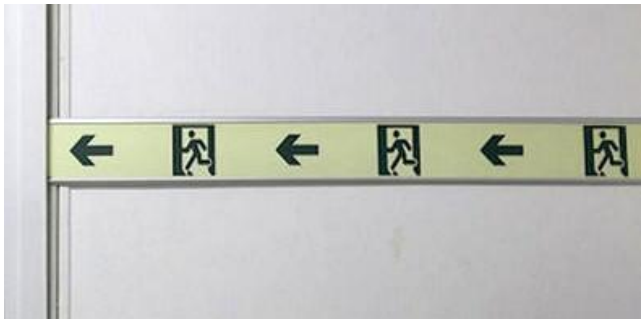


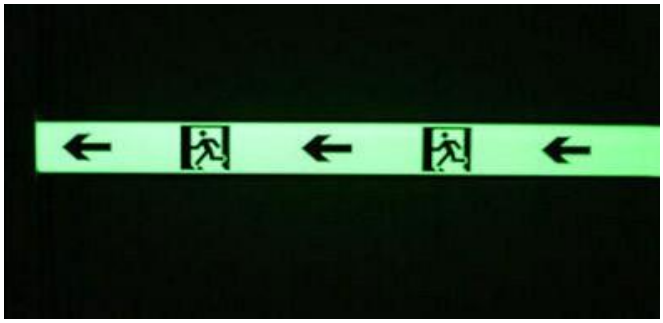
► Signs already installed before January 2014 in accordance with standard NF X 08-003 remain compliant. Signs installed after this date must comply with the new ISO 7010 standard.

► Find the complete list of new regulatory pictograms on *page 76*

Photoluminescent signs

For safety signs on photoluminescent panels, white and yellow are replaced by "yellowish phosphorescent white": In the dark, only the phosphorescent parts are visible:





Classification of photoluminescent equipment

according to ISO 17398 and NF X08-050-1

Regulatory luminance level:

Photoluminescent products are regulated. In Europe, the standard specifies that **class C** is the minimum requirement for photoluminescent safety signs. Class C is recommended for other equipment.

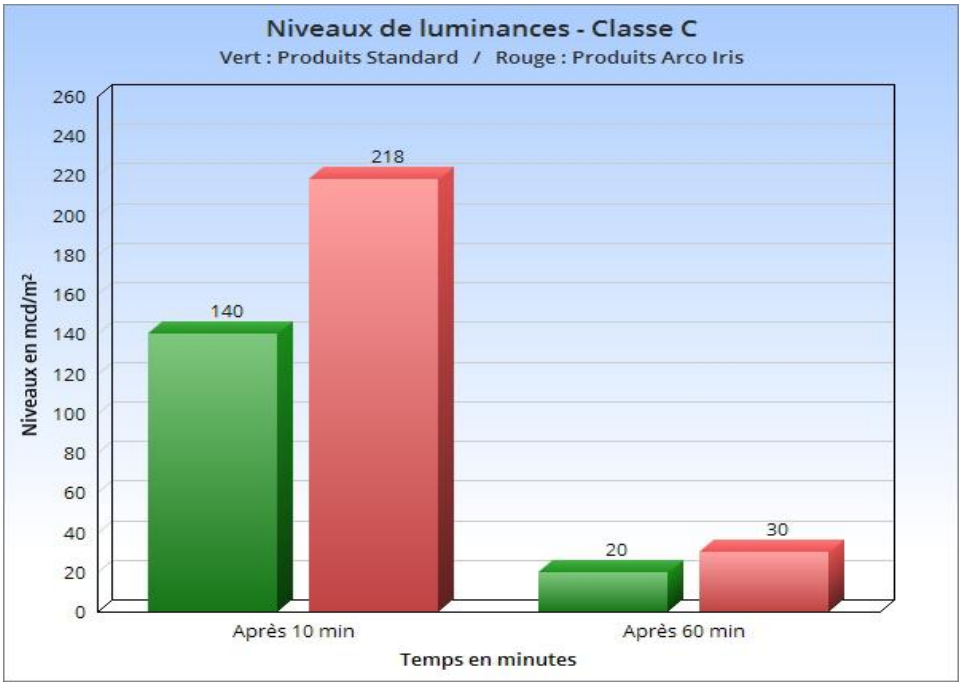
Phosphorescence levels are classified on an increasing scale from A to G (international standard ISO 17398). Arco Iris offers product versions with higher luminance levels, from class D to class G+.

Luminance classes - ISO 17398 and PSPA proposals

Measurement Luminance mcd/m² after / Classification	2 MIN	10 MIN	30 MIN	60 MIN
Class A	108	23	7	3
Class B	210	50	15	7
Class C	690	140	45	20
Class D	1100	260	85	35
Class E	1800	400	120	55
Class F	2300	520	155	70
Class G	3000	650	190	80

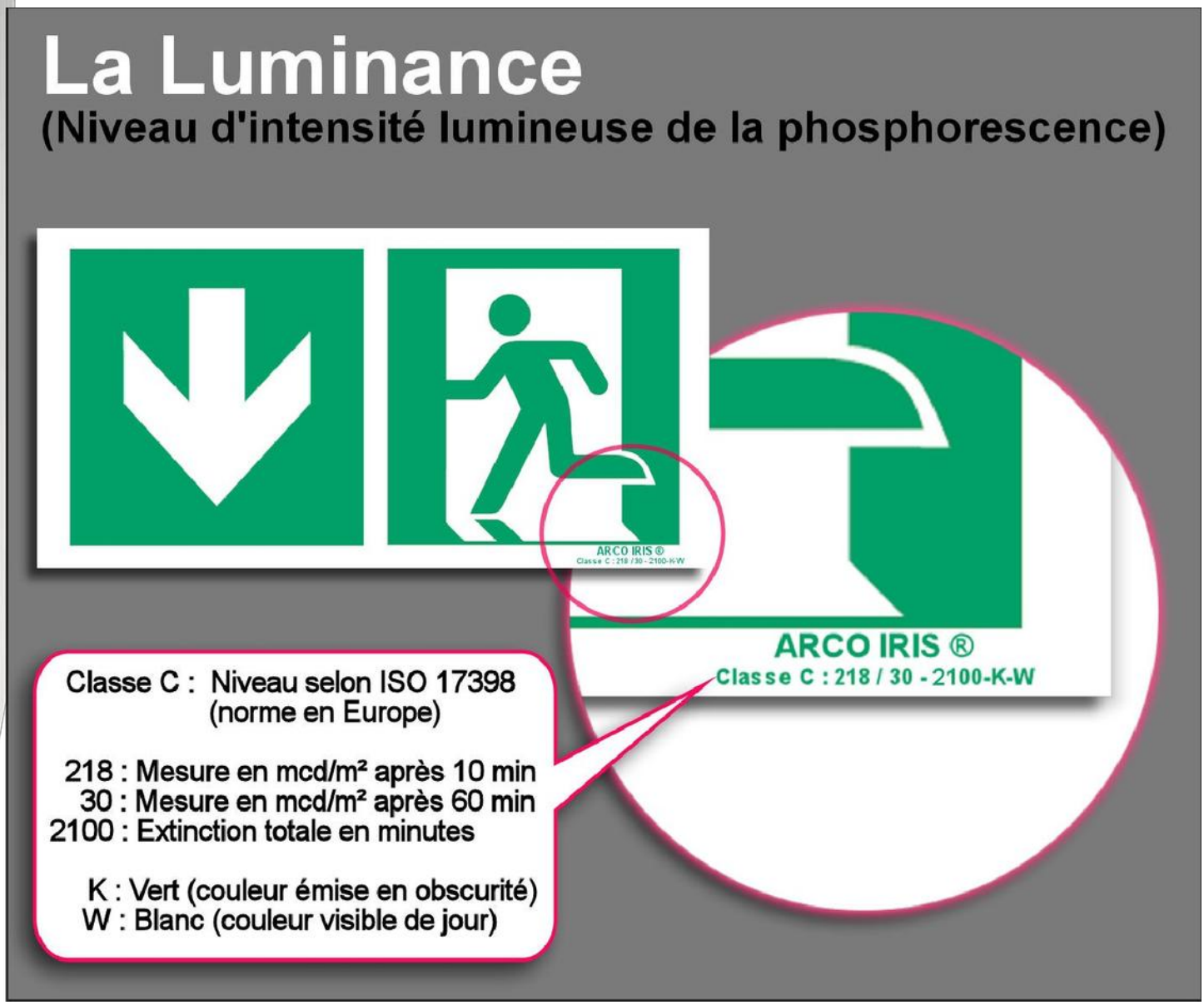
Arco Iris® photoluminescent products exhibit superior luminance levels

Photoluminescent signs and equipment manufactured by Arco Iris meet and exceed the Class C luminance levels required by standards NF X08-050-1 and NF X08-050-2



Characteristics and marking of photoluminescent equipment

To characterize a photoluminescent device, its class is specified, along with its performance measured after 10 minutes and then 60 minutes (after an excitation phase under reference lighting of 1000 lux), and its extinction time (in minutes).



Certification and Performance Guarantee:

Each Arco Iris product is tested in a laboratory according to measurement criteria that comply with French standards **DIN 67510-4** and **NF X08-050-1.**

As required by standard **NF X08-050-1**, Arco Iris displays information concerning the origin (brand/manufacturer) and performance on each photoluminescent sign.

This allows for easy identification and constitutes product approval and a declaration of conformity.

Photoluminescence intensity

The **DIN 67510-4:2009** and **NF X08-050-1** measurement tests are used to determine luminance levels. These indicate the measured value of the light intensity of a photoluminescent product in millicandelas per square meter (mcd/m2).

Three measurements are taken after the light source is turned off (excitation phase) at intervals of 2 min, 10 min, and 60 min to account for the decay of phosphorescence.

A fourth measurement expresses the time required for the phosphorescence to completely fade in minutes.



View of a photoluminescent guidance system in dark conditions

Definitions:

Reference recovery: *decrease in the luminance of photoluminescent pigments or products manufactured with them, from the end of excitation when they have been excited under reference illumination conditions*

Useful recovery: *decrease in the luminance of photoluminescent pigments or products manufactured with them, from the end of excitation when they have been excited under recommended lighting conditions*

Lux / ***Microcandela****: Luminance is the light emitted (millicandela/m2). Illumination is measured in lux.*

Photoluminescent evacuation guidance

LLL: luminescent connection line

LLL stands for "low location lighting" and refers to photoluminescent safety evacuation guidance. This is a standardized photoluminescent signaling system that allows people who are accidentally plunged into darkness in a building to find their way to exits or assembly areas.

LLL evacuation guidance consists of photoluminescent equipment (photoluminescent strips and signs) that must be installed in rooms, corridors, and stairways to create a continuous line visible in the dark, tracing the entire route to the exits.

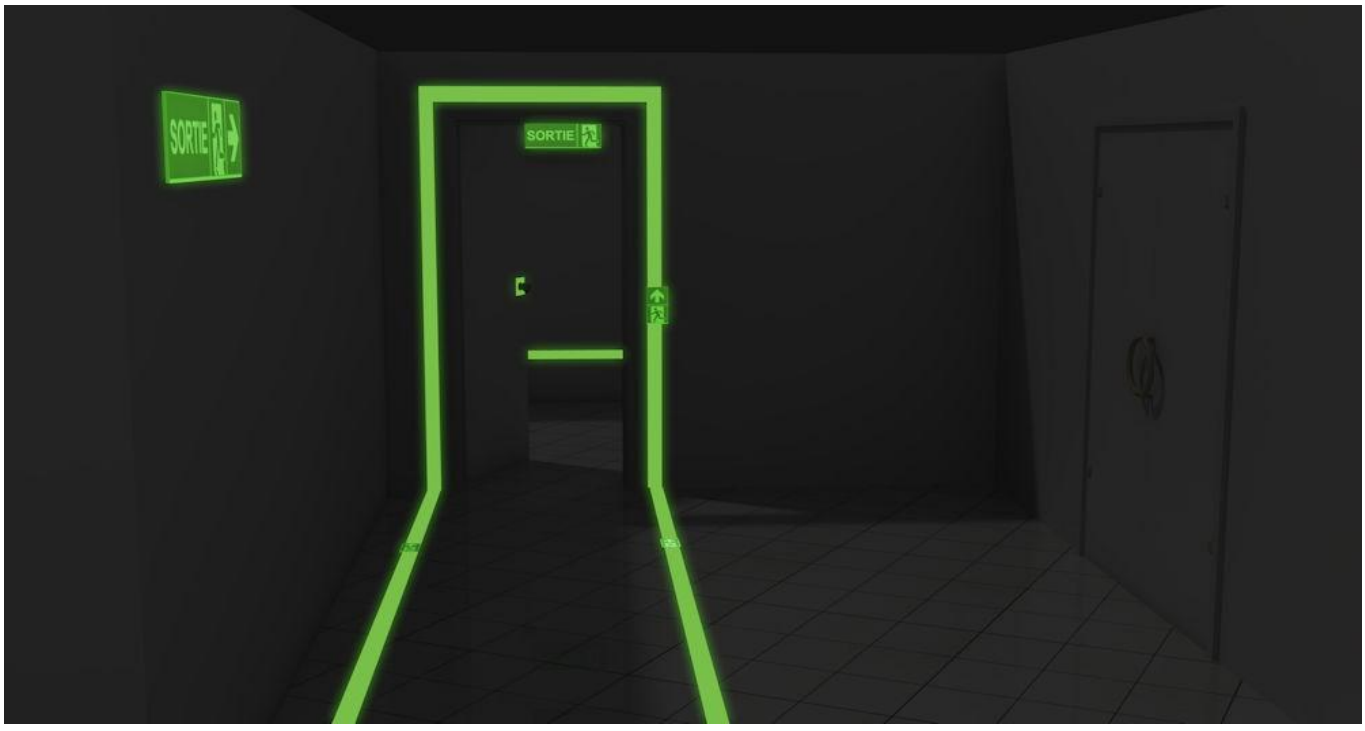
Elements and locations

Photoluminescent equipment must be installed in the following locations:

- Low areas
- Doors, opening systems
- Stairs, handrails, and ramps
- Directional signs
- Obstacles
- Additional information

The LLL route: Three simple rules

- Guide lines must be continuous and uninterrupted
- Directional safety signals must be sufficiently frequent
- People must be able to see the signs regardless of where they are in the room.
- Along a path to the exit, each sign must be visible from the sign preceding it.
- A sign must be placed at each change of direction.



LLL installation

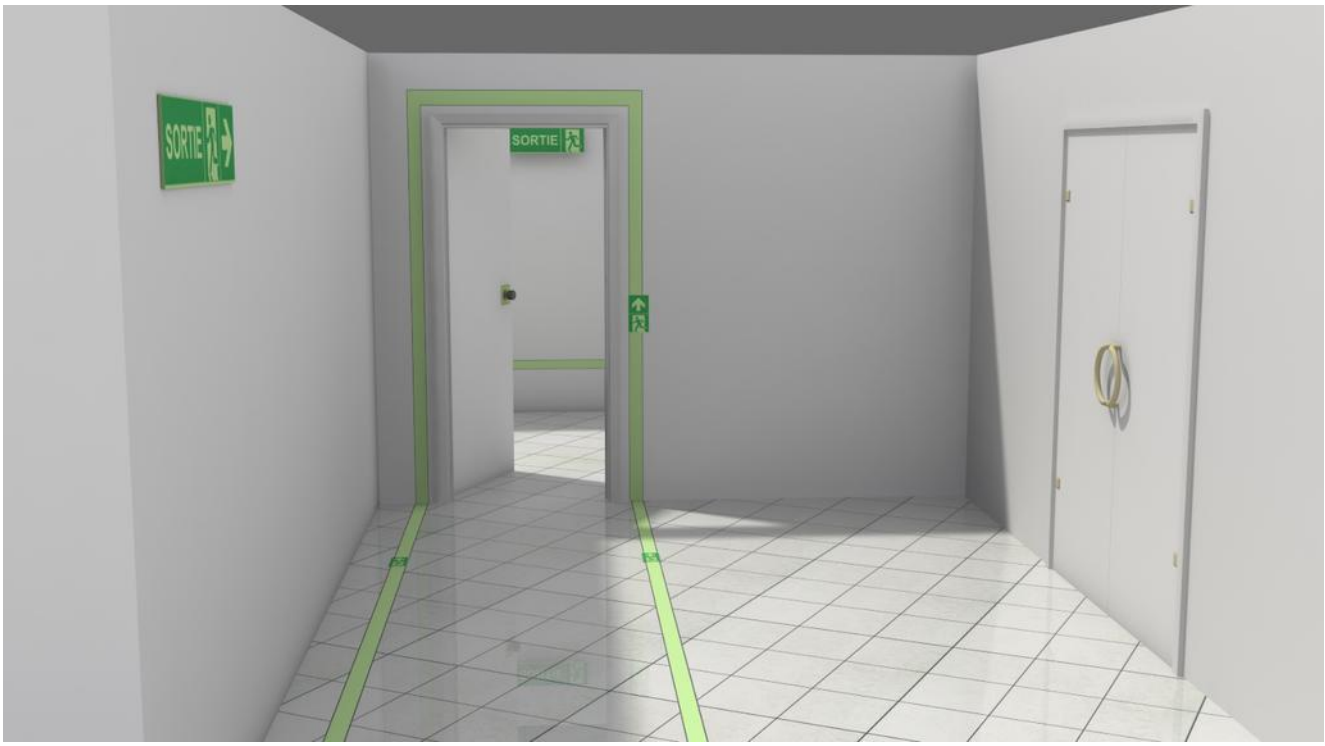
Guide lines

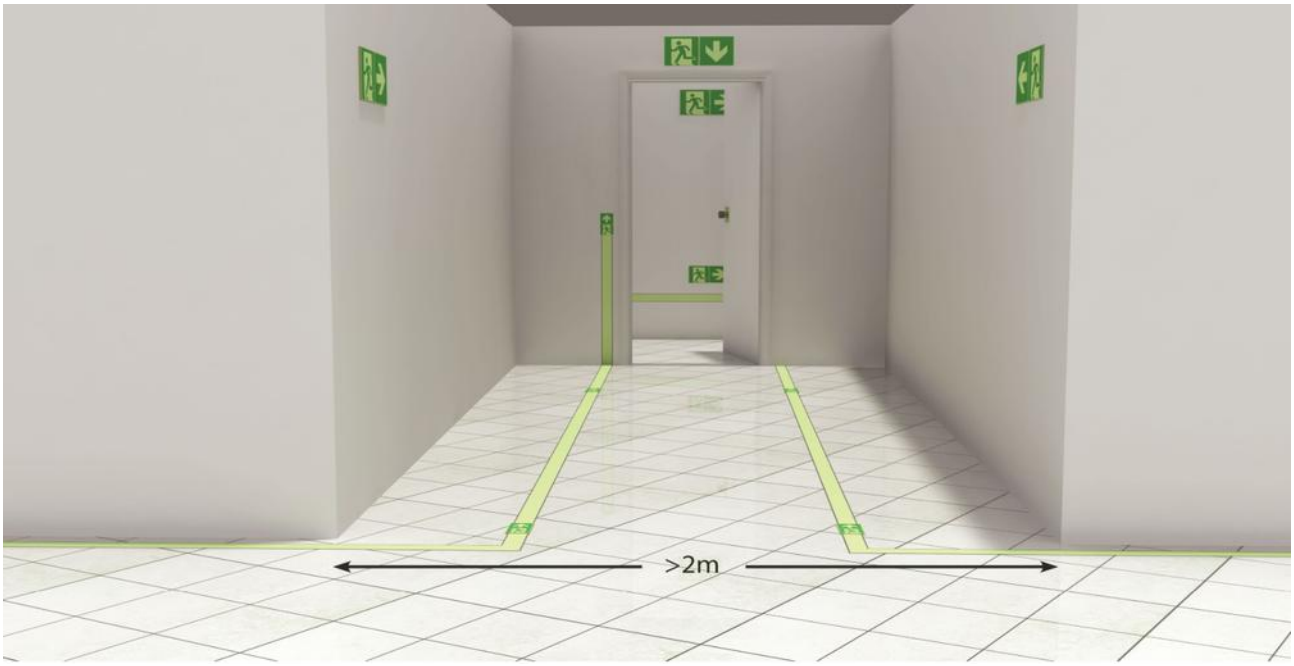
These show the evacuation route and consist of photoluminescent adhesive strips. The strips must be at least 25 mm wide. They must be continuous and uninterrupted.

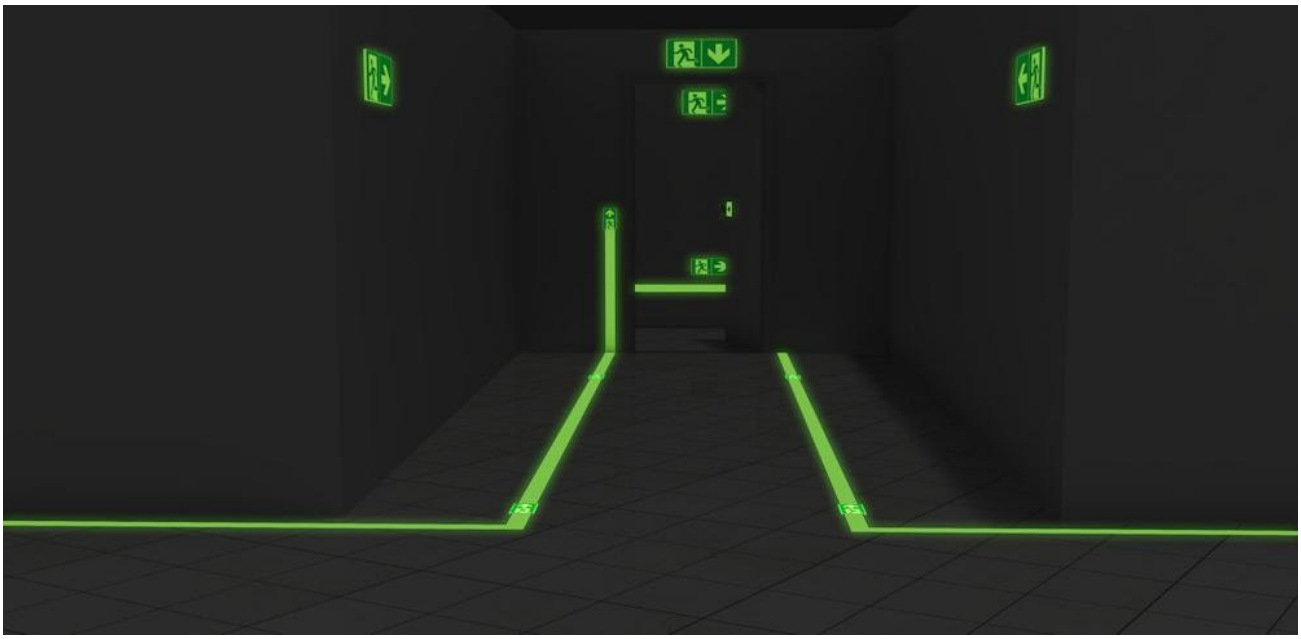
They are placed in low areas, either on the floor or on the wall, a short distance from the floor (highest point no more than 40 cm from the floor).



