

Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

(NBS) Photoluminescent low level emergency escape lighting Specification v.5.8

Specification reference No. 151473

Containing:

General requirements

Design/Performance requirements

Products

Site preparation

Installation

Maintenance and cleaning

Guarantee

Certification

Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

GENERAL REQUIREMENTS

Euro Compliance's photoluminescent low level emergency escape lighting systems are comprehensive wayguidance systems that provide illumination of adequate intensity to facilitate escape in the event of an emergency.

Products are fully tested to the latest BS, BS EN, ISO, DIN, ANSI and JIS standards, as well as certified by Lloyds where applicable.

The system and range of products used incorporates

- Stair nosing's
- Egress wall markings
- Floor directional markings (where required)
- Door egress markings
- Door number/identification markings
- Hand rail markings
- Comprehensive range of fire safety signage
- Emergency Floor Plans
- IBC Standard Floor Identification Number signs

Materials: Aluminium, Rigid PVC, PVC tape

Finish: Strontium Aluminate photoluminescent Class C or higher

Fixing: Various fixings including mechanical, structural adhesive (Nova Seal) as well as self-adhesive 3M 468MP and 3M 467MP.

There is a minimum light requirement to fully charge Strontium Aluminate photoluminescent materials and this is 25 lux for a minimum of 15 minutes. This light source can be either natural daylight or incandescent light.

Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

DESIGN PERFORMANCE REQUIREMENTS

The design performance requirements are those required to satisfy the requirements of current legislation, including;

- The Health and Safety at Work, etc Act 1974
- The Equalities Act 2010 (formerly the DDA 1995)
- And in particular the requirements of The Regulatory Reform Fire Safety Order 2005, Article 14, Paragraph 2. Sub-paragraph (h).

“(2) The following requirements must be complied with in respect of premises where necessary (whether due to the features of the premises, the activity carried on there, any hazard present or any other relevant circumstances) in order to safeguard the safety of relevant persons –

(h) emergency routes and exits requiring illumination must be provided with emergency lighting of adequate intensity in the case of failure of their normal lighting.”

Design of the system takes into consideration and complies with all of the following standards, Approved Codes of Practice and other relevant guidance;

- BS5266-1 2011
- BS5266-2 1998
- BS5266-6 1999
- CIBSE Fire Guide E 3rd Edition May 2010
- Building Regulations, Approved Document B
- CLG BD 2518 June 2007
- BRE Guides
 - IP1/93
 - IP17/89
 - IP17/94
 - IP10/97
- CLG Fire Safety Risk Assessment Guides
 - Residential Care Premises May 2006
 - Sleeping accommodation May 2006
 - MOE for disabled people March 2007
- Coroner's Rule 43 Letter – Shirley Towers
- Coroner's Rule 43 Letter – Lakanal House

Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

PRODUCTS

EC-EB7030 – EcoBrite Ultra® Photoluminescent stair nosing

Product description

EcoBrite Ultra® photoluminescent, anti-slip aluminium stair nosing. PSPA Class D

Reference: EC-EB7030 EcoBrite Ultra® stair nosing with above Class D photoluminescent insert

Material: Mill finish aluminium tread with a Class D PVC resin photoluminescent insert tested for anti-slip.

Fixing: Mechanical and structural adhesive fix – as per manufacturer's instructions.

Gauge: 3mm with 1.5mm tapered edge

Tread Dimension: 70mm

Riser Dimension: 30mm

Insert Width: 25mm

Length: variable from 2000mm - 800mm dependant on step width

Channel: Single mill finished aluminium channel with slip-resistant photoluminescent PVC resin tape insert

Profile Shape: 90 degree angle

Insert Bond: 3M 468MP adhesive

Tested to: BS7976-2, DIN67510, DIN EN 2812-1, DIN 53438-3

Characteristic according to DIN 67510 Part 1

Luminance after 10 minutes discharge 262 mcd/m²

Luminance after 60 minutes discharge 36 mcd/m²

Discharge time to 0,3 mcd/m²: approximately 2100 minutes

PSPA Classification

Exceeds PSPA Class D by as much as 10% and exceeds the British Standard BS5266-6 requirements for wayguidance systems by as much as 20 times.

