Installation Guide

For ⚡Everlux®
Photoluminescent Safety
Signage & LLL Systems

⚡Everlux®

SCOPE / ABOUT THIS GUIDE

This installation guide for Everlux Signage Systems aims to provide the practical guidelines for a proper installation of the various elements that comprise the Everlux signage.

I – BEFORE INSTALLATION

GENERAL CONSIDERATIONS

In order to maximize the quality of the installation as well as its efficiency and effectiveness it is essential before the installation that the installer do a rigorous analysis of the type of building, type of surface where should be installed the signage and environmental conditions on the local. This analysis will enable the selection of the signage elements, the fixation systems and the installation method most appropriate to the situation.

• Installation Surface

The characteristics of the surface where the signage is to be applied is the most important consideration when selecting the type of sign. The type of material and methods of installation should be selected considering the type of the application surface. The installer should verify existence of roughness / porosity, the presence of moisture or dirt; a rough and porous wall will not allow the selection of self-adhesive elements and may require fixing by using screws, however smooth surfaces provide good fixing conditions by gluing.

• Environment

In especially harsh environments, which is the case of some industrial activities or marine environments it is recommended that aluminium signage and the application of an additional transparent protective film. This film offers further protection against degrading factors such as salinity aggression, humidity, UV damage and simultaneously protection against graffiti.
The installer must therefore analyze the type and activities at the installation site and the possible presence of corrosive substances, as well as the room temperature.

• Signage Types

Differing types of signage can be selected dependent on the desired viewing angle. There are four possible signage types available:

Type 1 - single sided sign (parallel to the wall)
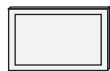
In this type of signage the sign only has a single side and is installed directly on to the receiving surface. They are only visible from the front.

Type 2 - double-sided signs (perpendicular to the wall)
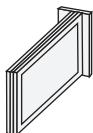
This sign type is double-sided and is supplied with a bracket for wall mounting but is not supplied with fixing accessories.
Note: When requesting a Type 2 sign always consider the positioning of the bracket to be on the left hand edge of the code reference required. Type 2 signage is available with either a rigid or flexible bracket.

Type 3 (suspended from the ceiling)
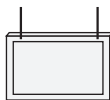
This sign type is double sided and is for suspension from a ceiling. It is supplied with pre-drilled suspension holes but is not supplied with fixing accessories.

Type P - Panoramic sign (application to the wall or ceiling)

Also known as an angular sign this type of sign can be applied to a wall or ceiling. This sign type offers greater visibility and provides 180 ° visibility.

SELECTING AN INSTALLATION METHOD

Based on the analysis prior to installation, the installer must select one of the installation methods presented:

• Installation With Adhesive Materials

To ensure efficient adhesion, it is advisable to ensure the receiving surface is effectively prepared and cleaned to ensure the elimination of all dust and grease. The fixing can be accomplished by application of various types of adhesive materials, silicon or double sided adhesive tape. However, it is recommended that Everlux Adhesive is considered.

- Tools required:
Cleaning: Dry cloth and cleaning agent (isopropyl alcohol, white spirits, industrial wipes etc.)
Note: depending on the type of surface, a adhesion promoter may be necessary. For further information please consult the Installation Guide of self-adhesive products.
Installation: Everlux Adhesive and cartridge gun or double-sided adhesive tape, suitable means of access, tape-measure, pencil, spirit-level and safety knife where required

• Installation By Screwing

Everlux signage is usually supplied without pre-drilled holes for installation with screws but can be supplied on request if required. The most suitable type and size of screws and rawl-plugs to be used will be dictated by the type of wall or surface where the installation will take place along with the size and weight of the signage to be fitted.