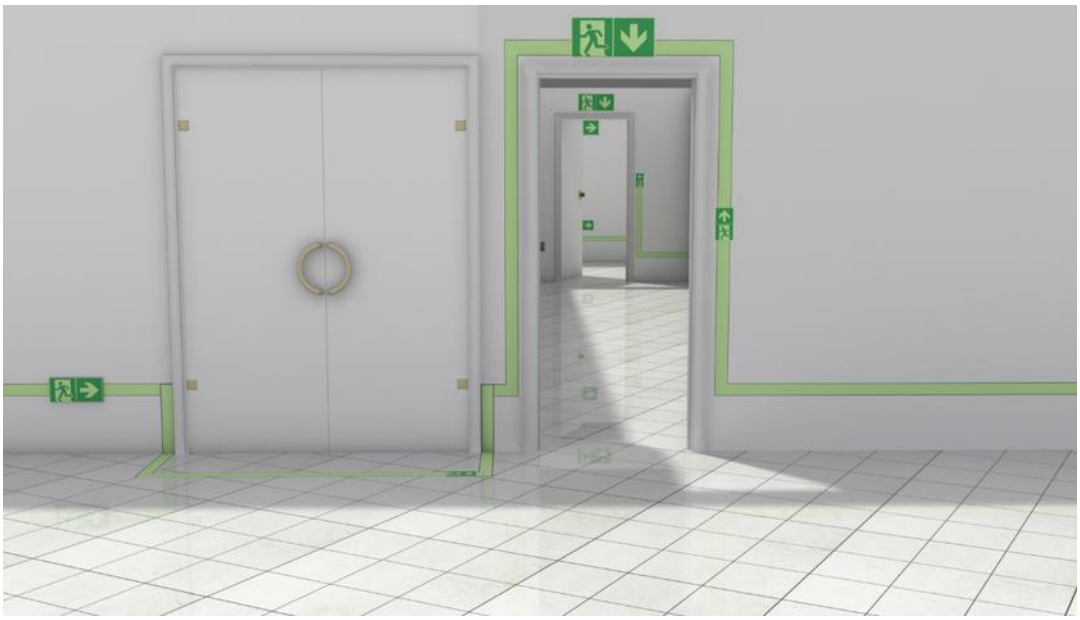
- ✔ The guide lines must be affixed on both sides of the evacuation route.
- ✔ A single line on one side is mandatory if the corridor is less than 2 meters wide (preferably on walls with no openings (doors) or intersections).
- ✔ To ensure that the photoluminescent lines are visible and well lit, the lower parts must not be obstructed.
- ✔ In open spaces where there are no walls nearby, the escape route must be marked on the floor on both sides by parallel guide lines.
- ✔ To avoid discontinuity, in the case of a door that is not an exit, the guide line must go around the door on the floor in front of it. If it is not possible to go around the door on the floor, the line may be interrupted for a maximum distance of 2 meters, with a directional signal at the point where the line resumes.
- ✖ Guide lines must never be applied to doors.





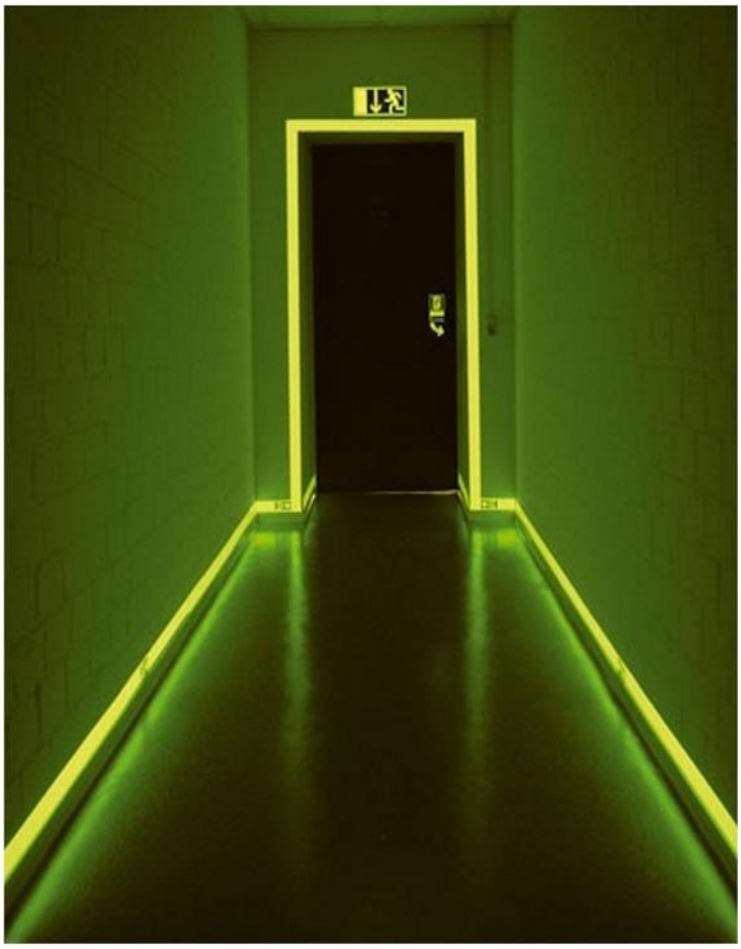


Doors



In LLL guidance to the exit, it is important to mark the frames of doors that are emergency exits. Photoluminescent strips at least 25 mm wide are used, affixed to the partial or complete surround of the doors (molding or wall).

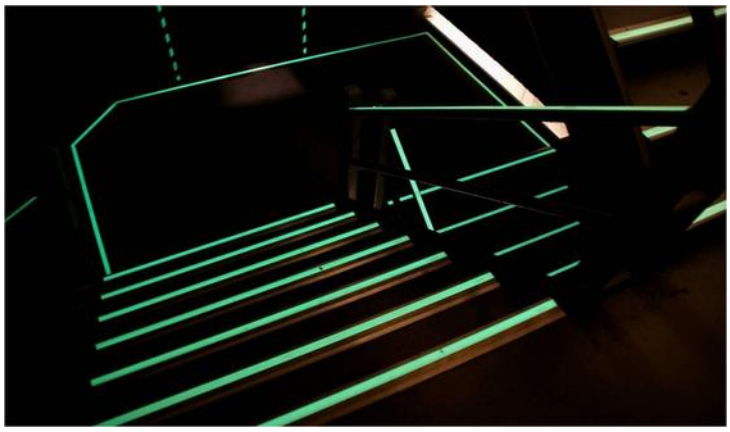
- The photoluminescent strip must frame the door continuously (a maximum interruption of 10 cm is permitted in the event of an obstacle, such as a switch).
- The type of strip, its location, and the way it frames the door must be similar throughout the entire route.
- In the case of a corridor less than 2 meters wide, the strip may be affixed to only one side of the door where the handle is located, up to the height of the handle.
- the strip must be affixed to the entire frame if there is a risk of confusion.
- The door handle or push bar must be marked by installing a photoluminescent plate in the background, or by applying a photoluminescent strip at least 25 mm wide to the handles or the length of the push bar.



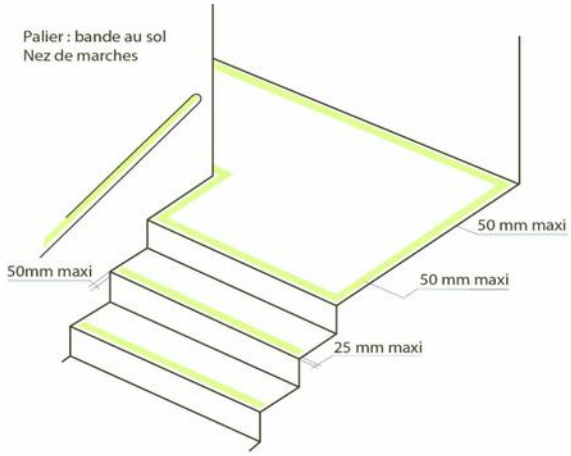


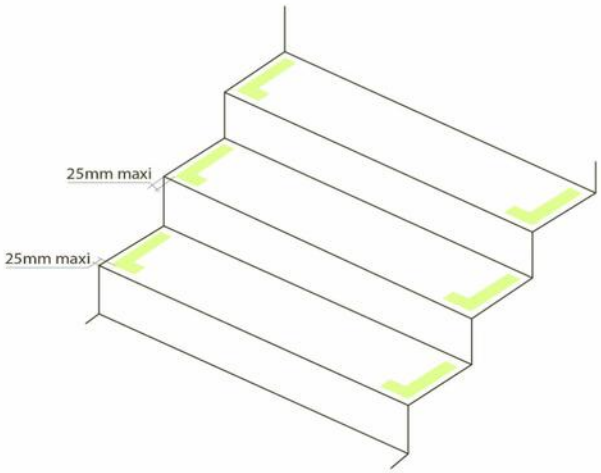
Stairs

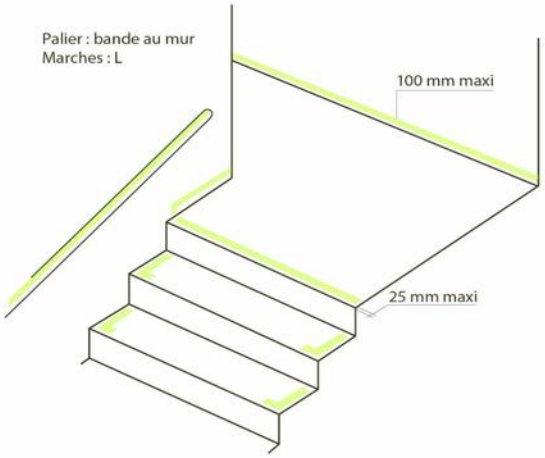
LLL photoluminescent guidance must be continuous, even when changing floors. Stair treads, landings, and handrails must be marked in a similar and consistent manner throughout the building using photoluminescent strips, L-shaped markers, and stair nosings.

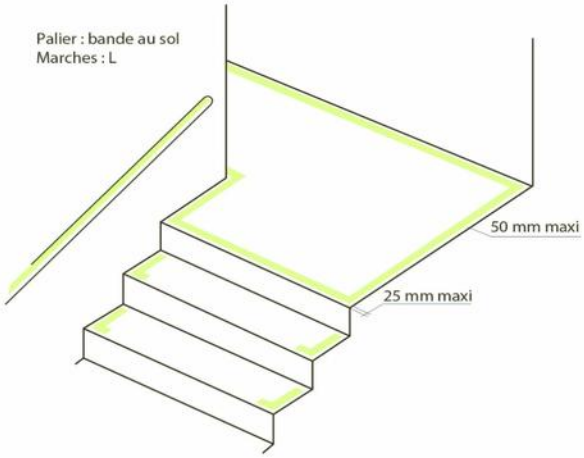


- Each step must be marked with a strip 20 mm to 50 mm wide, along its entire length (maximum 5 cm recess at the end of the step, and installed parallel to the step edge at a maximum distance of 25 mm).
- Steps can also be marked by placing L-shaped markers on the left and right corners, provided that the staircase is less than 2 m wide. The dimensions of L-shaped equipment are standardized. (See our L-shaped marker on page 64). Handrails must also be marked by placing a strip (minimum width 25 mm) on the top, with no gaps greater than 10 cm.
- The transition from a landing to a staircase must be marked: a continuous strip with markings on the floor or lower part of the wall must be installed along the entire length of the first and last steps to mark the arrival at the staircase, whether coming from above or below.
- Each change of floor must be indicated by a photoluminescent information and directional sign showing the name of the staircase, the floor number, and the direction.









Directional signs

Photoluminescent directional signs remain visible in the dark. They indicate the directions of the exits.





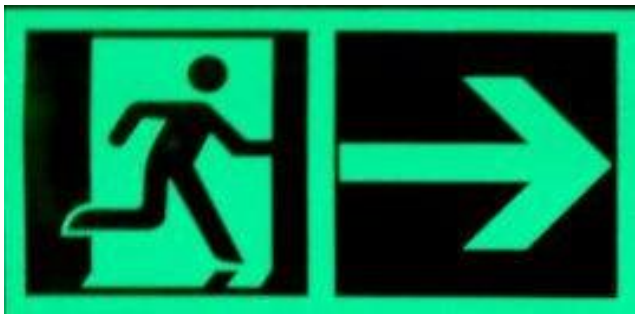
In the LLL route, they are incorporated into:

– in the upper part (above 1.80 m)
– in the lower part, within the lane or above the lane.

- The smallest side of the sign must be larger than 50 mm. The sign may be supplemented with text (e.g., exit).



Signphotoluminescent(day)



Photoluminescent sign in the dark

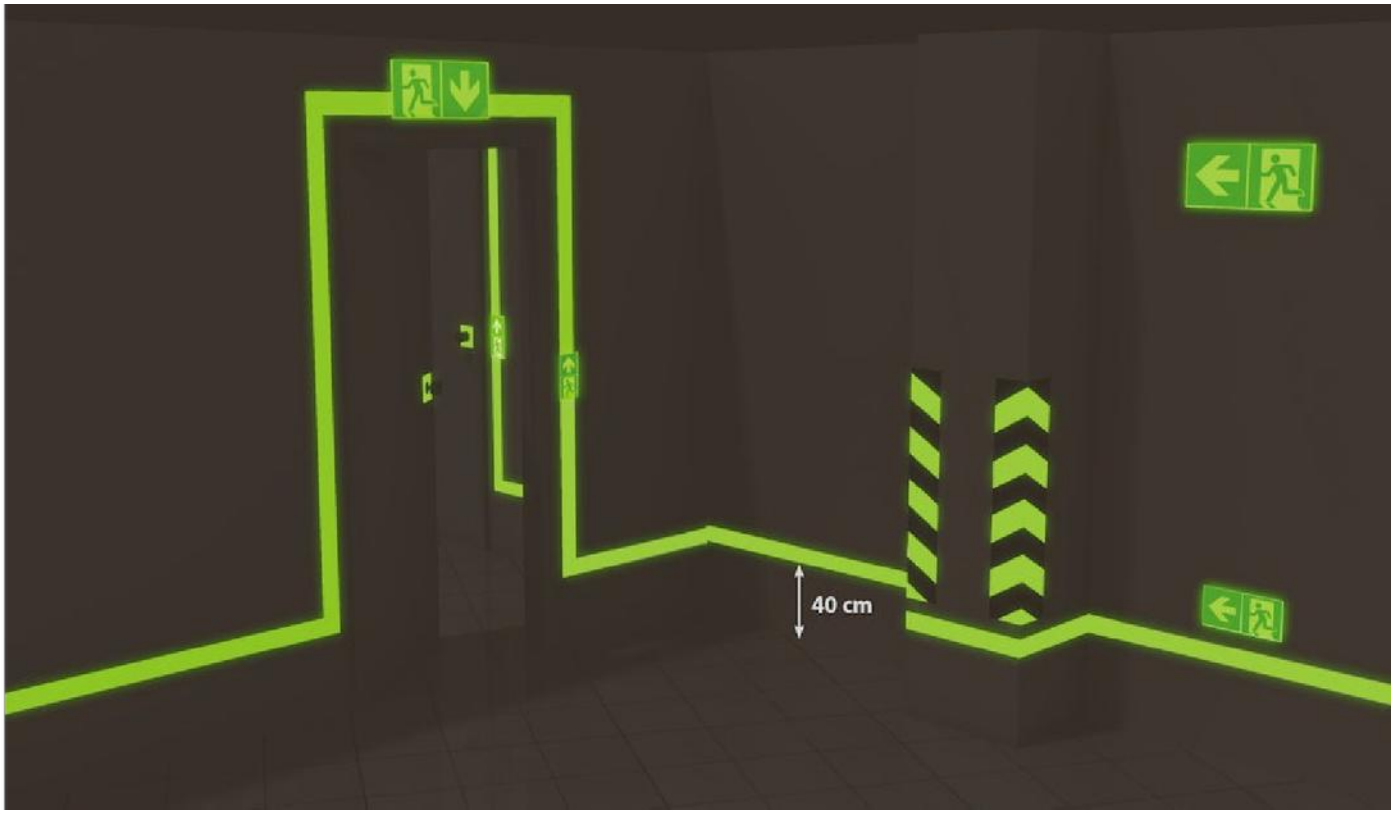


Obstacles

In the LLL course, obstacles, corners, curbs, uneven surfaces, pillars, etc. must be marked with photoluminescent striped tape at least 25 mm wide.



Hatching colors:
Black (hazardous location), Green (conditions), Red (fire equipment or prohibition), Blue (obligation)

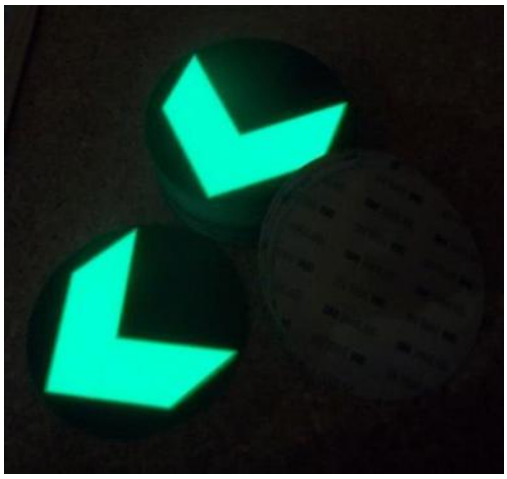


Additional signage

Other photoluminescent equipment such as arrows, studs, steps, etc. can be added to the LLL photoluminescent guidance system.

These signals cannot replace lines and other LLL elements, and must not cause confusion or overload existing signage.





Additional requirements for LLL

NF X 08-050-1 standard

LLL photoluminescent guidance elements must be class C. They must also

satisfy the following additional tests:
After excitation of 25 lux for 15 minutes with a 4000 K white fluorescent lamp (tube), their luminance must be at least:

- 30.0 mcd/m2 after 10 min
- 7.0 mcd/m2 after 60 min.

Arco Iris LLL products comply with and exceed the required levels:

.

Additional luminance tests for photoluminescent guidance elements for LLL		
Excitation illumination conditions	4000K 36W cool white fluorescent lamp excitation of 25 lux for 15 minutes	
Photoluminescent equipment	Luminance intensity in millicandelas/m²	
	10 min	60 min
Standard NF X08:050-2: 2008	30	7
Arco Iris® - LLL	80	11

Installation and viewing distances

ISO 3864-1:2011 standard

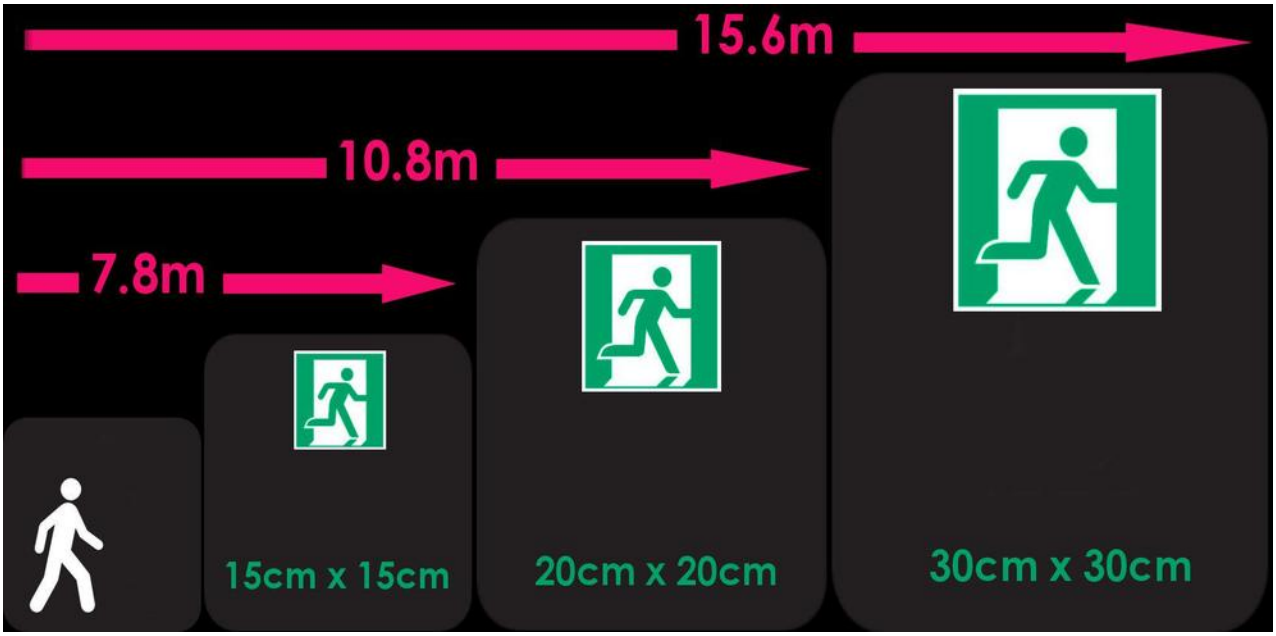
Size and distance

The size of a sign is determined by the maximum viewing distance using a calculation formula:

Calculate the observation distances of a signal		Calculate the height of a signal
l = z0 x h		h= l / z0
l - being the observation distance (m);	Z0 - being the distance factor.	h - being the height of the signal (mm)

L	=	h	x z_0
in meters **Max. distance** of observation	*l x h* **Sign dimensions**	*top eur in mm*	**Factor** according to ISO 3864-1
	sign	Graphic design	
3.6	150 x 75	60	60
4.8	150 x 100	80	60
7.8	150 x 150	130	60
10.8	200 x 200	180	60
7.8	300 x 150	130	60
10.8	200 x 300	180	60
15.6	300 x 300	260	60
15.6	450 x 300	260	60
15.6	600 x 300	260	60
33.6	600 x 600	560	60
27.6	1000 x 500	460	60
33.6	1200 x 600	560	60

► The height of the pictogram design is taken into account, not the height of the sign or its width.

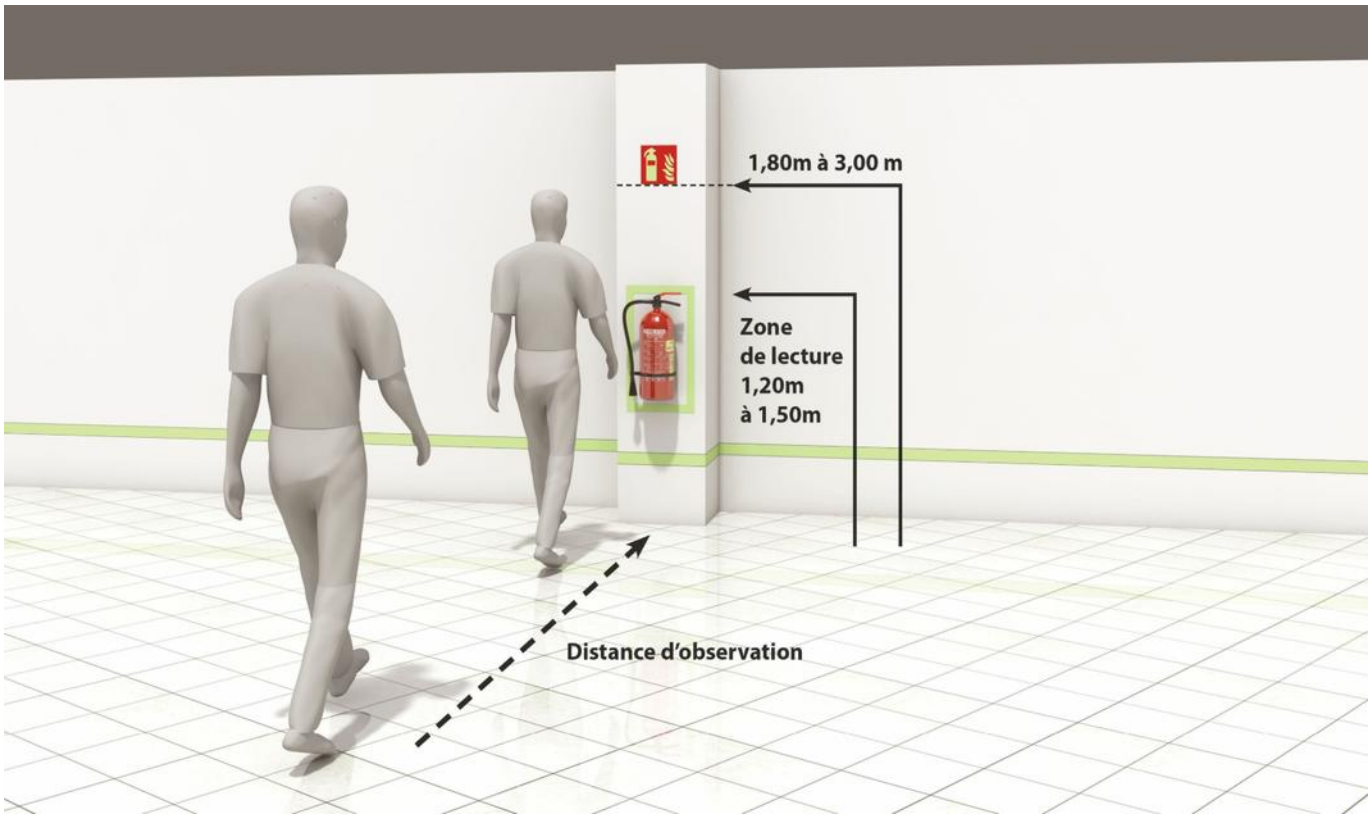


► **Special cases for high-rise buildings:**
The viewing angles must be taken into account and the viewing distances calculated in order to determine the size of the signs and their location. The rules for evacuation signs apply.