Visibility

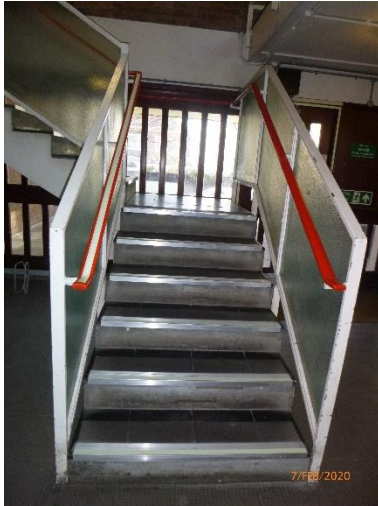
Visible to the naked eye for up to 24 hours (0.3mc/d)

Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting



Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

EC-EB40 – EcoBrite Ultra® Egress wall markings

Product description

EcoBrite Ultra® photoluminescent wall marking with directional arrow for egress and orientation. Provides illumination in the event of an emergency or failure of electrical lighting systems. PSPA Class C+

Reference: EC-EB40 EcoBrite Ultra® Wall markings

Material: Rigid PVC with Strontium Aluminate photoluminescent finish.

Fixing: Rigid PVC wall carrier fixed by structural adhesive – as per manufacturer's instructions. Photoluminescent material fixed into PVC wall carrier by 3M 467MP adhesive.

PVC carrier (code EC-EB40CR): width 50mm with a 40mm x 2.5mm slot, available in green, NHS blue, black, grey, yellow, red, white and clear finish.

Photoluminescent material

Thickness: 2.5mm

Width: 40mm

Length: available in 2400mm and 1200mm lengths

Profile Shape: Rectangular

Tested to; BS476-6, BS476-7, DIN67510

Classification: Fire propagation Class 0

Characteristic according to DIN 67510 Part 1

Luminance after 10 minutes discharge : 158 mcd/m²

Luminance after 60 minutes discharge : 20 mcd/m²

Discharge time to 0,3 mcd/m² : 2100 minutes

PSPA Classification

Exceeds PSPA Class C by as much as 10% and exceeds the British Standard BS5266-6 requirements for wayguidance systems by as much as 20 times.

Visibility

Visible to the naked eye for up to 24 hours (0.3mc/d)



Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

EC-EB2530 – EcoBrite Ultra® Door egress markings

Product description

EcoBrite Ultra® photoluminescent door marking for directional egress, exit and orientation.

Provides illumination in the event of an emergency. PSPA Class C+

Reference: EC-EB2530 EcoBrite Ultra® Door egress markings

Material: Rigid PVC with Strontium Aluminate photoluminescent finish.

Fixing: Structural adhesive fix – as per manufacturer's instructions.

Thickness: 2.5mm

Width: 40mm

Length: 1200mm lengths cut to size

Profile Shape: Rectangular

Tested to; BS476-6, BS476-7, DIN67510

Classification: Fire propagation Class 0

Characteristic according to DIN 67510 Part 1

Luminance after 10 minutes discharge : 158 mcd/m²

Luminance after 60 minutes discharge : 20 mcd/m²

Discharge time to 0,3 mcd/m² : 2100 minutes

PSPA Classification

Exceeds PSPA Class C by as much as 10% and exceeds the British Standard BS5266-6 requirements for wayguidance systems by as much as 20 times.

Visibility

Visible to the naked eye for up to 24 hours (0.3mc/d).



Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

EC-EB5034 – EcoBrite Ultra® Handrail markings

Product description

EcoBrite Ultra® photoluminescent Handrail marking for directional egress, and orientation. Provides illumination in the event of an emergency. PSPA Class C+

Reference: EC-EB5034 EcoBrite Ultra® Handrail markings

Material: Flexible PVC tape with Strontium Aluminate photoluminescent finish, protected by clear protective adhesive film layer.

Fixing: EcoBrite Ultra® self adhesive 3M 467MP. Affix to handrail – as per manufacturer's instructions.

Thickness: 0.5mm

Width: 25-50mm (min. 25mm)

Length: Supplied in 50m rolls

Profile Shape: Rectangular

Tested to; BS476-6, BS476-7, DIN67510

Classification: Fire propagation Class 0

Characteristic according to DIN 67510 Part 1

Luminance after 10 minutes discharge : 158 mcd/m²

Luminance after 60 minutes discharge : 20 mcd/m²

Discharge time to 0,3 mcd/m² : 2100 minutes

PSPA Classification

Exceeds PSPA Class C by as much as 10% and exceeds the British Standard BS5266-6 requirements for wayguidance systems by as much as 20 times.