- Tools required:
Installation: Screws, rawl-plugs, drill bit, electric drill, screwdriver, suitable means of access, tape-measure, pencil, spirit-level and safety knife where required

• Installation Via Mounting Brackets

In the case of large dimension signs, particularly those that are to be installed in tunnels or warehouses, Type 2 signage fitted with a mounting bracket or panoramic signage might be the most suitable solution

- Tools required:
Cleaning: Dry cloth and cleaning agent (isopropyl alcohol, white spirits, industrial wipes etc)
Installation: Everlux Adhesive and cartridge gun or double-sided adhesive tape, suitable means of access, tape-measure, pencil, spirit-level and safety knife where required

• Installation Of Excellence By Everlux Signage

The Excellence signs are supplied with specific installation fixings (please refer to the Excellence catalogue). Consult at: **www.excellencebyEverlux.eu/#/modos-de-fixacao**

SAFETY SIGNAGE INSTALLATION POSITIONS

The installation height for the different elements of the Signage System is presented by 3 levels:

A - Signage To Be Installed At The High Level is intended for all users of a given space and should be installed between 1.8 – 2.5m.   Installation at this minimum height will ensure the signage is visible at all times

B - Signage To Be Installed At The Intermediate Level is intended for the individual that is going to operate the equipment and/or follow the instructions provided. Signage should be installed immediately above the equipment and within the height range of 1.2 – 1.5m. These signs contain additional information about the correct use of equipment, provide additional information and provide guidance regarding the actions to be undertaken in an emergency situation.

C - Signage Systems To Be Installed At The Low Level (LLL - Low Location Lighting) provide for the illumination of escape routes and the location of fire-fighting equipment at the low level which is defined as being below 0.30 m - according to SOLAS 2004 chapter II regulation 13.3.3.5 and ISO 15370. LLL systems incorporate signage installed on walls and the floor and provide a continuous means of escape

II - INSTALLATION

Following are presented the installation procedures, by type of product from Everlux Signage Security System:
- Rigid signage
- Self-adhesive signs and strips
- Low Lighting Location (LLL)
- Accessories
- Everlux Protection

RIGID SIGNAGE
The installation method depends on the type of sign being fitted. Shown below are the four types of fixing:

• Type 1 Installation

Select the appropriate mounting height. **Note:** Ensure that the receiving surface is clean and free from dust and grease.	
If application is by adhesive, silicon or double-sided adhesive tape, apply to the back of the sign: - Double-sided tape on all four corners or; - Apply a 5mm bead of adhesive in N shape on the back of signs in order to cover the entire area.	
Apply the sign at the marked location with the aid of a spirit-level. **Note:** Signs are supplied without fixing accessories.	

• Type 2 Installation

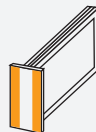|	
Select the appropriate mounting height. **Note:** If you fixing is by adhesion ensure that the receiving surface is clean and free from dust and grease.	
Fixing method: - If by adhesion apply the double-sided adhesive tape or a line of adhesive along the surface which is to be fixed to the wall or ceiling. **Note:** Ensure that the sign surface (flexible or rigid) is clean and free from dust and grease.	
Apply the sign at the marked location using a screwdriver if fixing method is by screws and rawl-plugs. **Notes** - On uneven surfaces apply the sign using screws for fixing; - For Type 2 signs with flexible brackets it is advised that screw collars are used to avoid over tightening and compromising the bracket material; -It is advised that signs with a width of 300mm+ should be fixed using screws and rawl-plugs.	
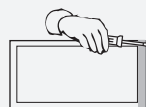
• Type 3 Installation

After defining the hanging/fixing accessories select the appropriate mounting height.

Mark the fixing locations and install the signs according to the hanging/fixing methods chosen.
Observations:
- When deciding which hanging/fixing material is most appropriate it is advised to consider the surface/building materials that will support the sign(s) when installed;
- An inverted Type 2 sign with fitted either a rigid or flexible bracket along the top edge can also be considered when fitting signs to the ceiling.
Please note: The signs are delivered without hanging/fixing accessories.
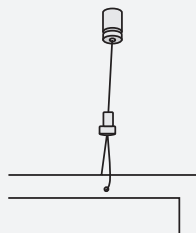
In signs whose size exceeds 600x300mm, we recommend that the suspension is made with cables / skewed / slanting mounting accessories to compensate bending strength and thus prevent signage curvature. We recommend that the distance between the holes in the sign is reduced and that the holes are made with reference to 15% to 20% of the total length of the sign (from the edge to the center).
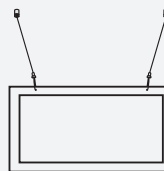
When there is no possibility for changing the anchor points in the sign or in the ceiling implying that the cables stay vertical, we present as a solution the supplying of Type 3 Signs with a plastic rigid base or with an aluminum profile, which confer greater strength the structure (signs with rigid base or profile).