Positioning

The positioning of signage is regulated:

► The sign must be placed and installed
✔ so that the sign can be seen from any viewing angle
✔ as close as possible to the light source so that it can charge in the case of a photoluminescent sign (Light sources: *see page 20, Excitation lighting*)



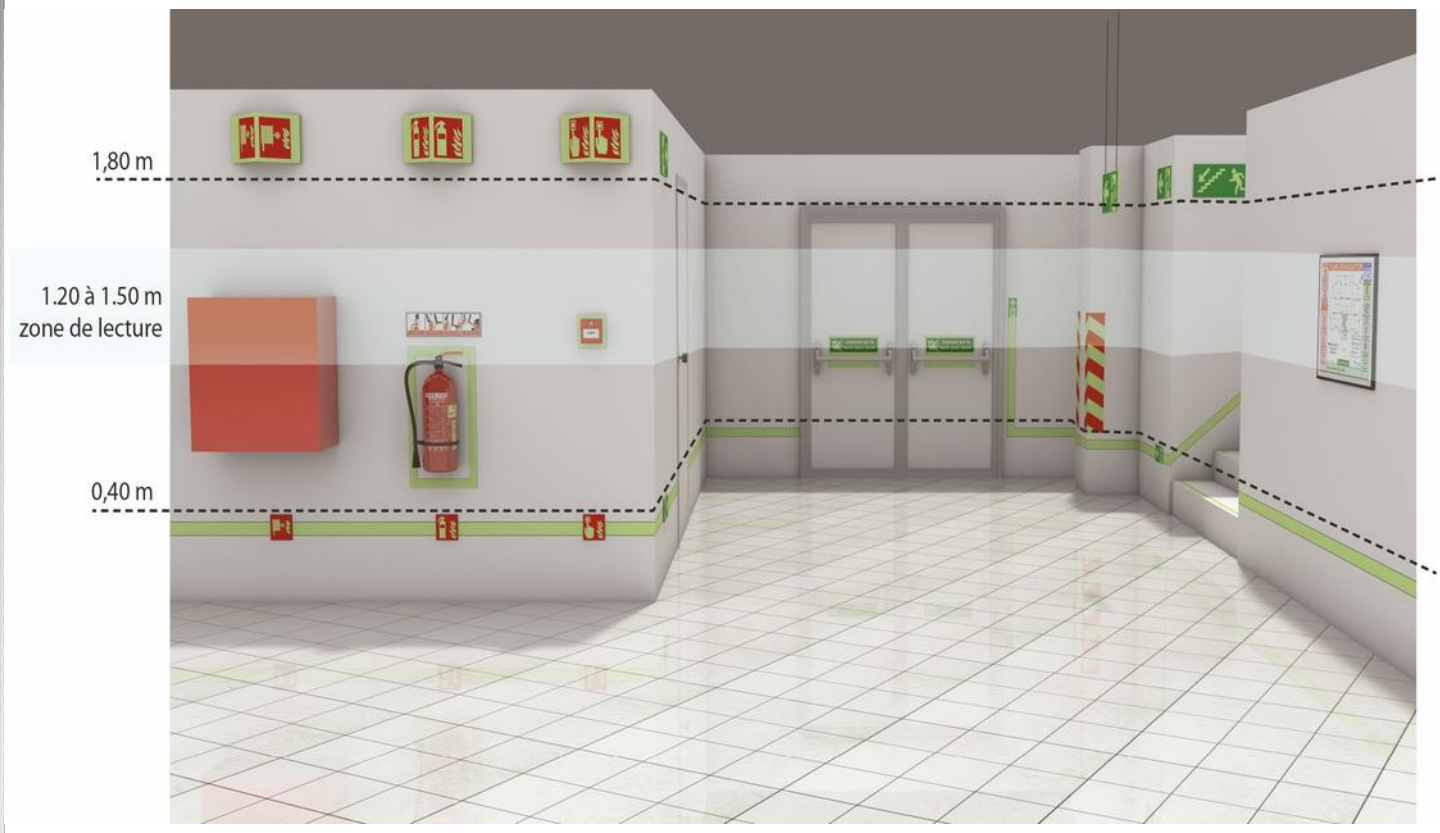
Signaling is provided on three levels:

at height ("high location" between 1.80 and 2.50 m high). The lowest point of the sign is taken into account. These are signs indicating the location of equipment or evacuation routes, which must always be placed at height so that they remain visible above the crowd. Equipment must be pre-signaled by an arrow if it is not visible (e.g., fire extinguisher sign). A hazard sign is placed at height when there is a hazard in an entire area (it is then placed at a height of over 2 m).

at an intermediate level ("intermediate location" between 1.2 and 1.5 m high) to provide the user with information on the use of equipment (instructions, plans, fire extinguisher information). These are also danger, prohibition, and obligation signs in the immediate vicinity of the danger or equipment
(in the reading zone: approximately 1.5 m high).

For **photoluminescent marking of equipment** such as fire extinguishers, these must be outlined or framed by a phosphorescent strip.

at ground level or a short distance from the ground ("low location") with the highest point at a maximum height of 0.40 m from the ground). This applies to floor markings and continuous photoluminescent LLL guide lines, either on the floor or on the wall.

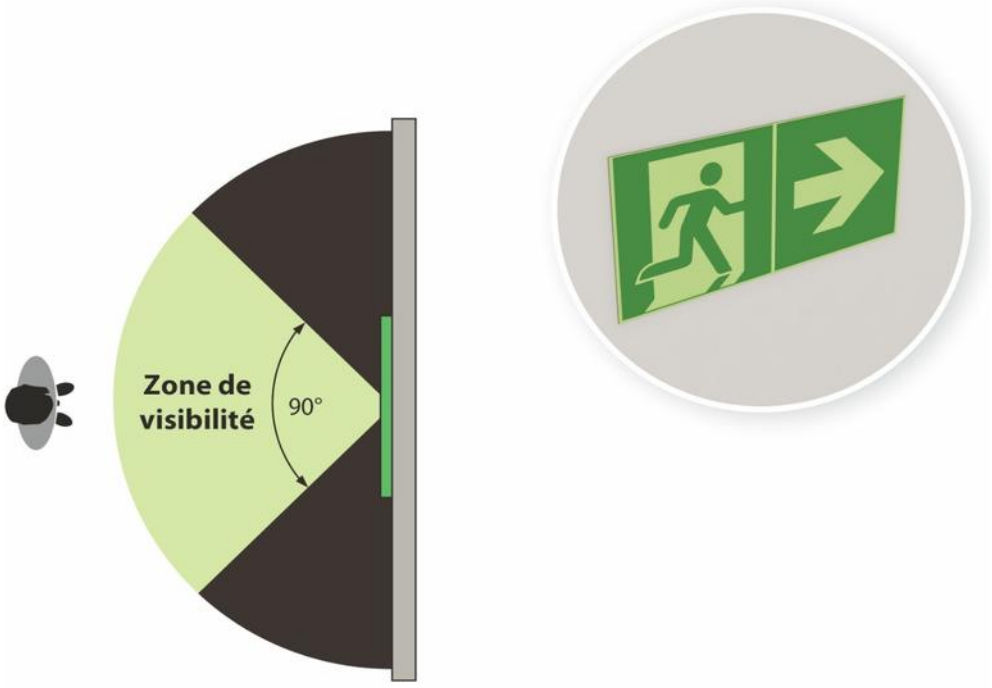


Types of fastenings

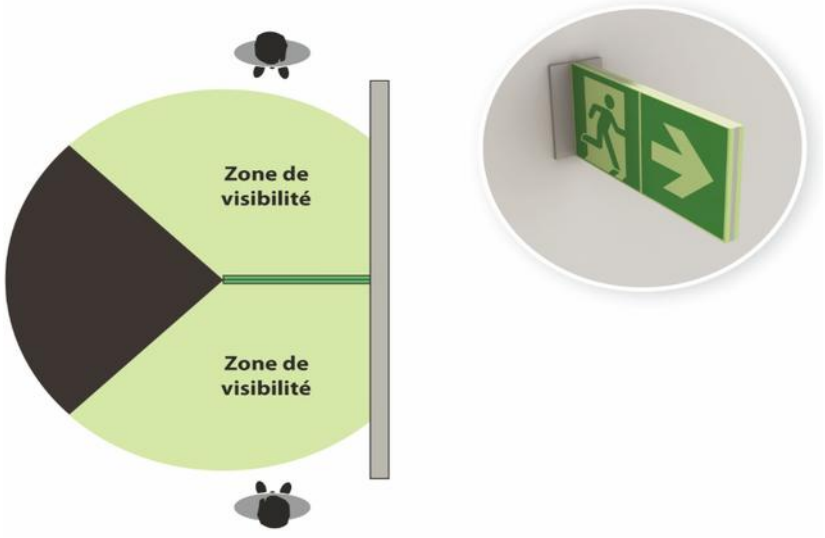
The fastening method can be **mechanical** (screws, rivets, adhesives, suspensions, insertion into profiles, crimping) or **adhesive.**

► It is important to optimize the visibility area.
The angle of visibility when facing a sign is estimated at 90°.

Against the wall (90° visible over 180°):

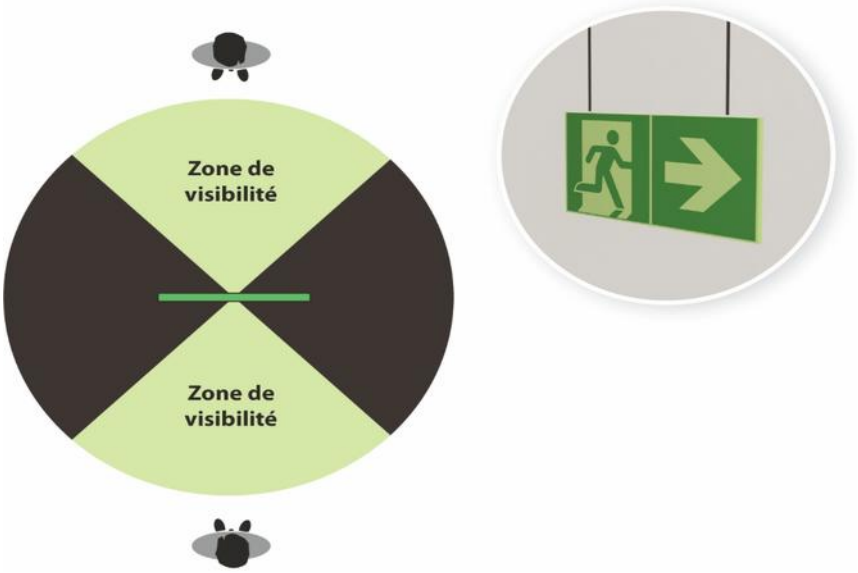


Perpendicular to the wall (flag-shaped, double-sided) (120° visible over 180°)

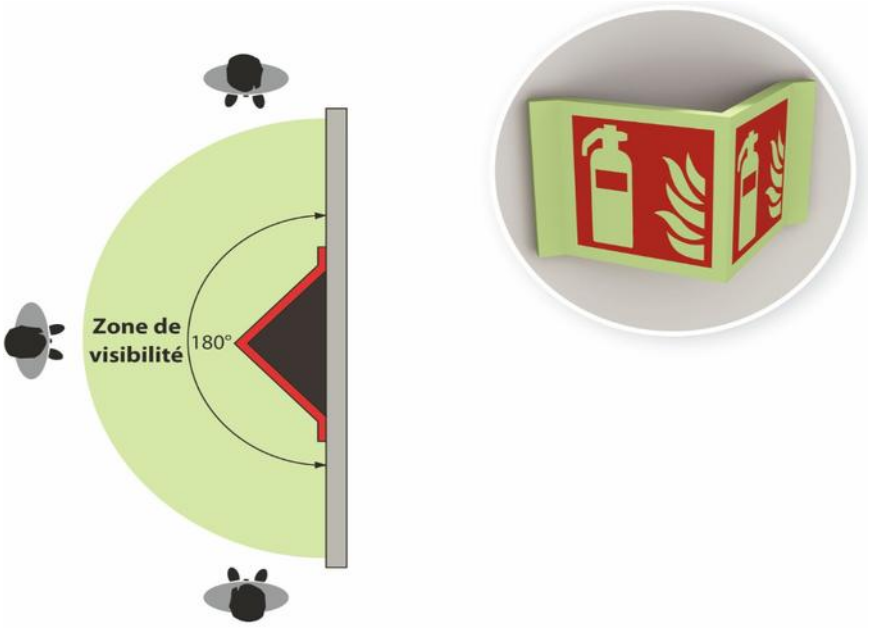


Suspended, double-sided (180° visible over 360°)

Note: Perpendicular signs must be at least 2.20 m high.



Corner (bidirectional) (180° visible over 180°)



excitation lighting

for photoluminescent equipment

The luminance of photoluminescent elements depends on the type, duration, and intensity of the lighting. All elements of a photoluminescent safety system must be adequately lit before use.

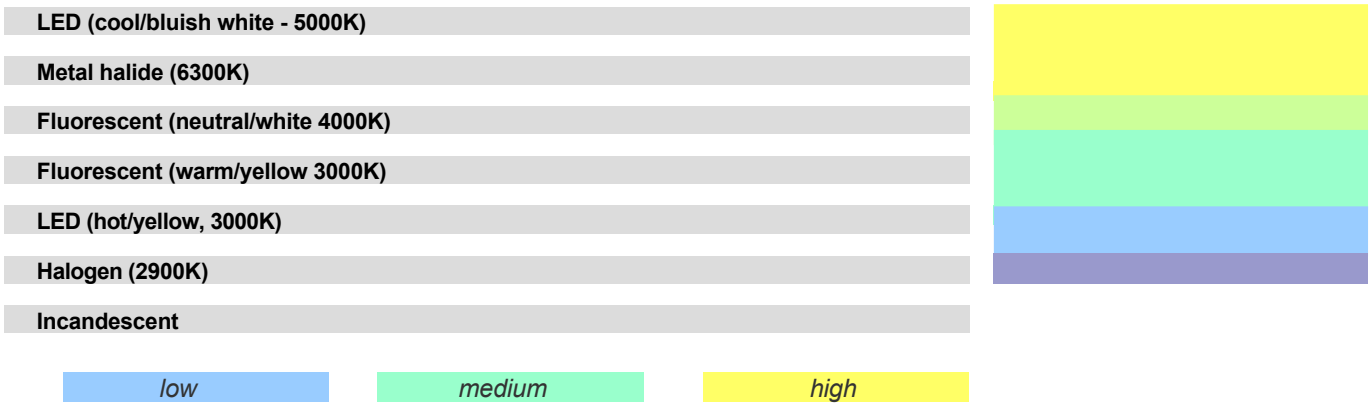
Photoluminescent equipment must always be placed as close as possible to light sources and never in shaded areas. **Illumination must not be less than 25 lux.** Permanent exposure is recommended. Otherwise, the illumination phase must be at least 15 minutes per hour, with no interruption of more than 45 minutes.

When choosing the type of lighting, it is important to take into account the color temperature in Kelvin (K) and the light spectrum (see "lighting comparison" table above) in order to achieve optimal recharging.

► **We recommend "cool" lighting with a color temperature of 3000 to 6500K, such as LED, metal halide, or fluorescent lighting.**

As a guide, for a brightness of 100 to 200 lux applied for 10 minutes, the luminance of the strips can be visible in complete darkness for class C products for 4 hours and for class D products for 6 hours.

Comparison of different excitation lighting systems for charging photoluminescent equipment



Minimum lighting levels according to the activities or locations concerned	Average illuminance
Streets, roads, and highways	15 to 50 lux
Outdoor areas used for permanent work Indoor traffic	40 lux
routes	40 lux
Stairs and warehouses	60 lux
Workrooms, changing rooms, restrooms For	120 lux
intermittent activity or simple tasks	125 lux
For medium-duty mechanical work, office work For	200 lux
precision mechanical work, drawing	400 lux
For precision mechanics, electronics	600 lux

Examples of minimum recommended values for work premises given by standard NF EN 12464-1 "Light and lighting - Lighting of workplaces - Part 1: Indoor workplaces"4.

Example of average values in common situations	Average illuminance
Full moon night	0.5 lux
Well-lit street at night	20 to 70 lux
Living space	100 to 200 lux
Well-lit apartment	200 to 400 lux

Photoluminescent markings in stair

(Landings, steps, handrails)

As part of LLL photoluminescent guidance, markings must be continuous, even when changing floors. Stair treads and handrails must be marked in a similar and consistent manner throughout the building.

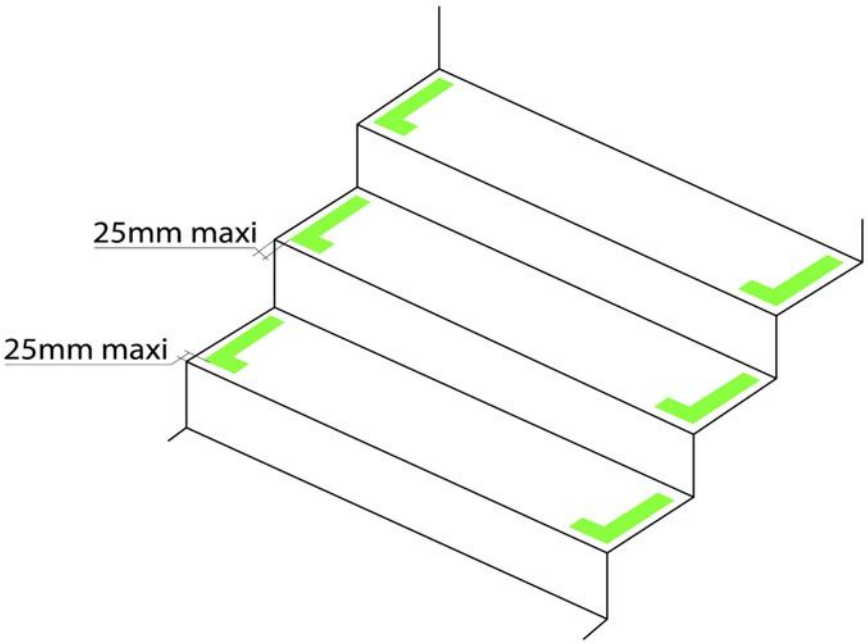
Steps

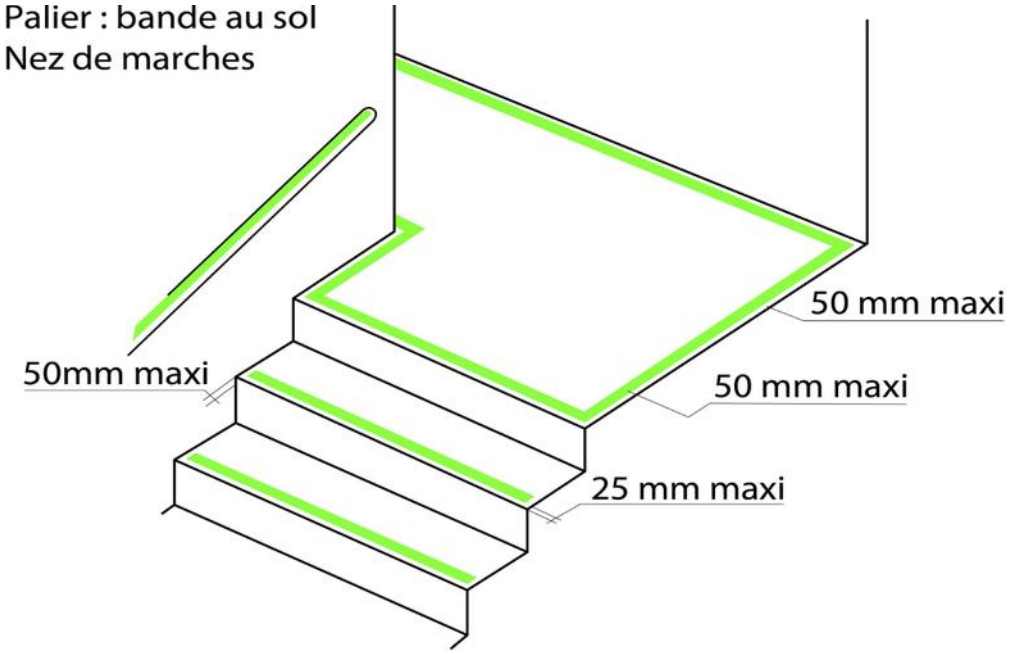
► Before a photoluminescent strip

Each step must be marked with a strip 20 mm to 50 mm wide, along its entire length (max. 5 cm recess at the end of the step), and installed parallel to the step edge at a maximum distance of 25 mm. A **photoluminescent stair nosing** can be used to ensure the visibility of steps in the dark and to provide additional protection for the stair nosing and anti-slip properties.

► With L-shaped markers

Stairs can also be marked by installing L-shaped **photoluminescent stair markers** on the left and right corners, provided that the staircase is less than 2 m wide. The dimensions of L-shaped equipment must comply with NF X 50 080 2.





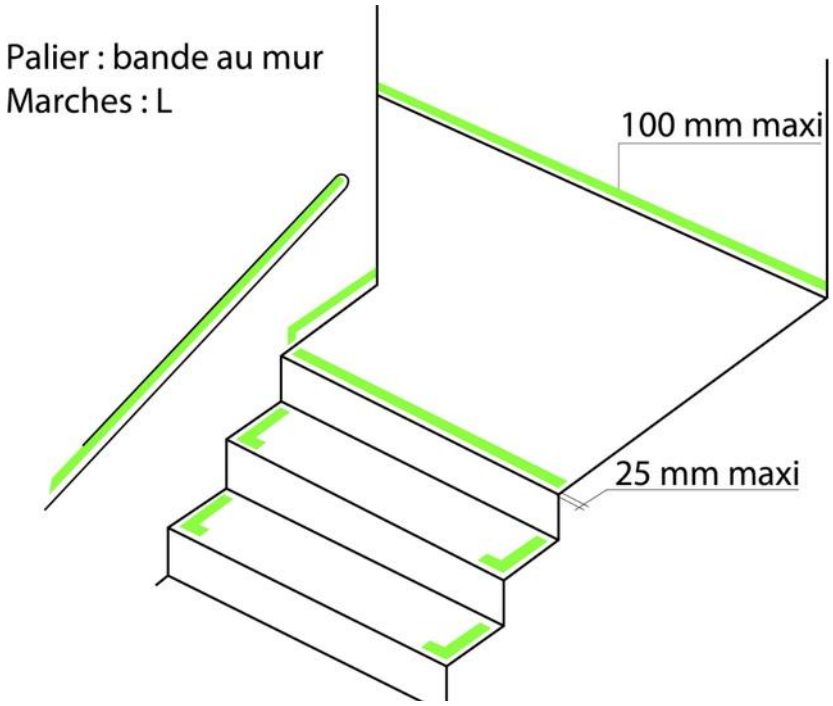
Handrails

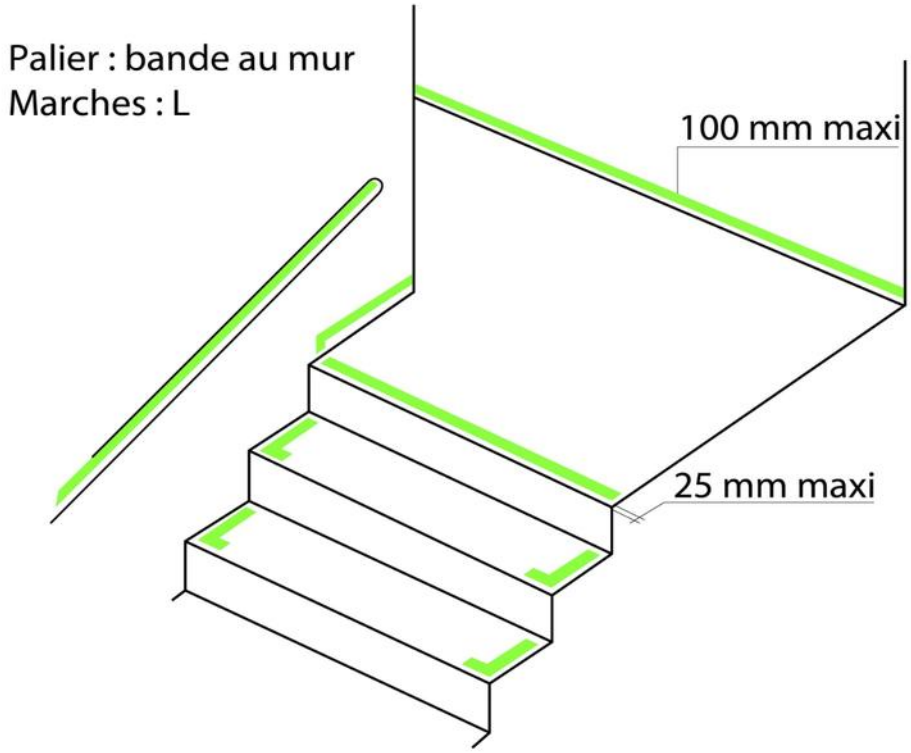
These must also be marked by installing a photoluminescent strip (minimum width 25 mm) on the top, with no gaps greater than 10 cm.