Visibility

Visible to the naked eye for up to 24 hours (0.3mc/d)



Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

EC-EB25400 – EcoBrite Ultra® Fire safety signage

Product description

EcoBrite Ultra® photoluminescent fire safety signage. Provides illuminated Fire Exit signage and Fire Safety information in the event of an emergency. PSPA Class D

Reference: EC-EB25400-EB25540 EcoBrite Ultra® Fire signage

Material: Aluminium with Strontium Aluminate photoluminescent finish and rigid PVC.

Fixing: Structural adhesive fix – as per manufacturer's instructions.

Thickness: 3mm

Various signs and sizes to meet the requirements of BS ISO 16069 (& BS ISO 7010:2011)

Signs include: Fire Exit, Fire Exit directional, Fire Door Keep Shut, Fire Door Keep Locked, Electrical Intake, Danger Electricity, Do Not Use Lift, Fire Action Notice, Fire Alarm Call Point, Door Handle markings, etc

Tested to; DIN67510

Characteristic according to DIN 67510 Part 1

Luminance after 10 minutes discharge : 262 mcd/m²

Luminance after 60 minutes discharge : 36 mcd/m²

Discharge time to 0,3 mcd/m² : 2100 minutes

PSPA Classification

Exceeds PSPA Class D by as much as 10%

Visibility

Remains visible to the naked eye for up to 24 hours (0.3mc/d - the lowest level of light visible to the naked eye).



Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

EC-EB8010 – EcoBrite Ultra® Floor Information Number (FINS)

Product description

EcoBrite Ultra® photoluminescent Floor Information Number signs designed to provide information such as number of floors, floor number, details of floor (number of flats, rooms, etc), locations of fire exits, dry/wet risers, etc. Provides illuminated information in the event of an emergency. PSPA Class D

Reference: EC-EB8010 EcoBrite Ultra® Floor Information Number signs

Material: Aluminium with Strontium Aluminate photoluminescent and anti-graffiti finish.

Fixing: Structural adhesive fix (e.g. Nova Seal) – as per manufacturer's instructions.

Thickness: 2.5mm

Width: c.295mm

Height: c.410mm

Profile Shape: Rectangular

Tested to; BS476-6, BS476-7, DIN67510

Classification: Fire propagation Class 0

Characteristic according to DIN 67510 Part 1

Luminance after 10 minutes discharge : 262 mcd/m²

Luminance after 60 minutes discharge : 36 mcd/m²

Discharge time to 0,3 mcd/m² : 2100 minutes

PSPA Classification

PSPA Class D high grade photoluminescent characteristics.

Visibility

Remains visible to the naked eye for up to 24 hours (0.3mc/d - the lowest level of light visible to the naked eye).



Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

EC-EB8011 – EcoBrite Ultra® Emergency Floor Plans

Product description

EcoBrite Ultra® photoluminescent Emergency Floor Plans to aid emergency services and provides illuminated information in the event of an emergency. PSPA Class D

Reference: EC-EB8011 EcoBrite Ultra® Emergency Floor Plans

Material: Aluminium with Strontium Aluminate photoluminescent and anti-graffiti finish.

Fixing: Structural adhesive fix (e.g. Nova Seal) – as per manufacturer's instructions.

Thickness: 2.5mm

Width: 295mm

Height: 410mm

Profile Shape: Rectangular

Tested to; BS476-6, BS476-7, DIN67510

Classification: Fire propagation Class 0

Characteristic according to DIN 67510 Part 1

Luminance after 10 minutes discharge : 262 mcd/m²

Luminance after 60 minutes discharge : 36 mcd/m²

Discharge time to 0,3 mcd/m² : 2100 minutes

PSPA Classification

PSPA Class D high grade photoluminescent characteristics.

Visibility

Remains visible to the naked eye for up to 24 hours (0.3mc/d - the lowest level of light visible to the naked eye).



Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

SITE PREPARATION

SURVEY & MATERIAL LOCATIONS

Photoluminescent low level wayguidance should be fitted, (where emergency escape lighting is required) to the following areas;

- **Stair nosings** – these should be fitted across the full width of the step where possible. Where this is not possible the stair nosing should be fixed to the centre of the step. Stairs and step edges should be cleaned from any dust, debris or any other item that may affect installation adhesion.
- **Staircase wall markings** – all staircase wall markings should be fitted on the walls just above the skirting/nosings (approximately 100mm-150mm from floor level), with continuous markings and no breaks in the markings greater than 2.0 metres. Where there is no skirting the wall marking should be fitted at a height of approximately 100mm from floor level.
- **Hallway and lobby wall markings** - continuous markings at approximately 100mm - 150mm up from floor level, with no breaks in the markings greater than 2.0 metres. Where there is skirting the markings should be fitted directly above the skirting.
- **Landings and half landing wall markings** - continuous markings at approximately 100mm - 150mm up from floor level, with no breaks in the markings greater than 2.0 metres. Where there is skirting the markings should be fitted directly above the skirting.
- **Handrail markings** – Handrails should ideally be marked on the wall just above handrails or directly onto the handrails. Markings are not required for turns/swan-necks. Where older handrails are fitted and where the fitting of photoluminescent markings is not possible it is recommended that thermoplastic handrails are fitted and markings are then fitted to those new handrails. Please note that the installation of handrails is recommended but where they cannot be fitted this should be risk assessed (please refer to the Building Regulations, Approve Documents M and K).
- **Escape side of egress doorways** – Surfaces should be cleaned before installation to remove any dust, debris or dirt and should be dry before installation. Doors should be continuously marked around the door frame. Markings should be 40mm wide but where door frames do not permit this and are less than 40mm wide a minimum 20mm strip should be fitted. Where neither is possible markings should be fitted on the door.
- **Internal block flat numbers** – Surfaces should be cleaned before installation to remove any dust, debris or dirt and should be dry before installation. Flat numbers should be fitted at no higher than 1.0 metre from floor level beside each flat/maisonette entrance door. Where possible these flat numbers should be fitted to the opening side of the door. Where this is not possible, flat numbers should be fitted on the wall close to the door to indicate that there is a flat entrance door in that location.

Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

- **Floor Identification numbers** – Surfaces should be cleaned before installation to remove any dust, debris or dirt and should be dry before installation. These signs should be fitted no higher than 1.0 metre from floor level at the entrance to each floor level (in the staircase as well as flat lobbies). Where possible signs should be fitted at the top of each staircase for easy recognition by the emergency services. Signs can be fitted directly facing the top step and where this is not possible, signs should be fitted on the wall by the top step. In flat lobbies these signs should be fitted opposite the lift (where applicable/possible) and where not applicable these signs should be fitted opposite the staircase lobby door.
- **Emergency Floor Plans** - Surfaces should be cleaned before installation to remove any dust, debris or dirt and should be dry before installation. These should be fitted no higher than 1.0 metre from floor level, the same as Floor Identification Numbers, detailed above. These signs should be fitted beside the Floor Identification Numbers where possible/practicable. Please note that Emergency Floor Plans are there to assist the emergency services locate flats in the event of fire and darkness. These signs are not required for smaller buildings with lower numbers of flats and this is determined by the building type and design as well as the risk assessment.
- **Fire safety signage** fitted to BS ISO 16069 as required to communal areas. Signage includes as a minimum (but not limited to);
 - Fire Exit directional signage
 - Dry/Wet Riser Inlet and Outlet
 - Do Not Use Lift

All signs should be fitted at or below 1.0m in height. It is recommended that directional Fire Exit signage should be fitted in the middle or bottom of communal fire doors (PVC) that are on the means of escape. However, these signs should be fitted at a height of no more than 1.0m. where required.

Directional Fire Exit signs and other fire safety signs (aluminium) should be fitted to walls using structural adhesive.

Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

INSTALLATION

Prior to installation all surfaces should be cleaned to ensure good adhesion.