• Panoramic (Angular) Installation

Select the appropriate mounting height.

Fixing method:
- If by adhesion apply the double-sided adhesive tape or a line of adhesive along the surface which is to be fixed to the wall or ceiling.
**Note:** If you fixing is by adhesion ensure that the receiving surface is clean and free from dust and grease.

Apply the sign at the marked location using a screwdriver if fixing method is by screws and rawl-plugs.
Notes
- On uneven surfaces apply the sign using screws for fixing;
- For Type 2 signs with flexible brackets it is advised that screw collars are used to avoid over tightening and compromising the bracket material;
- It is advised that signs with a width of 300mm+ should be fixed using screws and rawl-plugs.
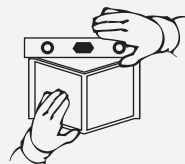
Note: The installation of signs with any other print bases follows the same procedures. Installing signs with extraordinary dimensions you may need to adjust the procedure.

SELF-ADHESIVE SIGN AND LLL SELF-ADHESIVE STRIP INSTALLATION

Photoluminescent signs and self-adhesive strips are applied directly on to the receiving surfaces. The successful installation of self-adhesive products is strongly influenced by the receiving surface and by ensuring the correct preparatory steps are taken.

Important note:

The surface must be properly prepared prior to ensure consistent adhesion. It is highly recommended that the receiving surface is cleaned/prepared before installation with degreasing solution for example, isopropyl alcohol, white spirits, thinners or similar.

Note: In some situation could be necessary to apply an adhesion promoter. For further information consult the Installation Guide for Self-adhesive products.

It is not advisable to apply self-adhesive signs and strips on porous, rough, irregular surfaces and / or where there are holes and / or joints.

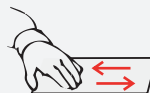|	
Prepare the receiving surface by removing dust and grease with a suitable cleaning agent.	
Before the application of the sign remove the protective film from the self-adhesive material.	
Apply the self-adhesive sign or strip to the previously prepared surface. Note: It is not advisable to apply self-adhesive material to rough, uneven or porous surfaces or over holes nd joints.	
Once the self-adhesive sign or strip is positioned, constant and consistent pressure over the whole sign surface beginning from the centre of the sign and by working outwards to the edges and corners. A wallpaper edging roller can help with this process as it applies even pressure across the sign surface.	

The sign will be fully adhered approximately 72 hours after installation and successful application, adhesion and durability of the product is fully dependent on the installation conditions described above.

Note that: The type of mounting surface where the product is applied (rugged, rough, porous, etc.) together with inadequate preparation of the receiving surface (removal of dust, grease, etc) can profoundly affect the durability, adhesion and product warranty of the self-adhesive sign or strip. For further information please refer to the appropriate Technical Data Sheet for these products.

For further information, please consult our Installation guide for Self-Adhesive Products.

LOW LIGHTING LOCATION (LLL) INSTALLATION

The LLL system is composed of a range of products suitable for application to wall and floor surfaces.