Landings

When installing an LLL route, the transition from a landing to a staircase must also be marked: a continuous strip with markings on the floor or lower part of the wall must be installed along the entire length of the first and last steps to mark the arrival at the staircase, whether coming from above or below.
Each change of floor must be indicated by a photoluminescent information and directional sign showing the stair designation, floor number, and direction.

► **Stair nosings must meet the following requirements:**
- be visually contrasting with the rest of the staircase
- be non-slip and not protrude excessively beyond the riser.





Photoluminescent signage in tunnels

2004/54/EC



In Europe, Directive 2004/54/EC sets out the rules for signage in tunnels longer than 500 meters.

Road and rail tunnels pose a particularly high risk in the event of an accident and/or fire, due to the high level of darkness and confinement, but also because of the long distances involved in evacuation.

It is extremely important to provide information to enable people to evacuate as quickly as possible, avoid panic and prevent tragic consequences in terms of loss of life.

In the event of a total power failure, photoluminescent signage in tunnels is the only effective alternative for providing visual signals in the dark, indicating the direction of emergency exits, access to emergency call points, and the location of fire-fighting equipment.

Tunnels are considered "extreme environments," so photoluminescent devices must be adapted to ensure high levels of resistance and luminance. Arco Iris produces a special range of **aluminum or stainless steel signs and panels** with very high levels of photoluminescence in classes D, E, F, or G.

What photoluminescent signs are used in tunnels?

Signs must indicate (but are not limited to)

- the direction and distance to exits
- firefighting equipment and emergency telephone access
- safety niches and instructions in several languages
- refuge areas and door numbering
- Optional markings in low areas

Special features of photoluminescent evacuation signs for tunnels:

Photoluminescent evacuation signs pointing to the exits must be placed at 25-meter intervals, positioned on the wall at a height of 1.1 to 1.5 meters.

Each sign must indicate the distances to the two nearest exits in both the left and right directions. The two signs may be placed side by side or one above the other.

Side by side:



One above the other:

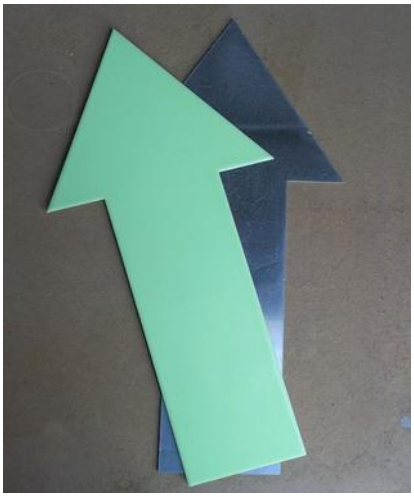


Installation of signs:
Depending on the signals, these must be fixed to the walls, either flat or at a two-way angle.





Arco Iris photoluminescent products for tunnels

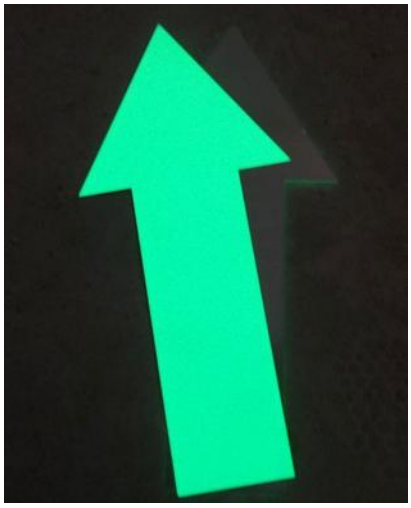


Photoluminescent aluminum panels:
Aluminum plate + photoluminescent epoxy coating

- Minimum thickness of 1.1 mm
- Appearance: yellowish/green in the dark
- Luminance levels according to ISO 17398 higher than French regulations: Class D* minimum.

On request, Arco Iris can produce panels with class E, F, or G levels, and any cut size up to 120 m x 100 cm. Signs can also be supplied in stainless steel.

**Class D: Luminance measured at 285 mcd/m² at 10 min and 37 mcd/m² at 60 min, with extinction at 3200 min*



Photoluminescent aluminum panels for tunnels have very high levels of photoluminescence to ensure effective charging even with the low levels of lighting found in tunnels.

The epoxy coating is ultra-waterproof and resistant to various types of damage (water, salt, smoke, washing). Easy to clean and resistant to dirt build-up. Resistant to all detergents.
Photoluminescent aluminum panels have a long service life and are highly robust compared to PVC panels.

► How can sufficient light be ensured?

Vehicle headlights provide a certain amount of light, but it is essential to position the panels as close as possible to light sources.



Photoluminescent safety equipment

NF X 050 80 – 2

Definition of photoluminescent safety products

Photoluminescent products are visible in all lighting conditions, whether in normal lighting conditions or in dark or obscure environments. The photoluminescent property of their surface comes from the photoluminescent pigments they contain. These react to light (excitation) by emitting phosphorescence for a certain period of time after the light source is turned off.

A complete photoluminescent safety system must include photoluminescent equipment and adequate excitation lighting to ensure the necessary light energy for charging.

Areas of application

They are most often used indoors, in commercial, industrial, or residential premises. They can also be effective outdoors, provided there is sufficient darkness.

They are used for safety signage and, in particular, for marking evacuation routes, to assist evacuation and emergency response, and for marking and identification purposes.



Classification of photoluminescent equipment by:

- **Materials:** Aluminum, rigid PVC, vinyl adhesive, glass, stainless steel, paint, others, etc.

- **Performance:** there are different levels of luminance intensity from class A to class G.

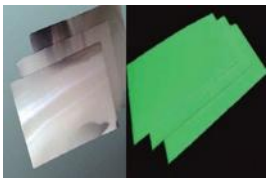
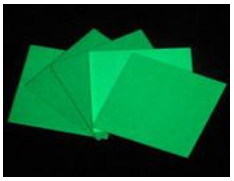
- **Function:** Signals, marking, evacuation, information. There is equipment for everyday use and equipment known as "LLL*." The latter is part of a standardized system (photoluminescent evacuation guidance according to NF X 080 50– 2) and is subject to additional performance requirements
(see page 8).

- **Resistance to environmental conditions:** Characteristics that ensure they remain functional throughout their service life under the intended conditions of use (weather, abrasion, cleaning, etc.).

Materials

Photoluminescent safety equipment is manufactured using different materials, which form the substrate for the photoluminescent layer. Arco Iris® products always deliver high performance regardless of the substrate.

The choice of material is determined based on its **luminance** level, desired **robustness/durability** (exposure and wear conditions), and **cost**:

Comparison of resistance level/cost				
PVC vinyl	**PVC**	**Aluminum**	**Stainless steel**	**Glass**
				
Flexible adhesive	Semi-rigid sheet	Rigid sheet Class B	Rigid plate	Thick glass Class B
Class B to E	Class B to G	to G Thickness 0.7-1.4	Class B to G	to G Thickness 5 to
Thickness 0.25-0.35 mm	Thickness 1.1-1.4 mm	mm	Thickness 1.1-1.7 mm	15 mm
From 2.5 cm to 100 cm	From 2.5 cm to 120 cm	From 2.5 cm to 100 cm	From 2.5 cm to 100 cm	From 5 to 20 cm
Very economical	Economical	Average budget	High budget	High budget
Good overall durability	Good overall resistance	Excellent resistance	Excellent resistance	Excellent resistance
Poor abrasion/fire resistance	Poor abrasion/fire resistance	Recommended for all conditions	Recommended for extreme conditions	Luxury use and heavy traffic
Not recommended for outdoor use	Not recommended for outdoor use	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor
Some aluminum, stainless steel, and especially glass products are custom-made.				

Care and maintenance

Photoluminescent equipment requires no maintenance or servicing.
A simple check, dusting, and cleaning with a mild detergent will keep the equipment clean and in perfect working order.

The photoluminescence of Arco Iris products generally lasts for over 20 years without any decrease in performance.

Arco- Iris® approved and certified products

Quality and services

Arco Iris offers a wide range of approved and certified photoluminescent equipment.
The products are delivered with a technical data sheet detailing their characteristics, installation instructions, and instructions for use (precise information on excitation lighting, lamp type, and the minimum level and duration of illumination required to obtain the useful luminance in real conditions).

Resistance tests

Arco Iris's main products are subjected to resistance tests (flammability, weathering, water, salt spray, cleaning, abrasion, adhesion, UV rays). Test reports are provided on request.

Harmfulness and Toxicity

Arco Iris products are non-radioactive, phosphorus-free, and free of heavy metals (analysis certificates available on request).

Custom manufacturing

For specific requirements, Arco Iris offers a production service, manufacturing, cutting, and printing photoluminescent equipment to order, customized to specific requirements. Equipment is produced quickly, according to a plan or graphic proposal from Arco Iris's design office, with a choice of materials and luminance levels from B to G+.

Permanent stock
800 items available immediately



Easy and fast online ordering
Quick and easy



➡ **Access the online store**

Efficient logistics
Delivery within 24/48 hours in Europe or worldwide.



Sales and technical support
7 days a week by email



➡ **Contact**

Email: info@phosphorescent.fr
Tel.: +33 4 66 50 61 66 / Fax: +33 4 84 25 02 51

Registered office and headquarters: ARCO IRIS SAS, ZA Tesan Plan Sud, 30126 St Laurent des Arbres, France

List of Arco Iris photoluminescent equipment®

Photoluminescent equipment

- Adhesive aluminum photoluminescent tape
- Adhesive photoluminescent anti-slip tape
- Rubber anti-slip photoluminescent tape
- LLL adhesive photoluminescent PVC vinyl tape
- Arrow-marked photoluminescent adhesive tape PVC vinyl
- Adhesive photoluminescent strip with hatch pattern PVC vinyl
- Aluminum photoluminescent tape with luxury profile
- Photoluminescent tactile aluminum stud
- Aluminum photoluminescent arrow
- Standard aluminum photoluminescent stair nosing
- Luxury aluminum photoluminescent stair nosing
- Photoluminescent and retroreflective plastic stud
- Photoluminescent PVC signs
- Aluminum photoluminescent signs
- Stainless steel and glass photoluminescent spot
- Round adhesive photoluminescent arrow
- Photoluminescent L-shaped markers
- Photoluminescent door opener
- Photoluminescent rope

Materials/supports

- Photoluminescent film PVC vinyl
- Photoluminescent rigid PVC plate
- Photoluminescent aluminum plate
- Stainless steel photoluminescent plate
- Photoluminescent glass

Aluminum photoluminescent adhesive tape

LLL-3M-50 and BAAP

Description:
Class E photoluminescent aluminum tape with 3M adhesive, multi-purpose,

Available in
anti-slip version (Ref: BAAP)

Use
Guidance and marking Floors, walls, stairs Indoor/Outdoor LLL type equipment

Performance
Class E

Dimensions
5cm x 100cm
<1 mm thick

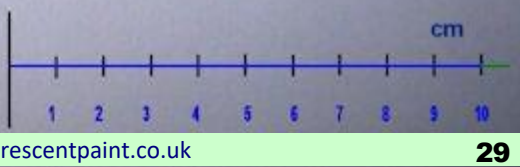
Fastening:
High-performance 3M 300SLE adhesive on the back of the tape

Material
Aluminum and extra high luminous intensity photoluminescent resin, Flexible

Resistance
Very high resistance to fire (non-flammable), water,
weather, salt spray, cleaning, abrasion, UV rays

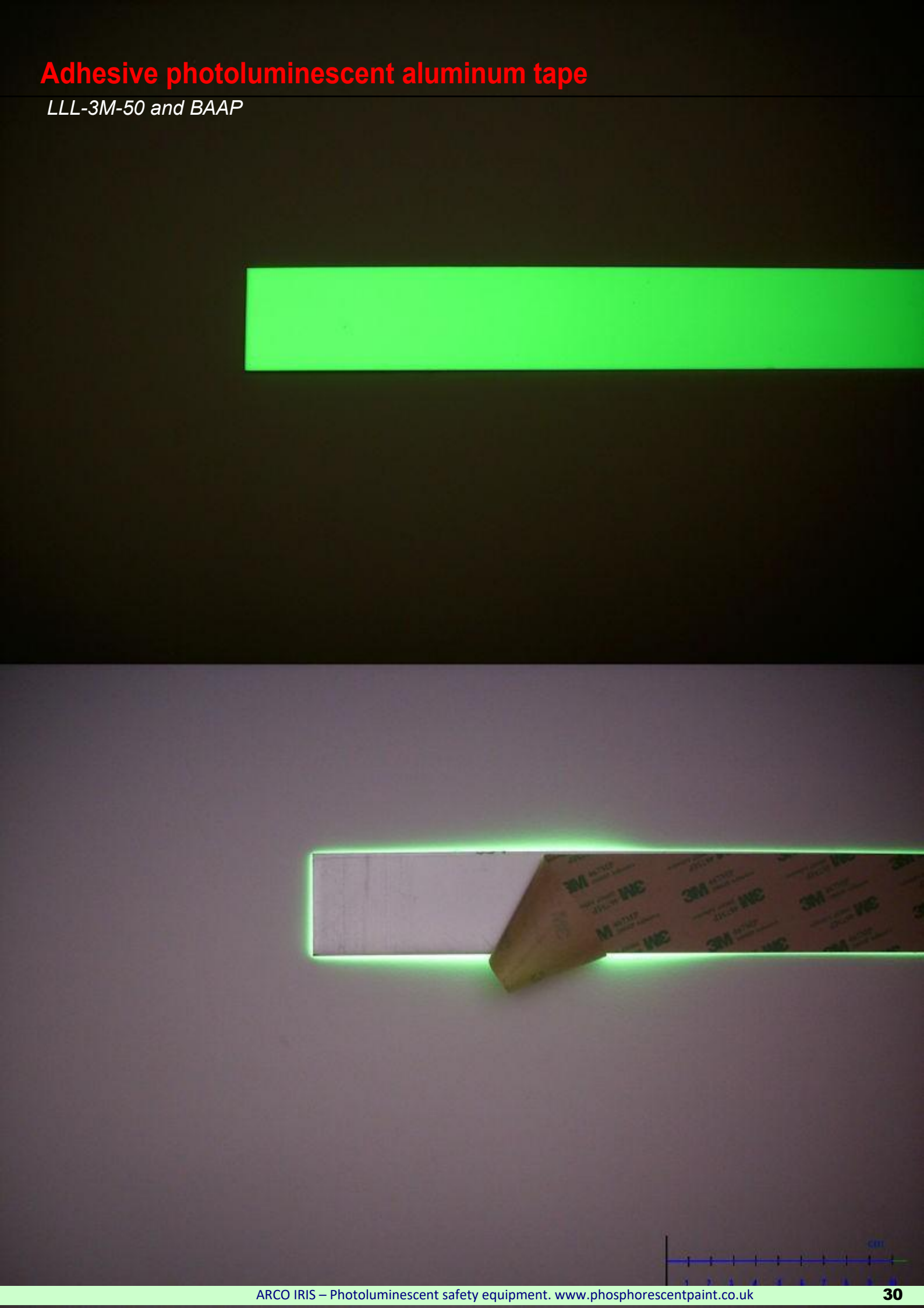
Notes
Antistatic and easy to clean





Adhesive photoluminescent aluminum tape

LLL-3M-50 and BAAP



Anti-slip photoluminescent adhesive tape

LLL-AS

Description:
Class B anti-slip photoluminescent tape.
Highly slip-resistant surface, reduces the risk of falls on slippery surfaces Recommended for areas with moderate traffic.
Unmovable and tear-proof once in place.

Use
On all smooth surfaces in dry environments. For steps, stairs, footboards, etc.

Performance
Class B

Dimensions
Type: roll 5 cm
x 5 m 5 cm x
20 m
1 mm thick

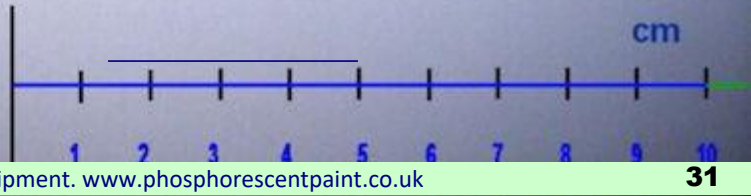
Fixing:
Adhesive on the back of the strip

Material
PVC and quartz

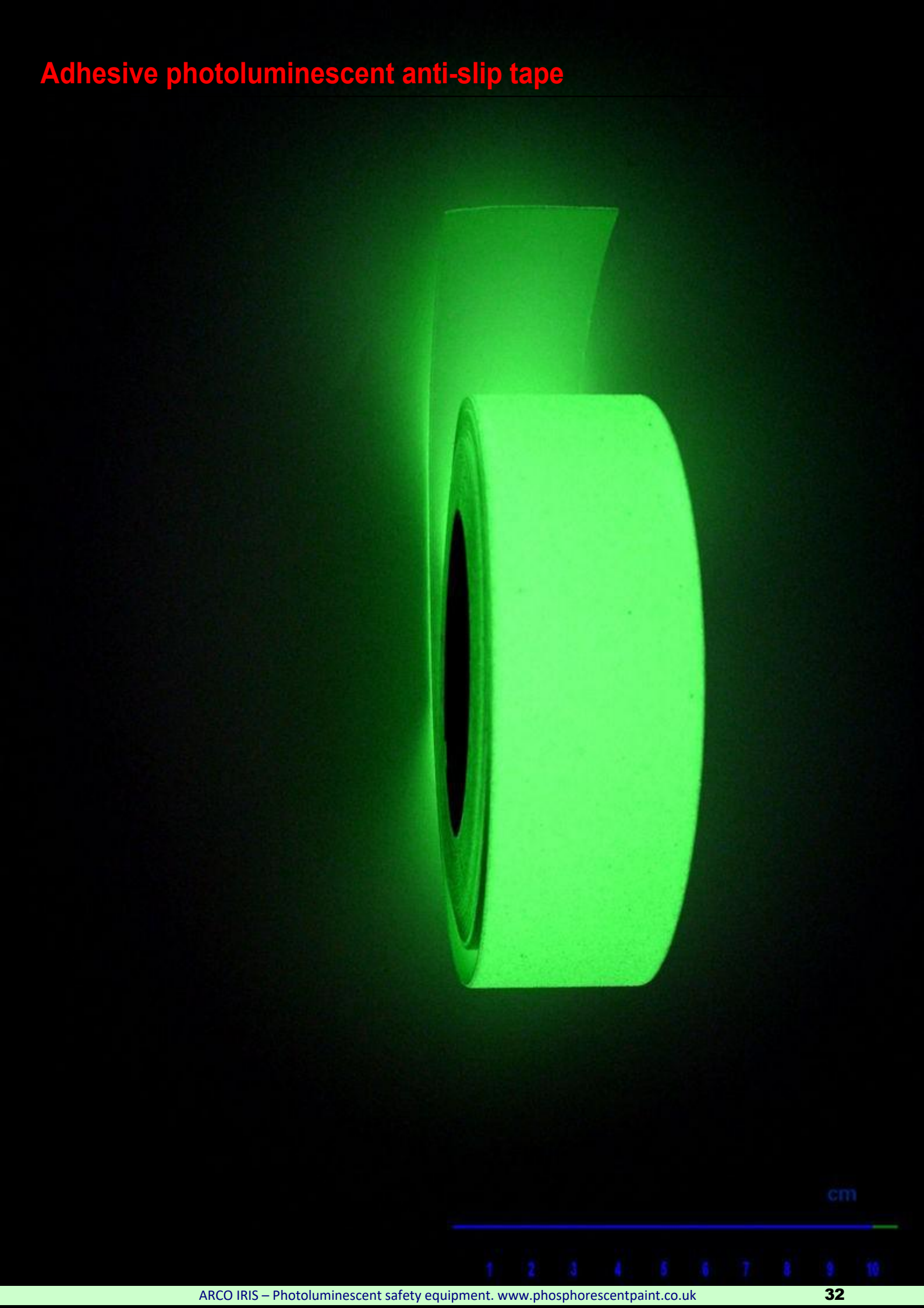
Resistance
Good resistance to tearing,
trampling and ignition

Notes
Other solution: See our photoluminescent anti-slip rubber tape





Adhesive photoluminescent anti-slip tape



Anti- -slip rubber photoluminescent tape

BAPC

Description:
Class C anti-slip photoluminescent tape.
Highly anti-slip surface, reduces the risk of falls on slippery surfaces Recommended for high-traffic areas
with heavy traffic.
Can be applied by gluing to all types of surfaces

Use
For floors, steps, stairs, landings, etc.

Performance
Class C

Dimensions
Strip 4.5 cm x 1 m Roll
4.5 cm x 25 m 3 mm thick

Fixing
Product delivered without fasteners. Use PVC glue, hot glue, or epoxy glue.

Material
PVC

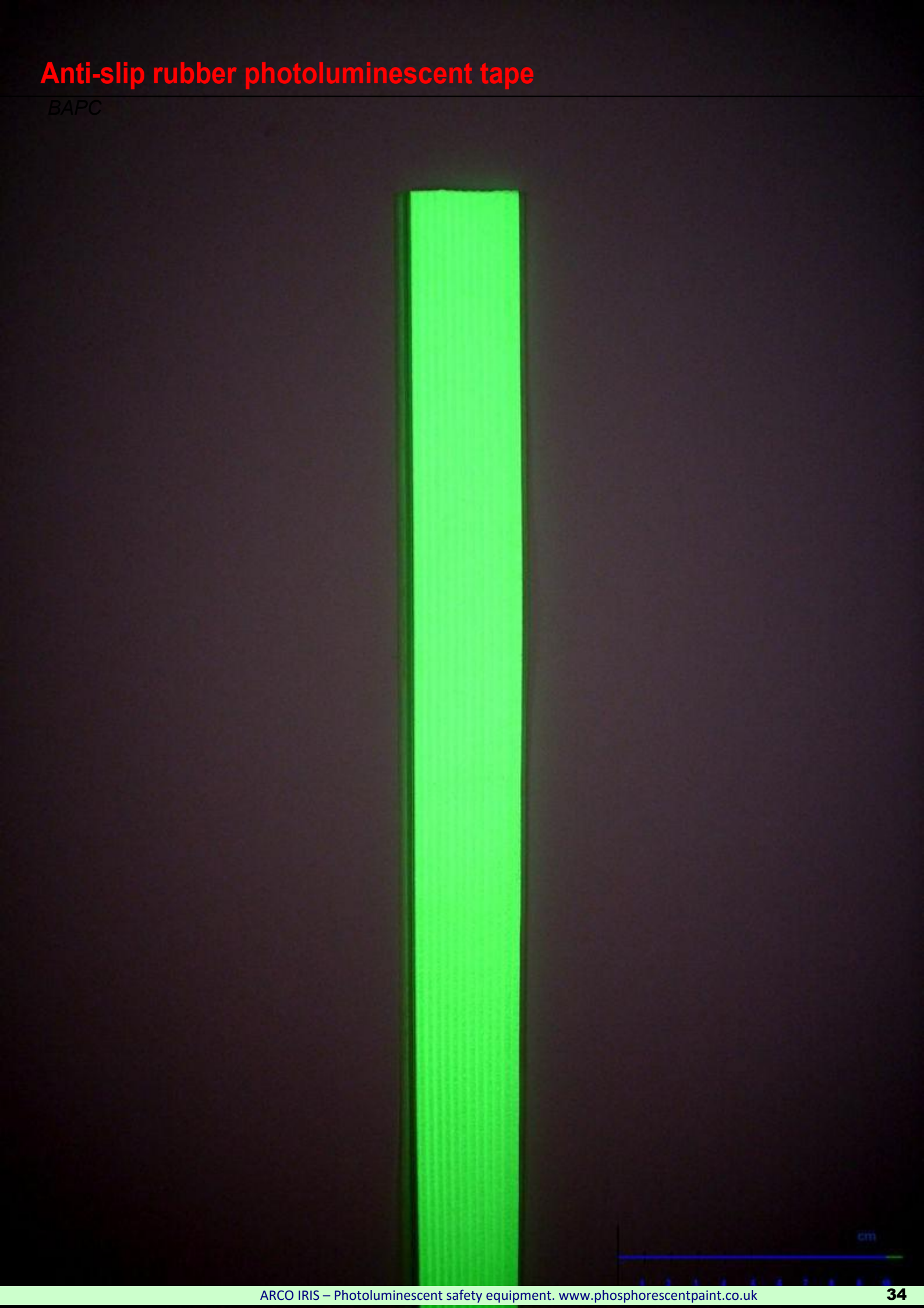
Resistance
Very high resistance to foot traffic, abrasion, UV rays, water, and detergents.