- **Stair nosings** to be fitted to manufacturer's fitting instructions. Fitting is carried out to each step edge by cleaning the step edge of all dust, debris and dirt using clothes and relevant cleaning materials. Before installation, steps should be dry and clean and then the aluminium stair nosing carrier should be fitted to the step edge. It is important that a structural adhesive (as recommended) is used for all installations. Aluminium stair nosings are fixed by applying the structural adhesive to the grooved area on the underside of the stair nosing and then applying to the step. Please note that the adhesive recommended (Nova Seal) has a ten year warranty which does not require mechanical fixing. However this is a matter for the client to decide as it is not required (based on the structural adhesive used as well as previous installations).
Where steps are uneven and/or worn aluminium stair nosings should be mechanically fixed by drilling and screwing into an appropriate plastic wall plug as well as with the relevant structural adhesive. Screw lengths should be 25mm in length and the number of screws is a consideration of the client. Once the aluminium stair nosing has been fitted the photoluminescent inserts should then be fitted into the nosing channel with the pre-applied 3M 468MP adhesive. Please note that if the correct structural adhesive is used, there is no requirement for mechanical fixings, although this is ultimately down to the responsible person.
- **Wall markings** shall be fixed using rigid PVC wall carriers which will be fixed to the wall using the relevant structural adhesive. Unless the property has a high level of ASB mechanical fixings are not considered necessary. However, if the building does have a high ASB rate then mechanical fixings should also be considered/used. These mechanical fixings (screw and wall plug) should be spaced as required to ensure sound fixing to the wall. Screw size recommended is 25mm. Once fitted to the wall the photoluminescent inserts should be fitted into the carrier using pre-applied adhesive as well as a small amount of structural adhesive (e.g. Nova Seal)..
- **Door egress markings** will be applied to the door/door frame by structural adhesive. Door markings do not require the green PVC carrier but in some cases, it may be preferred that it is used around doors. for aesthetic reasons. If green carrier is used around egress doors it should be mitred to allow the PL insert to be fitted continuously around the door. Photoluminescent inserts should not be mitred and can be but joined either vertically or horizontally, this will also ensure that the mitred green carrier is covered and will provide a tidier join. Please note that butting up does not affect the performance of the system
- **Flat numbers** are fixed using the relevant structural adhesive (e.g. Nova Seal) Flat number should be fitted on walls beside the flat entrance door at no higher than 1M. Where possible the flat number should be fitted to the opening side of the door leaf. Where this is not possible the flat number should be fitted to the other side of the door. Mechanical fixing is not considered necessary unless required by the client.

Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

- **Handrail markings** Handrail markings should be fitted to the handrails using the pre-applied 3M 467MP adhesive. There is no requirement to highlight turns or swan necks.
- **Floor Identification signs and Emergency Floor Plan** signs are fitted at a height of 1 metre from floor level using structural adhesive. There is no requirement for these to be mechanically fixed unless required by the client. Previous installations have shown that structural adhesive is more than adequate and no signs have been removed through anti-social behaviour in over 50 building installations.
- **General fire safety signs** are fitted at a height of 1 metre from floor level using structural adhesive. There is no requirement for these to be mechanically fixed unless required by the client. Previous installations have shown that structural adhesive is more than adequate and no signs have been removed through anti-social behaviour in over 50 building installations.

The structural adhesive used for all installations is Nova Seal which carries a 10 year warranty for adhesion.

Please note that where it states that signs should be fitted at a height 1 metre (from the top of the sign) this is the recommended height but it should be noted that signs can be fitted up to no higher than 1.2 metres from floor level to the top of the sign. Please note this is so that signs are visible under any potential smoke reservoir and in line with the British Standard BS ISO 16069.

Prepared for: Wates

Client: London Borough of Camden

Project Address: Henderson Court, 102 Fitzjohn's Avenue, London, NW3 6NS

Project Name: Photoluminescent Low Level Emergency Escape Lighting

GENERAL MAINTENANCE & CLEANING

There is no requirement for general maintenance other than cleaning and the replacing of any missing parts.

Cleaning should be carried out using non-abrasive cloths and sponges with non-corrosive cleaning agents and detergents. Nevertheless, it should be noted that industrial cleaners and non-corrosive cleaners will not affect the performance of the products or materials.

GUARANTEE

All products and materials are guaranteed to maintain the minimum required level of illuminance, in order to comply with legal obligations. The guarantee period is 10 years. Should any product not deliver adequate illumination it will be replaced with a similar or better product.

Please note that this guarantee does not include general wear and tear or abuse of the system (subject to adequate light management).

CERTIFICATION

The photoluminescent emergency escape lighting system will be inspected once complete and will be certified for the property where installed, by Euro Compliance Limited. Certification will confirm that the system meets the requirements of all relevant standards, BS ISO 16069 and also that it complies with the legal obligations of the Regulatory Reform Fire Safety Order 2005 and in particular Article 14(2)(h). (A Certificate of Conformity detailing all materials used will be provided for the property as well as an O&M Manual).

----- END OF SPECIFICATION -----