• LLL Rigid PVC Strip Installation

The Everlux-LLL rigid PVC strips can be applied directly to wall or via adhesion methods or can be inserted into extruded aluminium profile rails that are most commonly secured to the wall with screws and rawl-plugs.
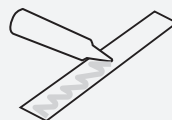
LLL Rigid PVC strip installation – adhered directly to receiving surface:

Prepare the receiving surface by removing dust and grease with a suitable cleaning agent.	
Mark the height at which the rigid PVC strip is to be fitted using a tape measure and pencil. A maximum height of 300mm should be considered and multiple height markings will ensure correct positioning.	
On the rear face of the rigid PVC strip apply a 5mm bead of adhesive or silicon **in N shape on the back of strips in order to cover the entire area.**	
Present the rigid PVC strip to the receiving surface using the height markings as a guide. Apply constant and consistent pressure over the whole length and width of the strip beginning at the centre and working outwards to the edges and corners. A wallpaper edging roller can help with this process as it applies even pressure across the sign surface and helps to ensure that the adhesive is displaced and well dispersed.	
If appropriate, use a spirit level to make any necessary positioning adjustments. Adjustments must be made within 2 to 5 minutes of positioning.	2 - 5 min
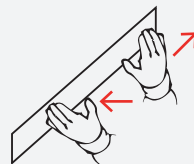
LLL Rigid PVC strip installation – installed with extruded aluminium profile rail mounted on receiving surface:

Mark the height at which the aluminium profile rail is to be fitted using a tape measure and pencil. A maximum height of 300mm should be considered and multiple height markings will ensure correct positioning.	
Using a drill, screws and rawl-plugs secure the aluminium profile rail to the receiving surface using the height markings and/or spirit level as a guide.	
Insert the rigid strip into the aluminium profile.	
Once inserted, fit and secure the end caps.	

• Self-Adhesive Products: LLL Strips, Signage, "L's", Footprint Silhouettes & Discs For Floor Application
The Everlux-LLL system which is comprised off photoluminescent polycarbonate self-adhesive (strips, signage, footprint silhouettes, "L's" and discs for floors and stair installation are self-adhesive and are applied directly.

|	
Prepare the receiving surface by removing dust and grease with a suitable cleaning agent. **Note:** It is not advisable to apply self-adhesive material to rough, uneven or porous surfaces or over holes and joints on the floor surface. In some situation could be necessary to apply an adhesion promoter. For further information consult the Installation Guide for Self-adhesive products.	
Mark the location of application of self-adhesive strip or LLL component on the floor or stair surface.	
Remove the backing material. Apply self-adhesive strip or LLL component to the pre-prepared floor or stair surface.	
After applying the self-adhesive strip or LLL component ensure proper adhesion by applying pressure all over the surface area.	
A wallpaper edging roller can help with this process as it applies even pressure across the whole surface. **Note:** Maximum adhesion is achieved after a period of approximately 72 hours.	100% - 72h
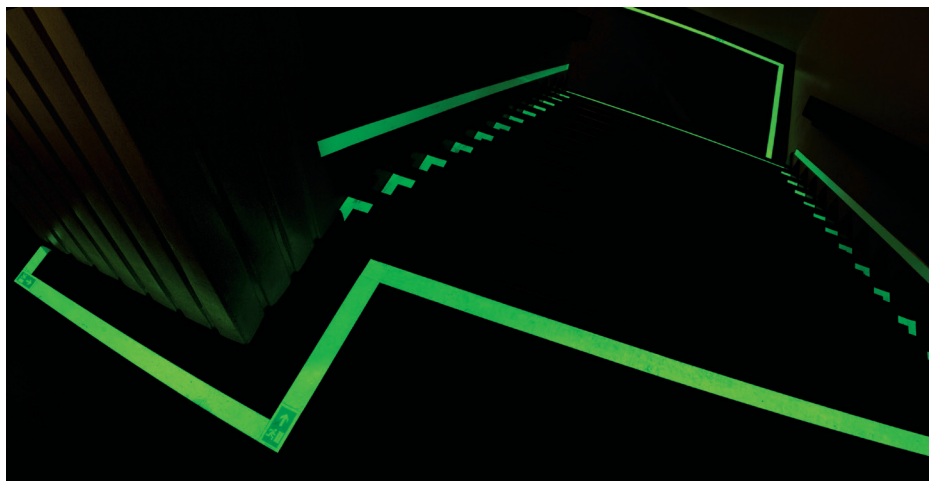
• Metal Discs For Floor Application

The metal Everlux-LLL discs can be supplied with or without a butterfly screw attached.
- Discs supplied without a butterfly screw attached are directly applied on the ground by adhesion;
- Discs supplied with a butterfly screw attached are installed directly to the metal floor grille by tightening the butterfly wingnut.