Anti-slip rubber photoluminescent tape

BAPC



LLL adhesive photoluminescent tape

LLL-XXX

Description:
Class C to E adhesive photoluminescent tape.
Provides guidance in all lighting conditions.

Use
Application on low areas on smooth floors, walls, handrails, or corners of steps. LLL type equipment

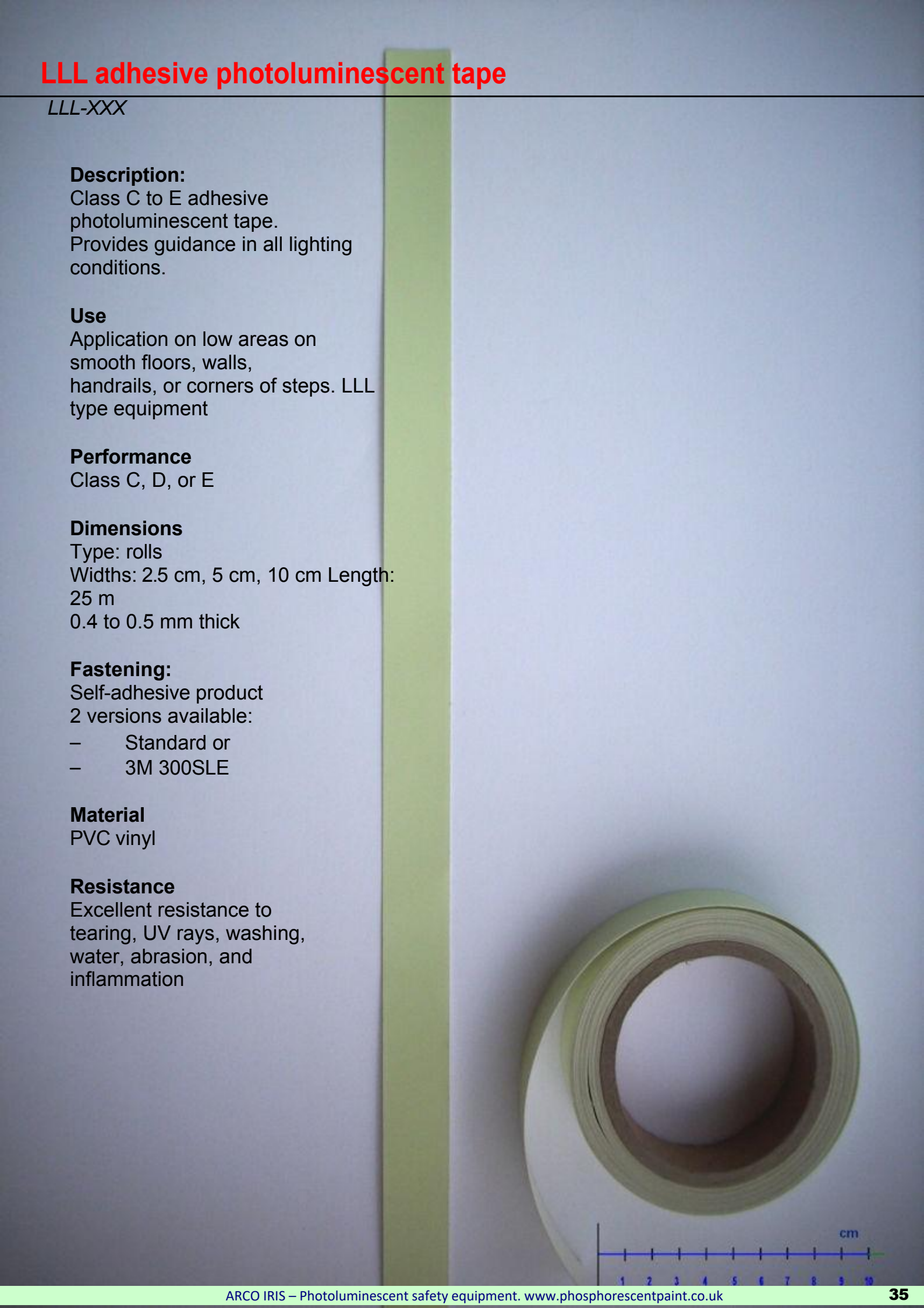
Performance
Class C, D, or E

Dimensions
Type: rolls
Widths: 2.5 cm, 5 cm, 10 cm Length: 25 m
0.4 to 0.5 mm thick

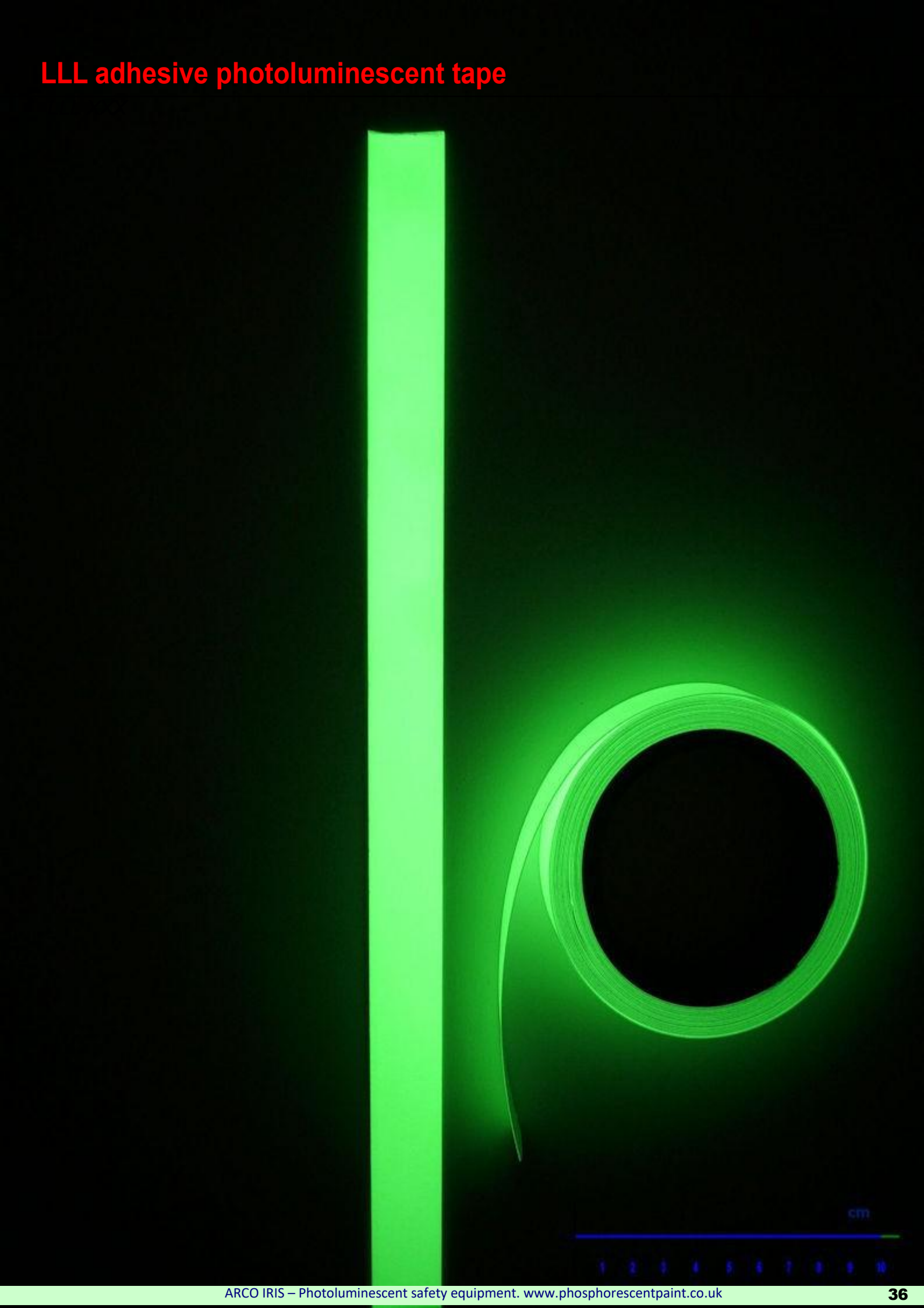
Fastening:
Self-adhesive product
2 versions available:
– Standard or
– 3M 300SLE

Material
PVC vinyl

Resistance
Excellent resistance to tearing, UV rays, washing, water, abrasion, and inflammation



LLL adhesive photoluminescent tape



Adhesive photoluminescent arrow tape

LLL-ARW

Description:
Photoluminescent tape with arrow printing. Provides guidance in all lighting conditions.

Use
Application on low areas on smooth floors or walls.
LLL-type equipment

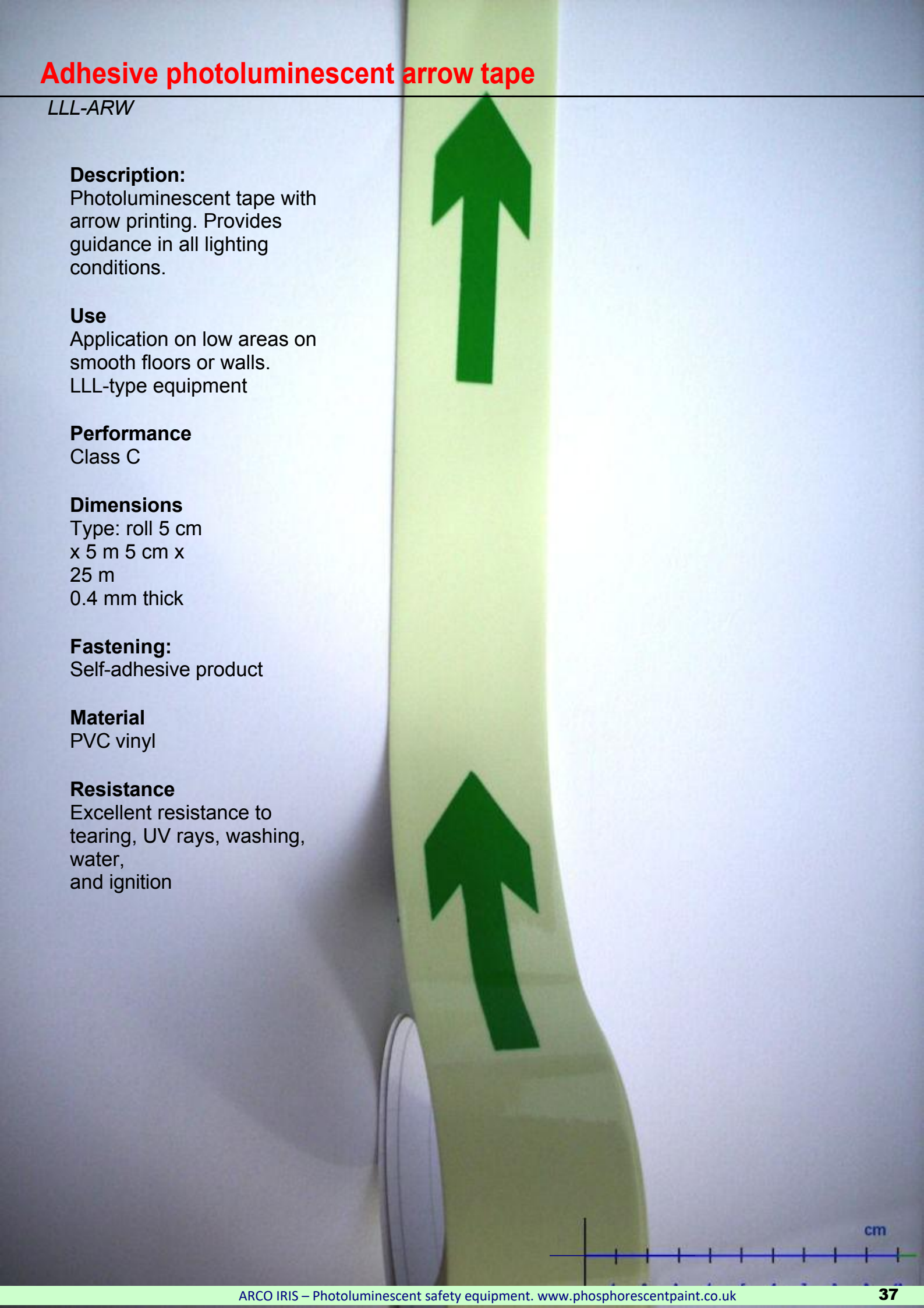
Performance
Class C

Dimensions
Type: roll 5 cm
x 5 m 5 cm x
25 m
0.4 mm thick

Fastening:
Self-adhesive product

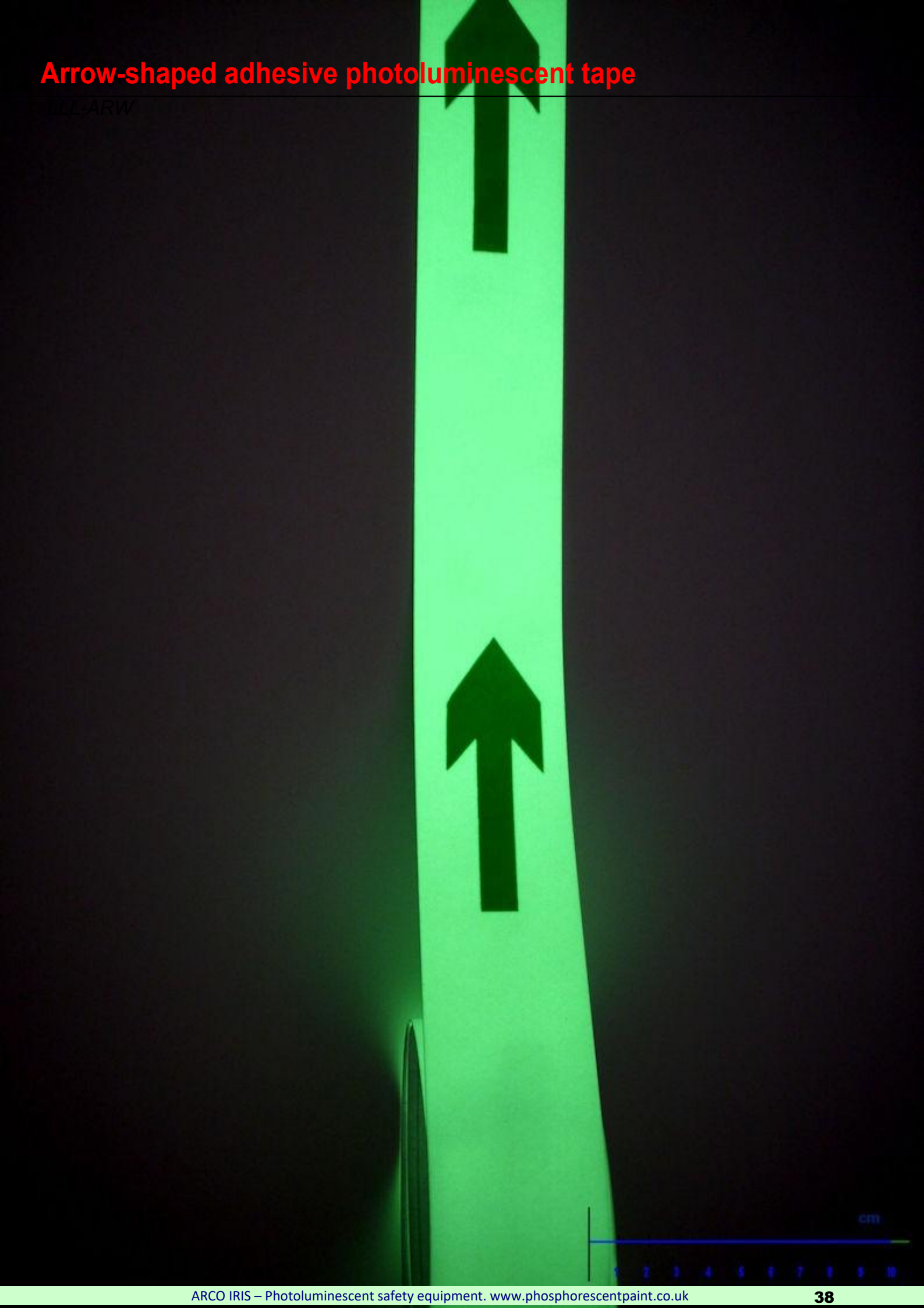
Material
PVC vinyl

Resistance
Excellent resistance to tearing, UV rays, washing, water,
and ignition



Arrow-shaped adhesive photoluminescent tape

LLL-ARW



Adhesive photoluminescent tape with a dotted pattern

BPA-R

Description:
Class C hatched photoluminescent tape.
Enables the identification obstacles in all lighting conditions.
Product made to order only

Use
On all smooth surfaces.
Additional equipment
LLL type

Performance
Class C

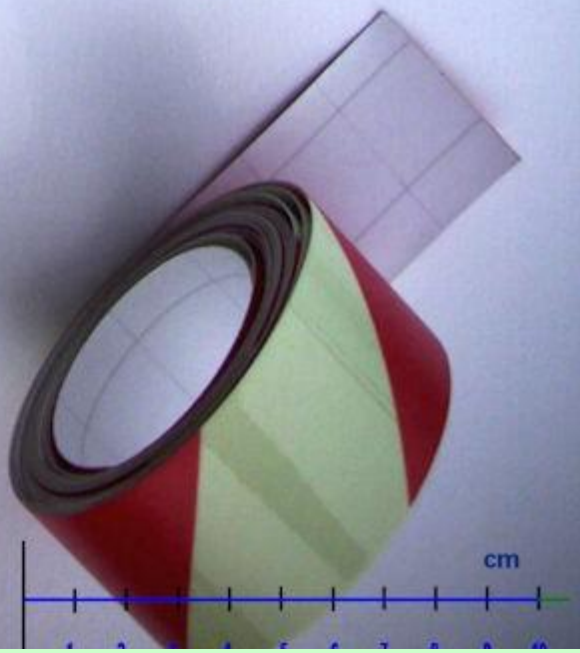
Dimensions
Type: 5 cm x 25 m roll
0.4 mm thick

Fastening:
Self-adhesive product

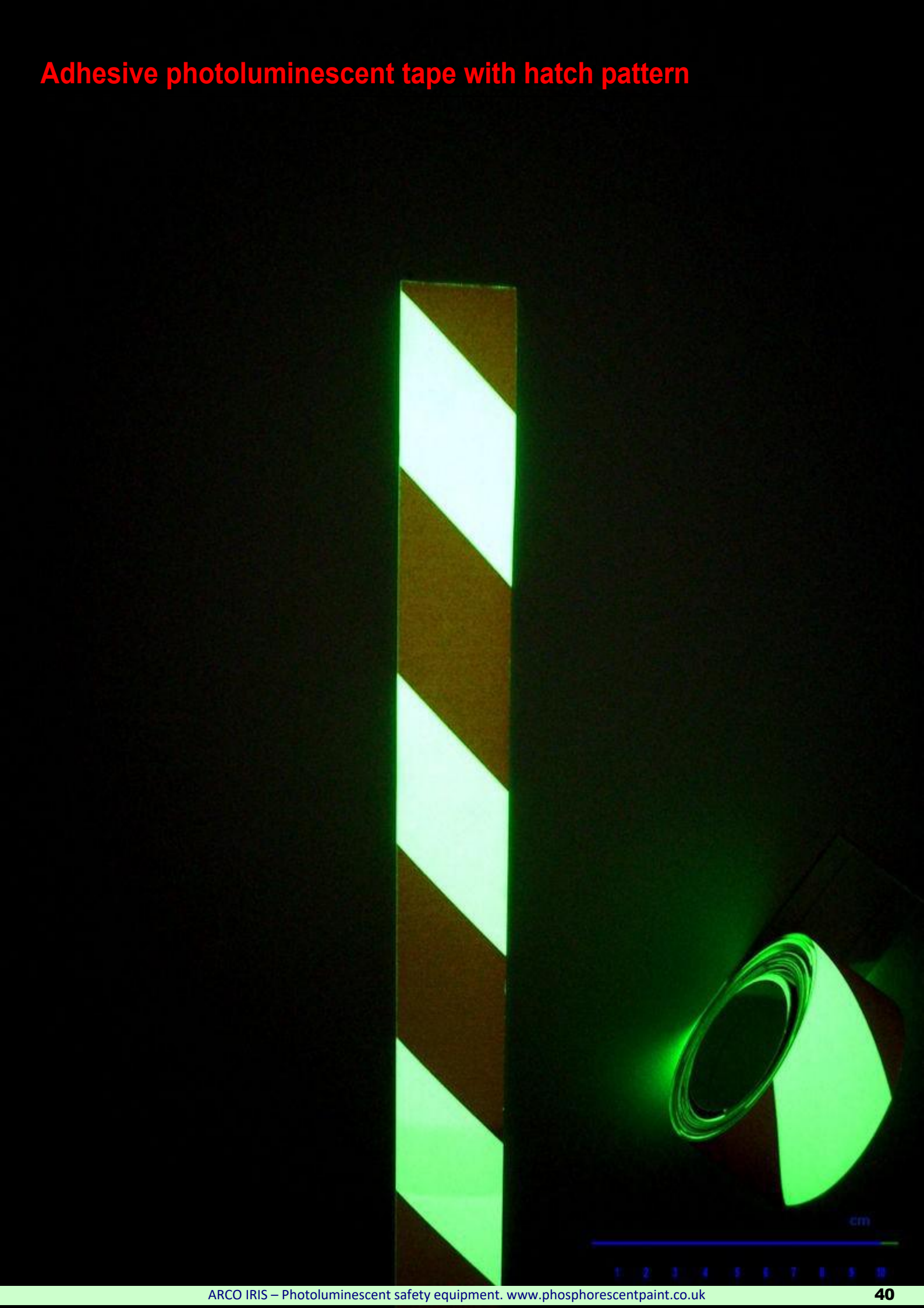
Material
PVC vinyl

Resistance
Excellent resistance to tearing, UV rays, washing, water, and inflammation





Adhesive photoluminescent tape with hatch pattern



-luxury aluminum photoluminescent tape

APLB-C

Description:
Photoluminescent aluminum insert supplied with aluminum profile.
High-quality finish.
Vandal-proof aluminum profile. High-strength material.
Recommended for high-traffic areas,
for guidance in all lighting conditions.

Use
On all surfaces. Lower or middle section LLL type equipment.

Performance
From C to G

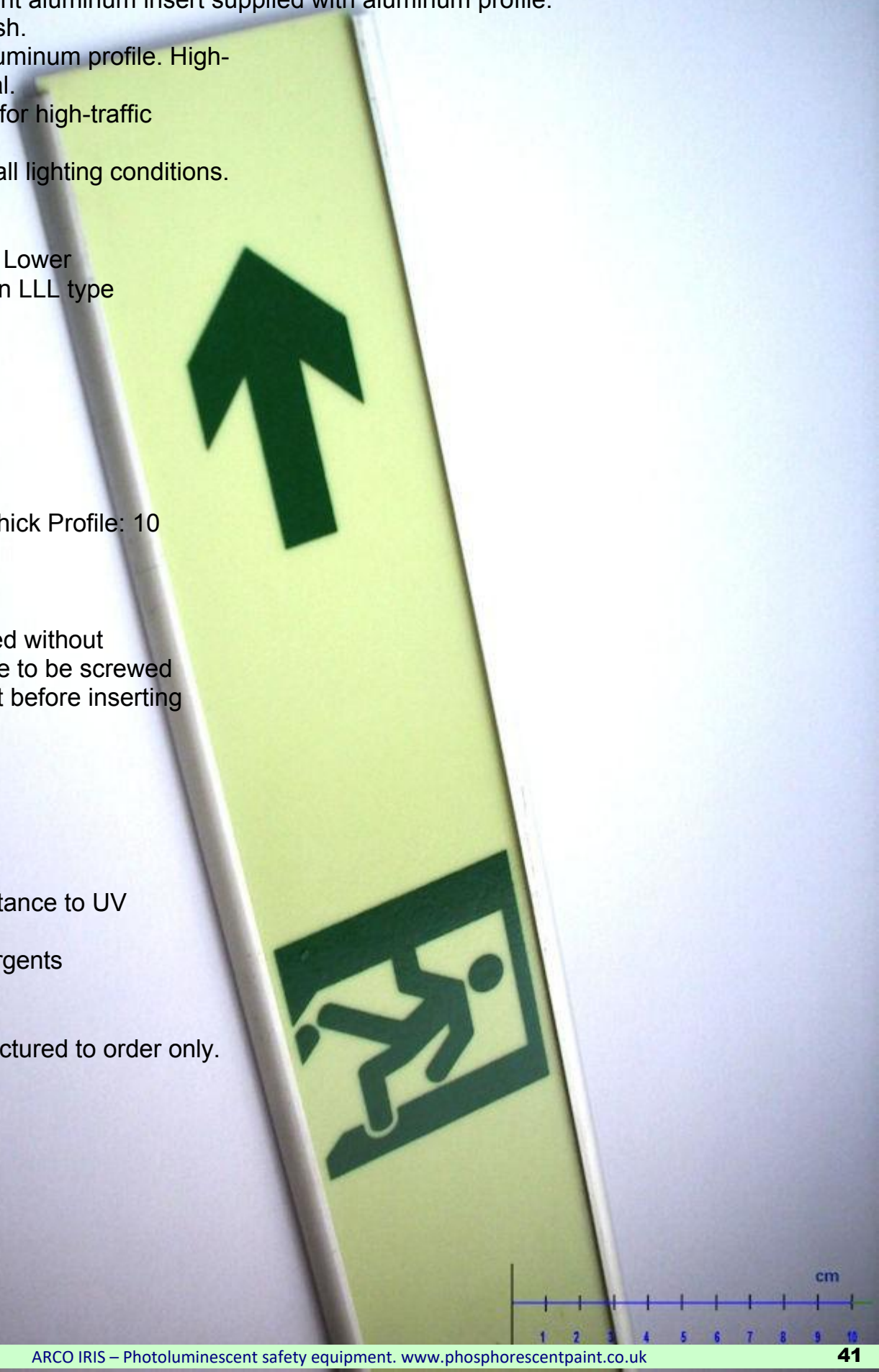
Dimensions
10 cm x 100 cm
Insert: 1.3 mm thick Profile: 10 mm thick

Fastening:
Product delivered without fasteners. Profile to be screwed onto the support before inserting the insert

Material
Aluminum

Resistance
Very good resistance to UV rays, abrasion
water, and detergents

Rating
Product manufactured to order only.



Aluminum photoluminescent tape with luxury profile

APLB-C



e photoluminescent tactile paving stud

CT-1030L

Description:
Class C photoluminescent tactile paving stud.
Aids location for visually impaired people
and for visual identification in all lighting conditions. Anti-slip product

Use
Guidance and
identification
Indoor/outdoor flooring
Additional equipment

Class C
performance, can
be manufactured up
to class G

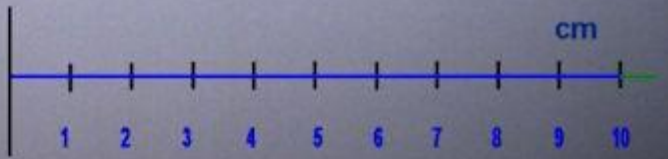


Dimensions
(35*25*5mm)*12mm
Compliant with NF P 98-351
- Nail head diameter: 25 mm
- dome shape with a single radius of curvature
- dome thickness of 5mm height.
* Available without nails

Fastening:
Epoxy bonding after drilling a hole and
inserting the nail

Material
Aluminum and extra high intensity
photoluminescent resin

Resistance
Perfect resistance to temperature variations, fire, and corrosion



Photoluminescent tactile paving stud

CT-1030L



Photoluminescent aluminum arrow

ARAL30

Description:
Aluminum photoluminescent arrow for visual directional signage in all lighting conditions.
Ultra-resistant product.
Very high level of phosphorescence.

Use
Guidance
Floors and walls, indoor/outdoor. Additional equipment

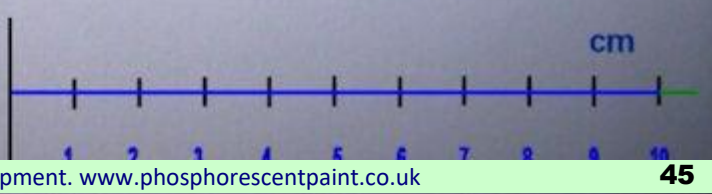
Performance Class D manufacturing possible up to class G

Dimensions
7cm x 30cm
Thickness 1mm

Fixing
By gluing or doweling

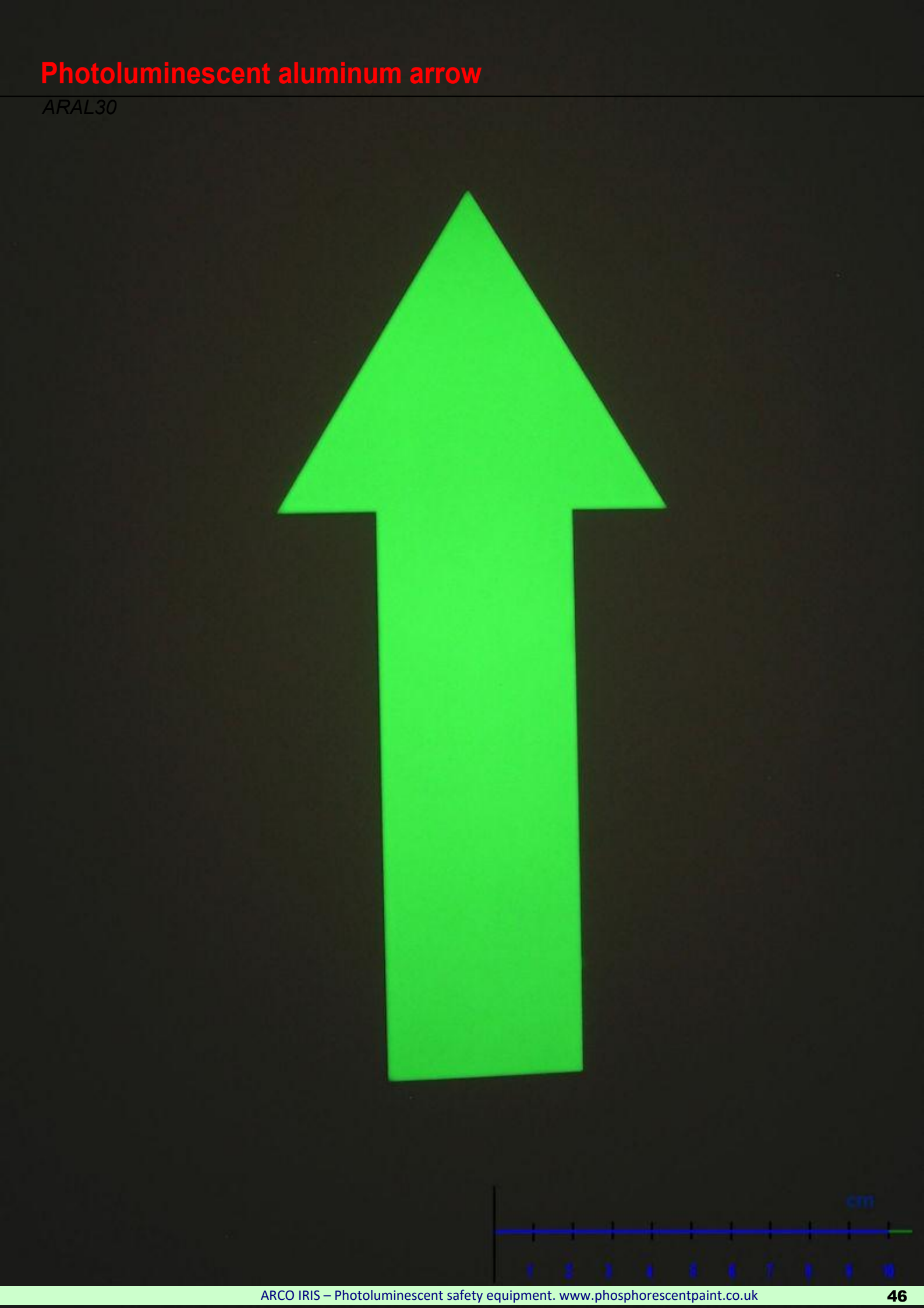
Material
Aluminum and extra high luminous intensity photoluminescent resin

Resistance
Perfect resistance to temperature variations, fire, corrosion, and weathering.
Good resistance to abrasion and friction



Photoluminescent aluminum arrow

ARAL30



Standard photoluminescent aluminum stair nosing

STN1

Description:
Stair nosing
aluminum profile with anti-slip and photoluminescent insert.
Easy to install, lightweight, and durable.

Use Stairs and ledges.
Indoor/Outdoor
Additional equipment

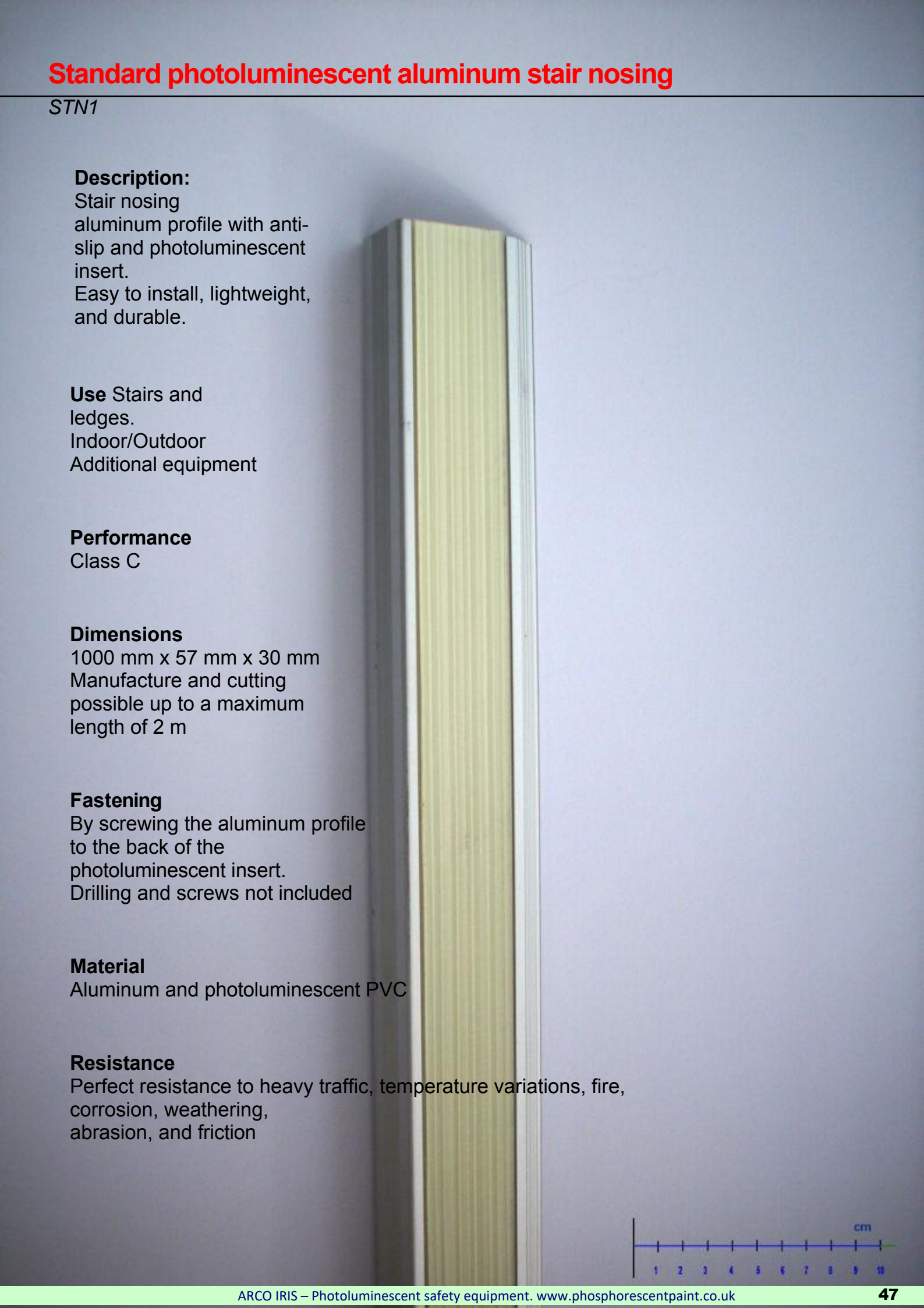
Performance
Class C

Dimensions
1000 mm x 57 mm x 30 mm
Manufacture and cutting possible up to a maximum length of 2 m

Fastening
By screwing the aluminum profile to the back of the photoluminescent insert.
Drilling and screws not included

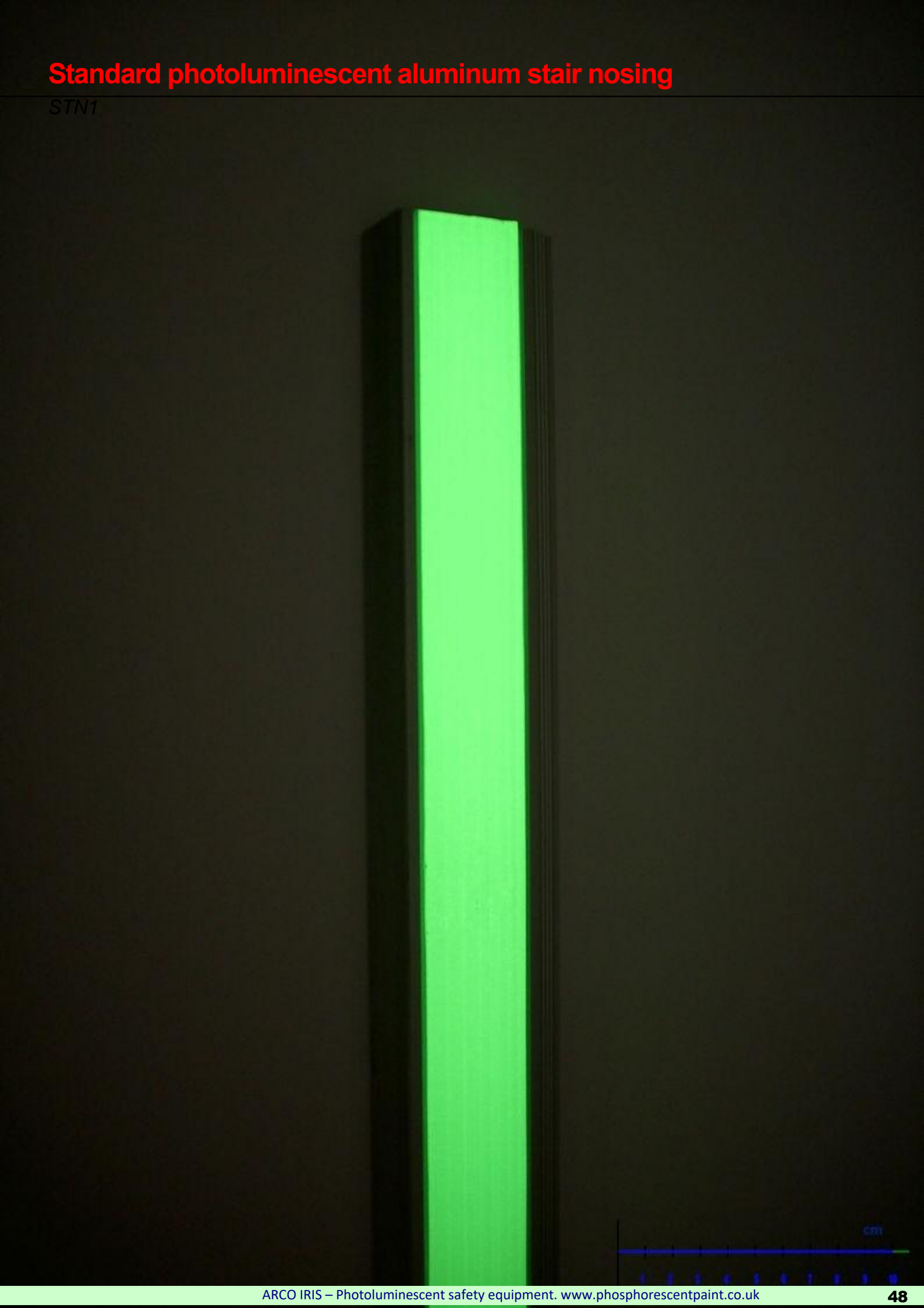
Material
Aluminum and photoluminescent PVC

Resistance
Perfect resistance to heavy traffic, temperature variations, fire, corrosion, weathering, abrasion, and friction



Standard photoluminescent aluminum stair nosing

STN1



Luxury photoluminescent aluminum stair nosing

STN2AL / STN2BR / STN2BK

Description:
Profiled aluminum stair nosing with photoluminescent grooves.
Very high level of phosphorescence

Easy to install
Lightweight and durable

Aesthetic equipment
3 colors for the LUXE range:
Anthracite aluminum
Black



Use Stairs and ledges.
Indoor/Outdoor
Additional equipment

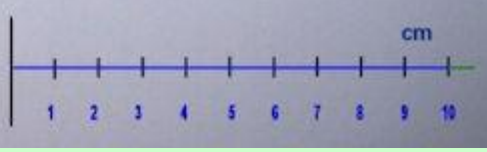
Performance
Class D+

Dimensions
1000 mm x 57 mm x 30 mm
Can be manufactured and cut to a maximum length of 1.50 m

Fastening:
Screw-mounted. The noses are supplied pre-drilled and come with 3 colored screws depending on the nose model.

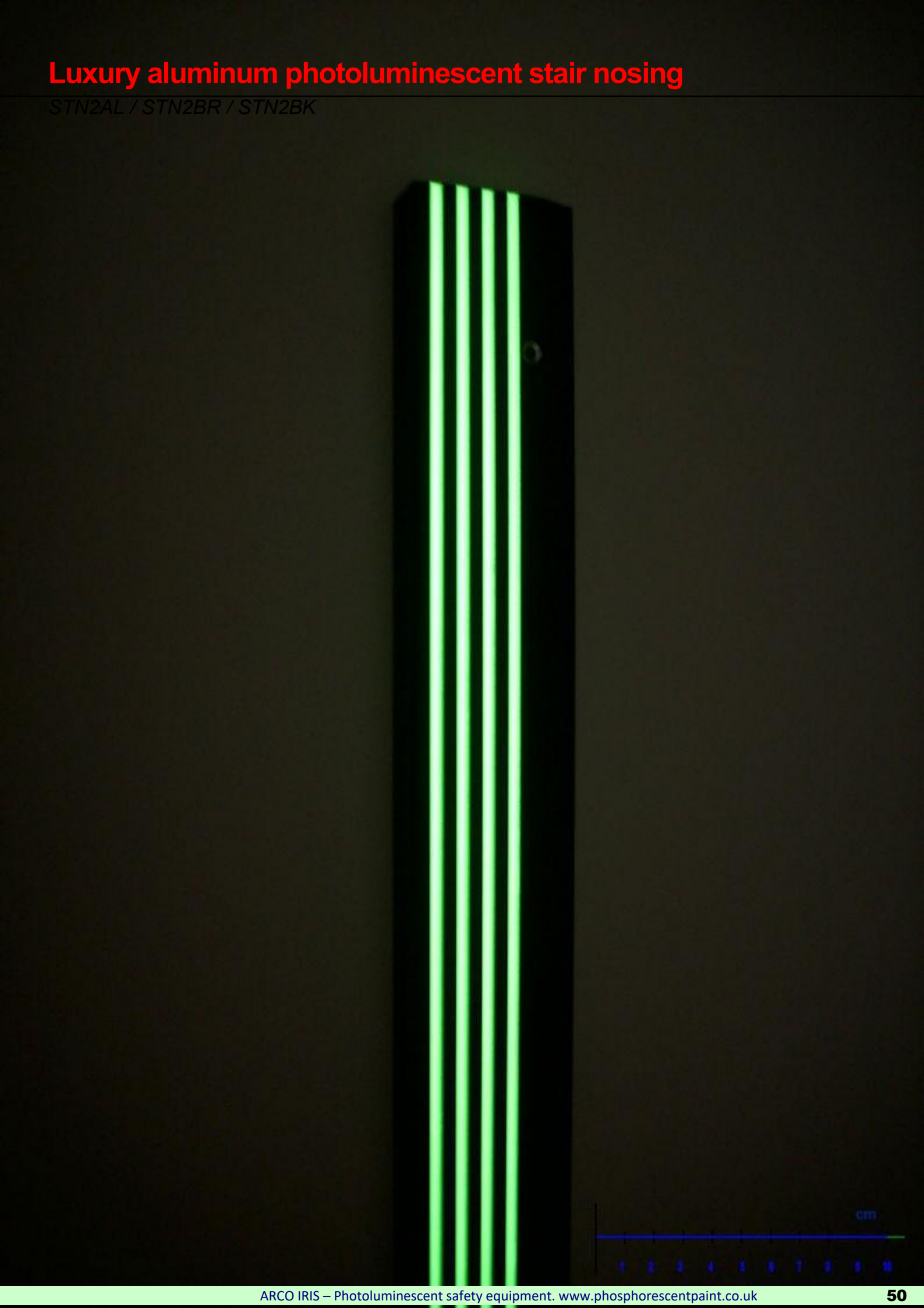
Material
Aluminum and extra high intensity photoluminescent resin

Resistance
Perfect resistance to heavy traffic, temperature variations, fire, corrosion, and weathering.
Very good resistance to abrasion and friction



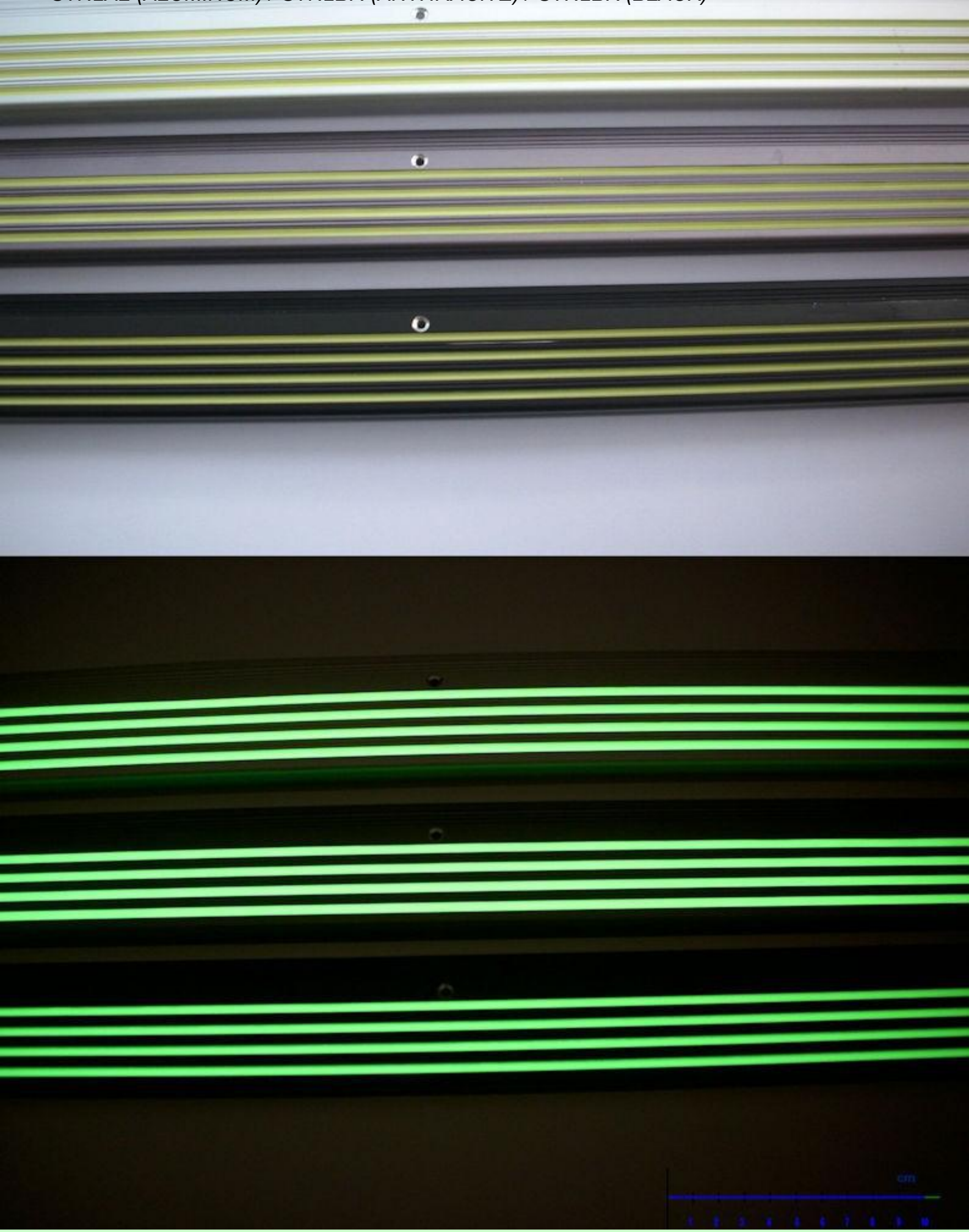
Luxury aluminum photoluminescent stair nosing

STN2AL / STN2BR / STN2BK



Luxury photoluminescent aluminum stair nosing

STN2AL (ALUMINUM) / STN2BR (ANTHRACITE) / STN2BK (BLACK)



Photoluminescent floor studs and retroreflective

PRRS

Description:
Road stud for photoluminescent marking (visible in complete darkness) and retroreflective marking (visible to vehicles equipped with headlights).
The stud is photoluminescent throughout and equipped with two white and orange reflectors to reflect incident light.

For outdoor and indoor use, tunnels, roads, industrial sites.

Use
Indoor/
outdoo
r
flooring
Additional equipment

Performance
Class C

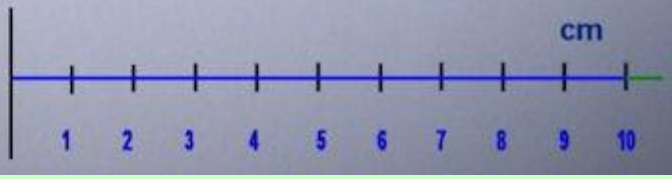
Dimensions
100 mm x 100 mm x 20 mm

Mounting:
Chemical anchoring or gluing

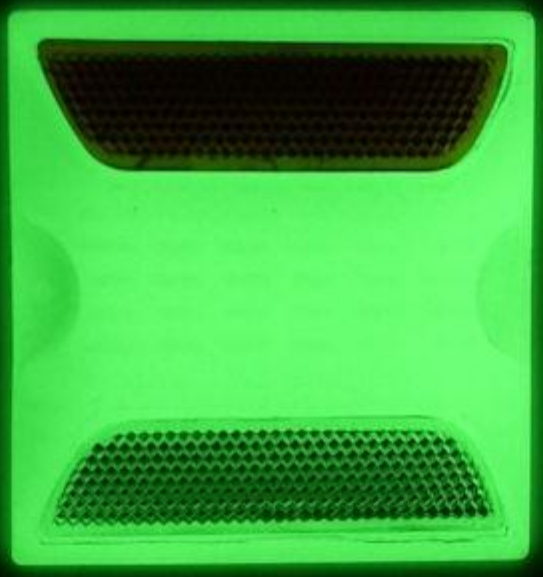
Material
ABS, 120g/unit



Resistance
Perfect resistance to heavy traffic, temperature variations, corrosion, and weathering. Very good
resistance to traffic and friction



Photoluminescent and retroreflective ground stud



Rigid PVC photoluminescent sign "Emergency exit"

EXT-XXX

Description:
Photoluminescent safety sign for evacuation made of PVC Flexible and durable product with excellent long-term performance. Available in different sizes and directions (left, bottom, right) Product complies with EN NF ISO 7010 and NF X 080 50-2

Production, printing, and cutting service
Product can be equipped with adhesives upon request.
All signs and pictograms

Use
Indoor/Outdoor
Generally used for indoor applications. LLL equipment

Performance
Class C

Dimensions
10 x 15 cm
20 x 30 cm
Manufactured up to 100 cm x 120 cm
1.0 to 1.4 mm thick

Material
PVC

Fastening
Screwed or glued

Resistance
Good resistance to flammability and abrasion. Very good resistance to weathering, water, salt spray, cleaning with detergents,
rubbing and abrasion, and UV rays





Rigid PVC photoluminescent sign "Emergency exit"

All signs and pictograms



e aluminum photoluminescent sign

Description:
All safety signs compliant with EN NF ISO 7010 (as well as instructions, plans, information, etc.) on aluminum backing with photoluminescent surface for visibility in all lighting conditions.

Lightweight and highly resistant product to ensure service in all difficult indoor or outdoor conditions, with optimal durability.

Production, printing, and cutting service
Product can be fitted with adhesives on request.



Use
Indoor/Outdoor
Recommended support for exposure to extreme conditions (salt spray, pollution, temperatures, etc.)

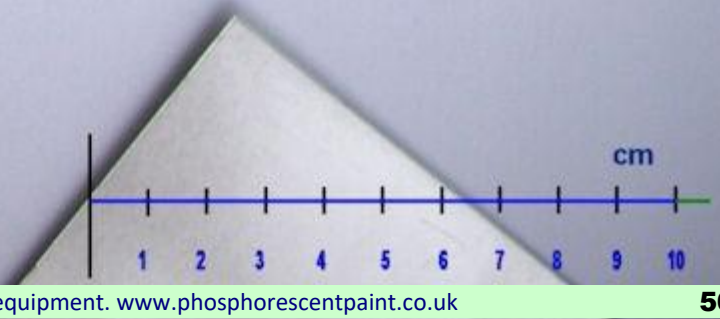
Performance
Class C to G

Fastening
Screw or adhesive mounting

Dimensions
Up to 100 cm x 100 cm 0.7 to 2.00 mm thick

Material
Aluminum

Resistance
Excellent resistance to flammability, abrasion, weathering, water, salt spray, cleaning with detergents,
friction and abrasion, and UV rays



Aluminum photoluminescent sign



Photoluminescent spot made of stainless steel and glass

SPOT5

Description:
Mini photoluminescent spot for marking nighttime pathways. Long-lasting product requiring no maintenance or power supply

For outdoor use in subway stations, shopping centers, parking lots

Use
Indoor/
outdoo
r
flooring
Additional equipment

Performance
Class C
Luminance up to class G on request

Dimensions
60 mm x 10 mm Custom manufacturing possible



Mounting:
Chemical anchoring or gluing

Material
Machined stainless steel and glass

Resistance
Perfect resistance to heavy traffic, temperature variations, fire, corrosion, weathering, abrasion, and friction



Photoluminescent spot made of stainless steel and glass

SPOT5



-adhesive round arrow, photoluminescent

ARW-R10

Description:
Photoluminescent round arrow
Product resistant to ground traffic thanks to printing protected by an epoxy varnish. Ultra-strong adhesive, multi-purpose product

Use
Guidance and marking Floors, walls, stairs Indoor/Outdoor
Additional equipment

Performance
Class C

Dimensions
10 cm
0.5 mm thick

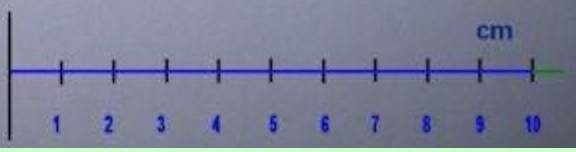
Fastening
High-performance 3M 300SLE adhesive on the back of the equipment

Material
PVC + epoxy varnish

Resistance
Excellent resistance to flammability, weathering, water, salt spray, cleaning, abrasion, UV rays







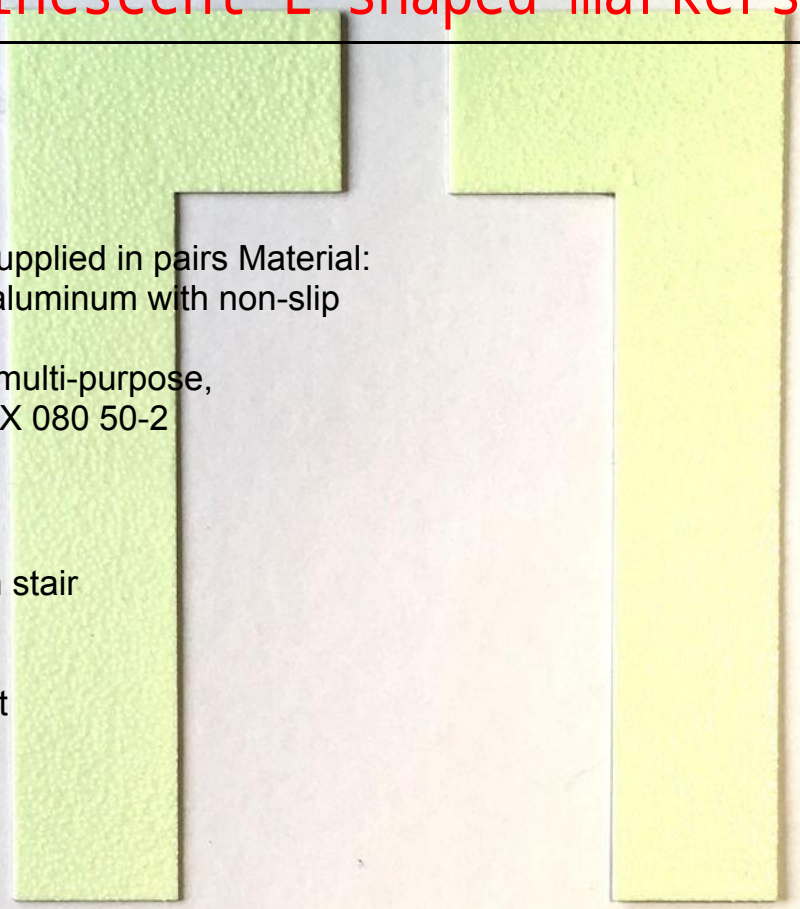
Round photoluminescent adhesive arrow

ARW-R10



Photoluminescent L-shaped markers

MPH-L



Description:
L-shaped marker supplied in pairs Material: photoluminescent aluminum with non-slip surface
with 3M adhesive, multi-purpose,
Compliant with NF X 080 50-2

Use
Marking corners on stair treads
Indoor/Outdoor
LLL type equipment

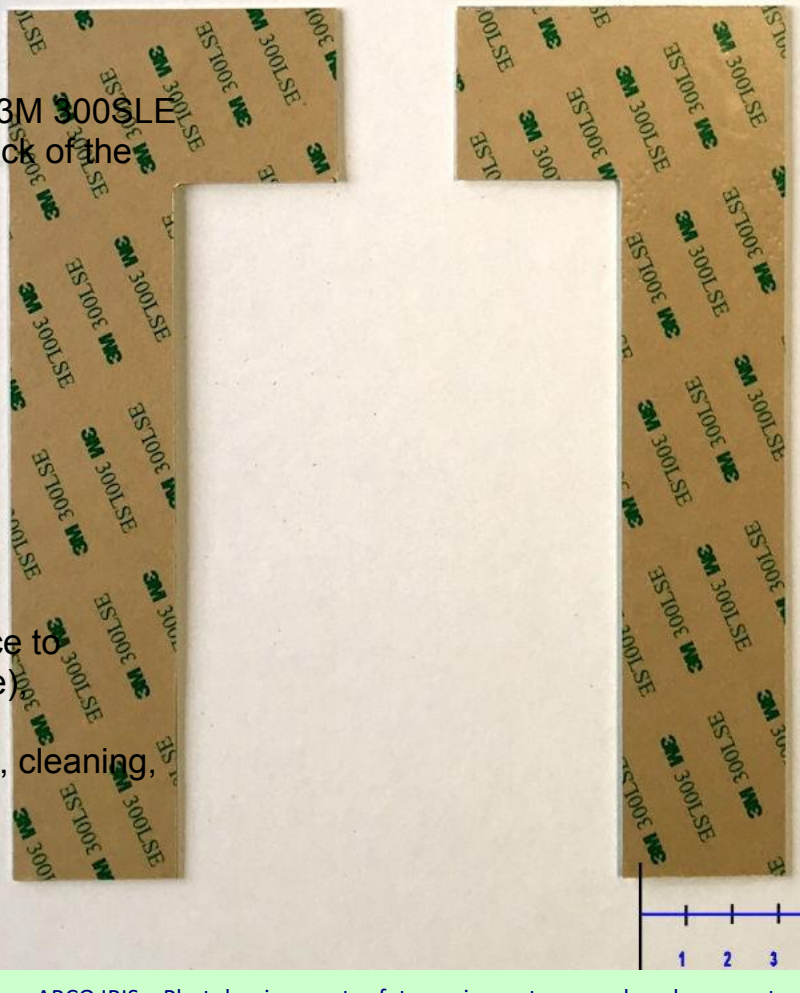
Performance
Class C

Dimensions
Dimensions: 20 cm x 8 cm. Width: 4 cm
<1 mm thick

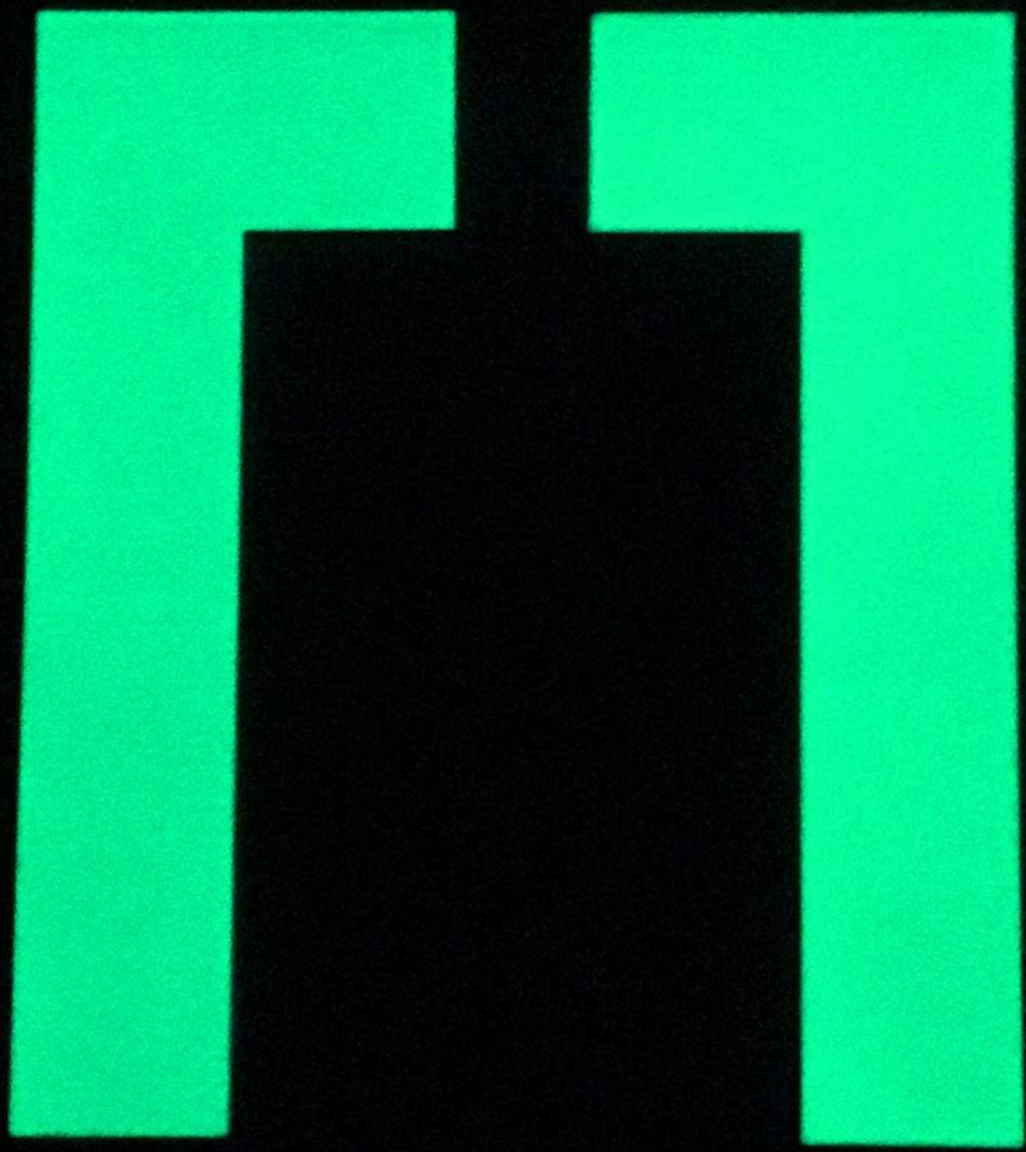
Fastening:
High-performance 3M 300SLE adhesive on the back of the strip

Material Aluminum and photoluminescent resin
High light intensity

Resistance
Very high resistance to fire (non-flammable) water,
weather, salt spray, cleaning, abrasion, UV rays



Photoluminescent L-shaped markers



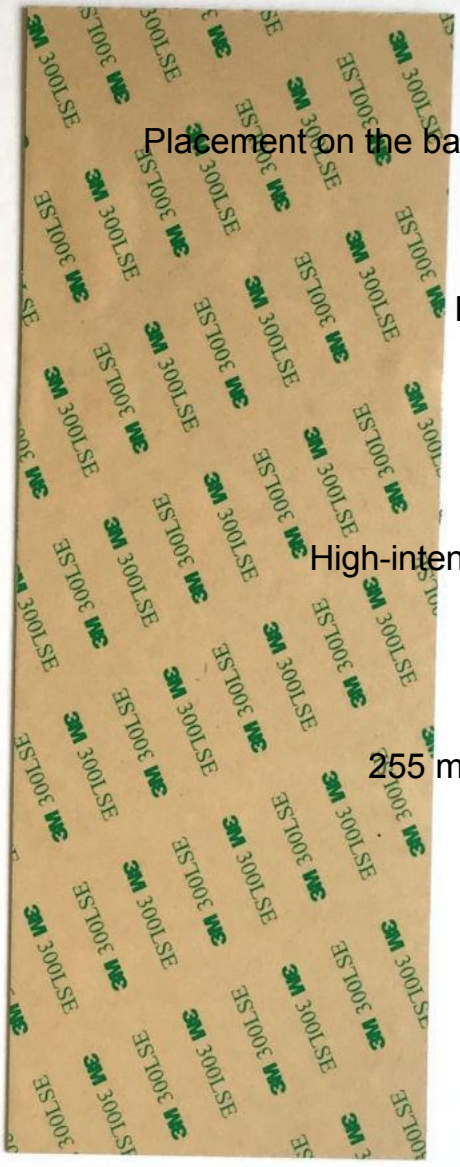
Photoluminescent door openings

PS-OPC

Description:
Signals for door opening devices aluminum support with photoluminescent surface
for visibility in all lighting conditions.

Lightweight and highly resistant product to ensure service in all difficult indoor or outdoor conditions with optimal durability.





Use
Placement on the back of handles

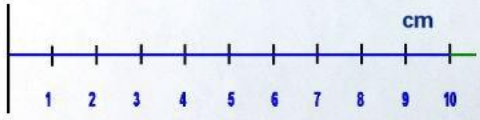
Performance
Class C

Fastening
High-intensity adhesive

Dimensions
255 mm x 100 mm
1 mm thick

Material
Aluminum

Resistance
Excellent resistance to flammability, abrasion, weathering, water, salt spray, cleaning with detergents, friction and abrasion, and UV rays



Photoluminescent door openings

PS-OPC



photoluminescent rope

P-ROP1

Descriptio
n: Photoluminescent rope
Additional equipment for guidance
in dark environments

Use
Indoor/Outdoor

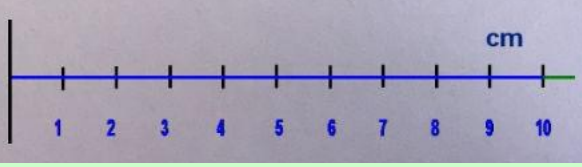
Performance
Class B

Dimensions Width:
16 mm Length: per
meter
Other widths available on
request

Material
Polyester

Strength
Excellent resistance to
UV rays, salt spray, and water.





Photoluminescent rope

P-ROP1



Photoluminescent adhesive PVC vinyl film

Description:
Photoluminescent adhesive PVC vinyl film.
Easy to cut and print (screen printing, digital printing, eco-solvent printing, etc.). Please contact us for compatibility information.

Use
Production of strips, signs

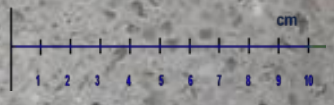
Performance
Class B, C, D, or E

Dimensions Type:
rolls Widths: 100 cm
Length: 10, 25 m
0.4 to 0.5 mm thick

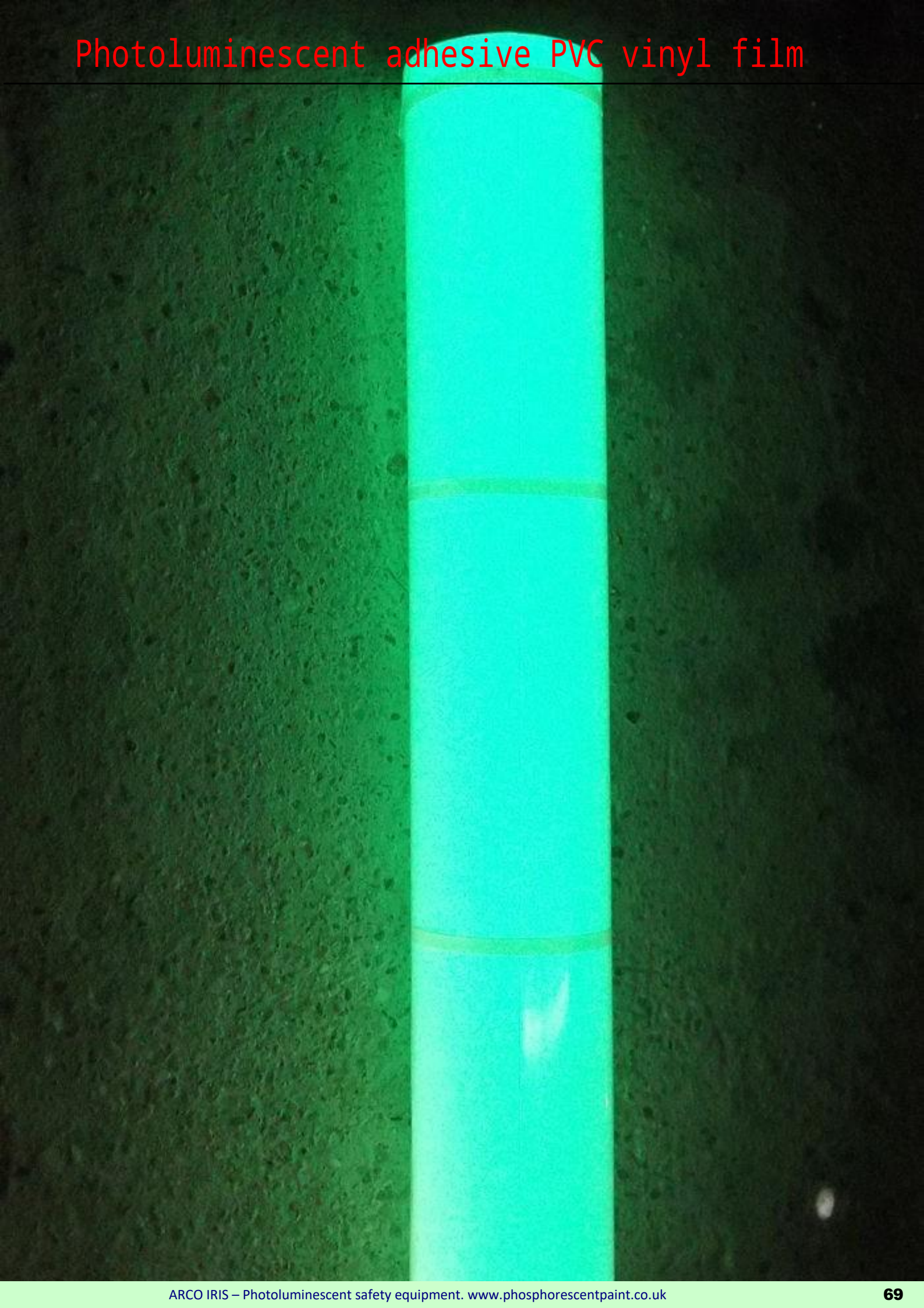
Fastening:
Self-adhesive product
2 versions available:
– Standard or
– 3M 300SLE

Material
PVC vinyl

Resistance
Excellent resistance to tearing, UV rays, washing, water, abrasion, inflammation, and salt spray.
8 test samples available



Photoluminescent adhesive PVC vinyl film



Rigid PVC photoluminescent panel

PVC-PAN

Description:
PVC plate with photoluminescent surface.
Material commonly used for photoluminescent signs, maps, and instructions.
Easy to print (screen printing, laser, inkjet, etc.) with many types of water-based or solvent-based inks.
Very easy to cut
Flexible and durable product with excellent long-term performance

Production, printing, and cutting services
Product can be fitted with adhesives on request.

Use
Indoor/Outdoor
Generally used for indoor applications.

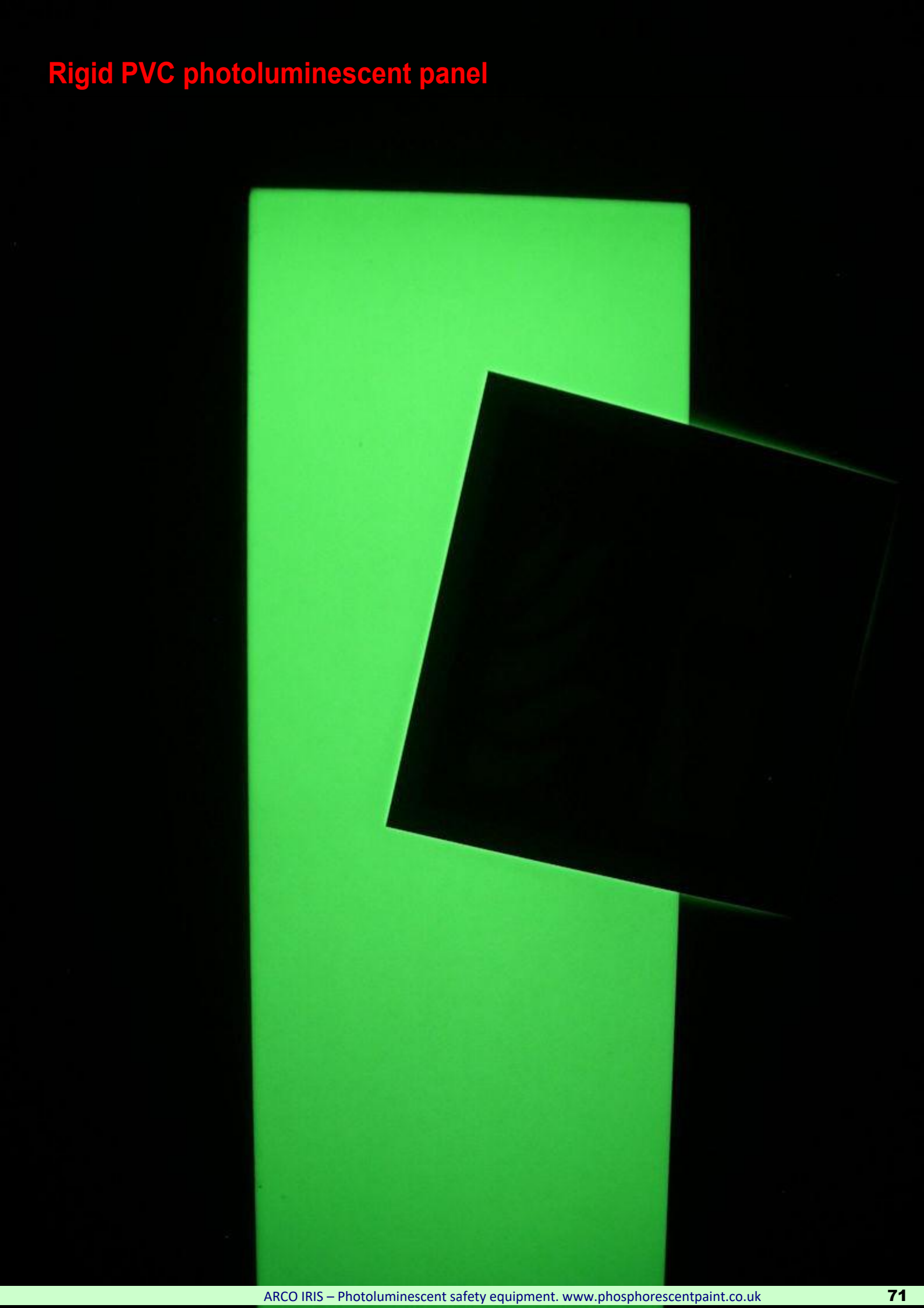
Performance
Class C to G

Dimensions
Up to 100cm x 120cm 1.0 to
1.4 mm thick

Material
PVC

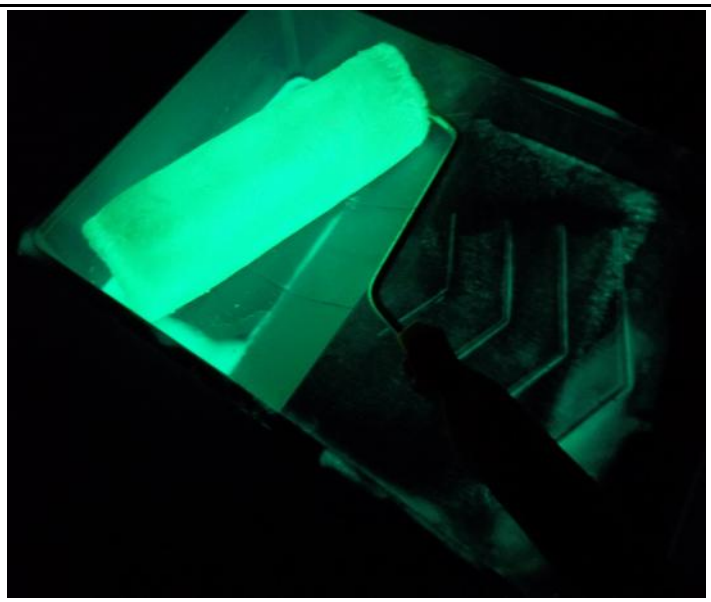
Resistance
Good resistance to flammability
and abrasion. Very good resistance to
weathering, water, salt spray, cleaning with
detergents,
to friction and abrasion, and to UV rays

Rigid PVC photoluminescent panel



e photoluminescent paints

How it works



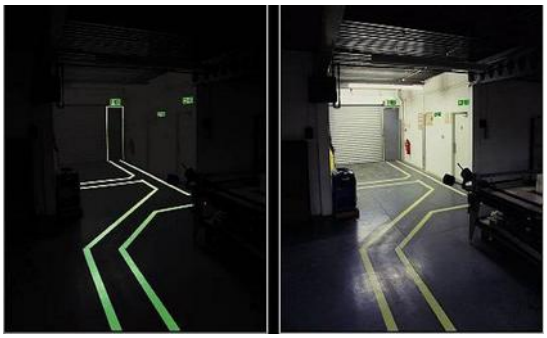
Photoluminescent paints, more accurately called phosphorescent paints, work in the same way as photoluminescent materials:
After being exposed to light (*excitation*), they can be seen in the dark (*phosphorescence*), emitting a bright green color during their *restitution* phase, which can last for over 8 hours (*afterglow*).

Their performance (luminance) can reach that of materials up to class D or E. This depends on the number of layers.

Use

The paints can be used on floors, walls, machines, equipment or objects, steps, indoors and outdoors. They can be used for photoluminescent marking or guidance. They are chosen for their resistance and non-removable properties, or for treating areas where adhesives or plates cannot be used.







Appearance

The paints are colorless to greenish in daylight. In the dark, they appear phosphorescent green. There are other phosphorescent colors besides green, but generally only green is offered, as it is the only color that provides luminance levels that are highly effective for safety.

Advantages

Arco Iris® photoluminescent paints are highly durable (they can be used on high-traffic floors), are difficult to remove compared to adhesives, do not create sharp edges, and can be applied to almost any surface, shape, or contour.

Disadvantages

The installation work (preparation of the substrate/white primer/number of coats) is significant compared to the simple installation of photoluminescent equipment. In addition, paints can give off odors and harmful aerosols (VOCs).

Resistance and lifespan

Arco Iris® paints exhibit high levels of hardness, resistance to rubbing, abrasion, water, chemicals, ultraviolet rays, and flammability (test reports available).
Their light absorption and emission properties remain effective for several decades.

Application

The product should be applied with a brush or pneumatic spray gun, always on a white background (paint or primer).

1 - Preparation	2 - Application	3 - Drying
Determine the nature of the substrate	Apply 1 to 2 coats of white primer suitable for the surface.	Remove masking
Prepare the surface	Drying time	Minimum drying time of 24 hours, up to 7-14 days for complete polymerization.
Mask off areas to be concealed	Apply 3 to 4 coats of photoluminescent paint	
Mix the products and hardeners	Drying interval 10 minutes between each coat	Check

Each product is delivered as a complete kit (base + hardener), with a detailed technical data sheet and a safety data sheet available on request.

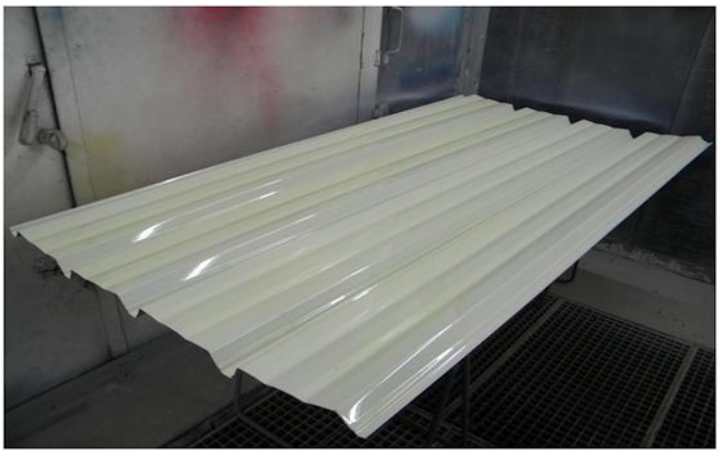
Environment and safety

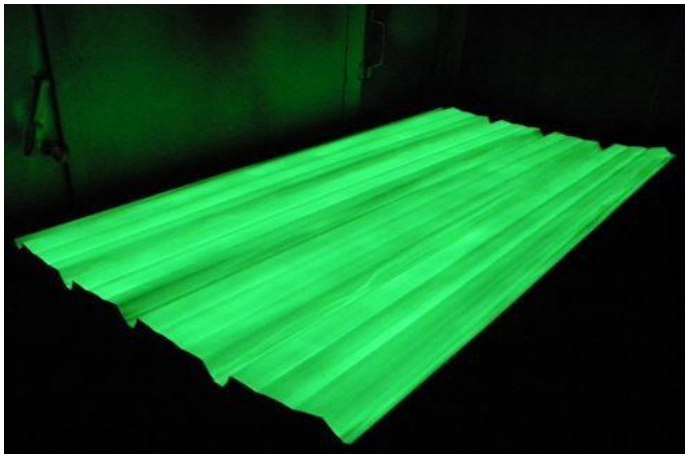
The photoluminescent paints manufactured by Arco Iris comply with solvent emission reduction standards. They are solvent-based polyurethane paints (VOC<420g/L) or water-based paints (VOC<70g/L).

Arco Iris® photoluminescent paint ranges

Arco Iris offers a range of photoluminescent paints with good to excellent resistance levels and water-based or solvent-based formulations.
All these paints can be applied with a spray gun or brush, and achieve very good levels of luminance (approximately 3 coats = class C, 5 coats = class D).

AERO1K acrylic paint	WPHU2K polyurethane paint	PHU2K polyurethane paint	EPX90000 epoxy paint
Water-based	Water-based	Solvent	Solvent
Single component	Two-component	Two-component	Two-component
Good resistance	Very good resistance	Ultra high resistance	Ultra-high resistance
VOC<40g/L	VOC =71g/L	VOC<420g/L	VOC>420g/L
Walls and equipment	Walls and floors	Walls and floors	Walls and floors





Evacuation plan photoluminescent

Cutting and printing of plans, instructions, and other customized equipment

Evacuation plans can be produced on photoluminescent materials (minimum class C)



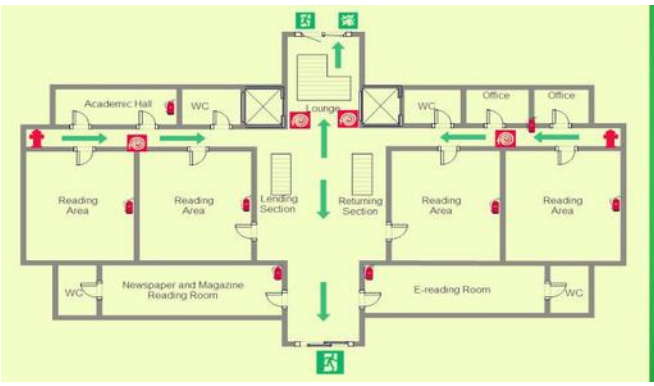
Arco Iris produces plans on PVC or aluminum supports in sizes starting from A3 based on the plan.

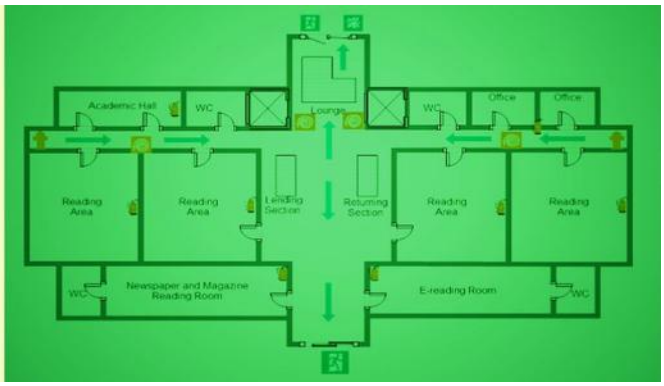
We can produce all types of signs, mandatory displays, and instructions *in flexible vinyl adhesive, rigid PVC panels, or aluminum panels.*

Three regulatory colors for signs: black, green, and red (according to ISO 7010)

GREEN		Two-way corner signs Signage for accessibility for people with reduced mobility (PRM) Floor signage and numbering Signage on pillars Signage for opening systems (handle or push bar) Signage for assembly points and refuge areas Signage for first aid
RED		Fire safety signage Types of fire extinguishers, instructions, numbering, various equipment Prohibitions No smoking
BLACK		Warnings (Risk of electrocution, radioactive products, etc.)
BLUE		Requirements (wear a helmet, wear gloves, etc.)

See our list of pictograms according to ISO 7010 on page 76

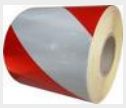




Effectiveness of signal quipment

Usefulness and effectiveness of different visual signaling systems depending on the situation

✓ Excellent visibility	✗ Unsatisfactory or zero visibility

Situation / Equipment	Day Indoor spaces with lighting	Dim lighting without headlights/lamps Outdoors at dusk, indoors with low lighting	Complete darkness/power outage Indoor spaces	Darkness + headlights/lamps Roads at night Underground parking
Standard 	✓	✗	✗	✗
Fluorescent 	✓	✓	✗	✗
Colorless retroreflective 	✗	✗	✗	✓
Colored/hatched retroreflective 	✓	✗	✗	✓
Retroreflective and fluorescent 	✓	✓	✗	✓
Phosphorescent* 	✗	✗	✓	✗
Phosphorescent* and reflective 	✗	✗	✓	✓
Electric 	✓	✓	✗	✓

** photoluminescent*

Pictograms according to EN ISO 7010

Rescue, emergency, traffic routes



E001 – Emergency exit on the left



E002 – Emergency exit on the right



E001 – Emergency exit on the left + left arrow



Emergency exit on the right + right arrow



E001 – Emergency exit + up arrow



E001 – Emergency exit + down arrow



E001 – Emergency exit on the left + up arrow



E001 – Emergency exit on the left + down arrow



Up arrow



Down arrow



Left arrow



Right arrow



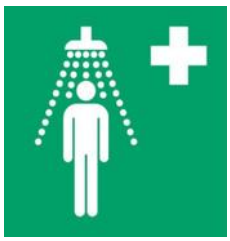
E009 – Doctor



E010 - External automatic defibrillator automatic external



E011 - Eye wash



E012 - Safety shower



E013 – Stretcher



E016 – Window with emergency ladder



E017 – Emergency window



E018 – Turn counterclockwise



E019 – Turn clockwise



E003 – First aid



E004 - Emergency telephone



E007 - Assembly point after evacuation



E008 – Break to gain access

Firefighting equipment



F001 – Fire extinguisher



F002 – Fire hydrant



F003 – Fire ladder



F004 – Firefighting equipment set



F005 – Fire alarm point



F006 – Telephone for use in case of fire

Obligations



M001 – General obligation



M002 – Consult the manual/instruction leaflet



M003 – Wearing ear protection is mandatory



M004 – Protective eyewear must be worn



M005 – Grounding required



M006 – Disconnect the power plug from the mains



M007 – Opaque protective eyewear required



M008 – Safety shoes mandatory



M009 – Protective gloves must be worn



M010 – Protective clothing required



M011 - Hand washing required



M012 – Use of handrails



M013 – Protective visor required



M014 – Protective helmet mandatory



M015 – High-visibility safety vest required



M016 – Mandatory mask



M017 – Respiratory protection required



M018 – Mandatory safety harness



M019 – Welding mask required



M020 – Fasten seat belt



M021 – Disconnect before performing maintenance or repairs



M022 – Use protective cream



M023 – Use the walkway



M024 – Use the walkway

Prohibitions



P001 – General prohibition



P002 – No smoking



P003 - No open flames; Fire and ignition sources ...



P004 – No pedestrians



P005 - Water not drinkable



P006 - No forklifts or other vehicles...



P007 - No pacemakers allowed.



P008 - Prohibited metal items or watches



P010 - No touching



P011 - No extinguishing with water



P012 - Heavy loads prohibited



P013 - Do not activate cell phones



P014 - No access for people with metal implants



P015 – Do not put your hands



P017 – No pushing



P018 – No sitting



P019 – No walking on the surface



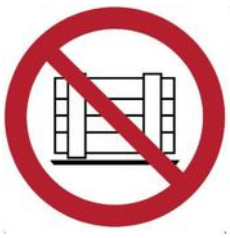
P020 - Do not use the elevator in case of fire



P021 – No dogs allowed



P022 – No eating or drinking



P023 – Do not obstruct



P024 – Do not walk or park in this location



P025 – Do not use scaffolding inc.



P026 – Do not use this device in a bathtub or shower



P027 – Do not use this lift for people



P028 – Wearing gloves is prohibited



P029 – No photography



P030 – Do not tie knots with the rope



P031 - Do not change the position of the switch



P032 - Do not use for surface grinding



P033 – Do not use for wet grinding



P034 – Do not use with a portable grinder

Warnings



W001 - General hazard



W002 – Explosive materials hazard



W003 - Radioactive or ionizing radiation hazard



W004 – Laser radiation hazard



W005 - Non-ionizing radiation hazard



W006 – Magnetic field hazard



W007 – Tripping hazard



W008 – Danger of falling with uneven ground



W009 – Biological hazard



W010 – Danger of low temperatures and freezing conditions



W011 – Danger of slippery surfaces



W012 – Danger: electricity



W013 – Danger: guard dog



W014 – Forklift and other industrial vehicle hazard



W015 – Danger: suspended loads



W016 – Toxic materials hazard



W017 – Hot surface hazard



W018 – Automatic start hazard



W019 – Danger of crushing



W020 – Danger: obstacle above



W021 – Flammable materials hazard



W022 – Danger: sharp objects



W023 – Corrosive substances hazard



W024 – Crushing hazard to hands



W025 – Danger of counter-rotating rollers



W026 – Danger: battery charging



W027 – Optical radiation hazard



W028 – Danger: oxidizing substances



W029 – Pressurized cylinder hazard

Legislative sources and regulatory

FRENCH STANDARDS AND LAWS:

- Graphic symbols – Safety colors and safety signals (NF EN ISO 7010)

- French standard relating to photoluminescent safety systems (NF X 08-050):
  - Part 1: general rules and definitions applicable to photoluminescent safety products (components). Measurement method, print testing, technical data sheet (NF X08-050-1)
  - Part 2: Definition of photoluminescent products and equipment and their performance (NF X08-050-2) Scope and terms and definitions, Classification according to performance (class, resistance, use, Classification according to use, characteristics, tests and resistance, Marking and Technical data sheet, LLL system
  - Part 3: Implementation, acceptance, and maintenance (NF X08-050-3) Implementation, acceptance, and maintenance, photoluminescent safety file (DO.PHO.S.), photoluminescent equipment location plan, approval.

- Safety information and instructions – Guidelines, instructions, evacuation and emergency response plans (NF X08-070)

- Health and safety signage in the workplace (Labor Code of May 1, 2008: Article R4224-24 making the Decree of November 4, 1993 mandatory)

- Safety against fire and panic risks in establishments open to the public (ERP) (Decree of June 25, 1980, amended)

INTERNATIONAL STANDARDS AND LAWS

- Graphic symbols. Safety signs. Guidance systems for emergency escape routes. Photoluminescent floor markings (ISO 16069)

- Evacuation and emergency plans (ISO 23601)

- Safety colors and safety signs. Classification, performance, and durability of safety signs (ISO 17398)

- Photoluminescent pigments and products. Measurements and markings at the manufacturer. (DIN 67510-1:)

- Graphic symbols. Safety colors and safety signals. Design principles for safety signals in workplaces and public places. Observation distances (ISO 3864-1:2011 standard)

EUROPEAN STANDARDS AND LAWS

- Safety in European tunnels longer than 500 m (European Directive 2004/54/EC)

- Signaling in the workplace (European Directive 92/58/EEC)

Contact and ordering

Quality and services

Arco Iris offers a wide range of approved and certified photoluminescent equipment.
The products are delivered with a technical data sheet detailing the characteristics, installation instructions, and instructions for use (precise information on excitation lighting, lamp type, minimum illumination levels and durations required to obtain the useful luminance, as well as actual conditions).

Custom manufacturing

For specific requirements, the Arco Iris manufacturing department can produce, cut, and print photoluminescent equipment to order, custom-designed to meet specific requirements. The equipment is produced quickly, according to a plan or graphic proposal from the Arco Iris design office, with a choice of materials and luminance levels from B to G+.

Permanent stock
800 items available immediately



Easy and fast online ordering
Quick and easy



➡ **Access the online store**

Efficient logistics
Delivery within 24/48 hours in Europe or worldwide.



Commercial and technical support
7 days a week by email



➡ **Contact**

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Guide de la signalétique photoluminescente

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