Metal discs (supplied without butterfly screw attached)

Prepare the receiving and disc surfaces by removing dust and grease with a suitable cleaning agent.

Apply a 5mm bead of adhesive on the back of the disc continuously and uniformly around it's perimeter and 1 cm from the edge.
Press down firmly on the disc to ensure a uniform and secure adhesion.

Metal discs (supplied with butterfly screw attached)

The metal discs supplied with a butterfly screw attached are suitable for metal grille stairs and floor surfaces and are installed directly to the receiving surface by tightening of the butterfly wingnut.

Insert the butterfly screw through an appropriate aperture in the metal grille surface, attach the wingnut and tighten to ensure the disc is secure. A suitable thread locking product (i.e. Loctite 222) is recommended to ensure the wingnut does not work lose and result in the disc becoming unsecured.
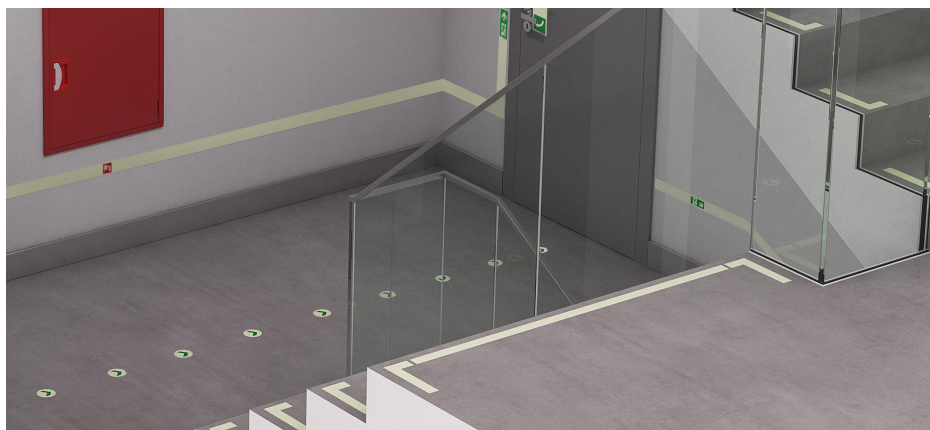
EVERLUX ACCESSORIES

• **Safety Bumpers**

Everlux safety bumpers are offer protection to equipment, buildings and personnel from impact/collision. The bumpers act as a damper, absorbing impact/collision force thereby reducing the effects of a collision.
Being photoluminescent, Everlux safety bumpers are also visible in reduced light conditions (i.e. a power cut).

|	
Everlux safety bumpers are supplied with high tack self-adhesive backing tape to allow simple, quick and effective installation. In some situation could be necessary to apply an adhesion promoter. For further information consult the Installation Guide for Self-adhesive products **Note:** Prepare the receiving surface by removing dust and grease with a suitable cleaning agent.	
Remove the backing material.	
Install the safety bumper by presenting the top end to the receiving surface and carefully fix into position. Apply pressure over the entire safety bumper surface to ensure complete adhesion. **Note:** The self-adhesive material is high tack and should only be presented to the receiving surface once as adjustment/repositioning is likely to damage the surface.	
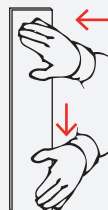
• Stair Nose Protectors

The extruded aluminium profile is designed to protect the edges of stairs & steps Manufactured with grooves that offer anti-slip protection that is effective in wet conditions. Inserted into the surfaces of the profile are photoluminescent anti-slip polycarbonate strips which remain visible in reduced light conditions (i.e. a power cut).

The stair nose protectors are supplied with 3 x strips of high tack self-adhesive backing tape to allow simple, quick and effective installation.
Note: Prepare the receiving surface by removing dust and grease with a suitable cleaning agent.
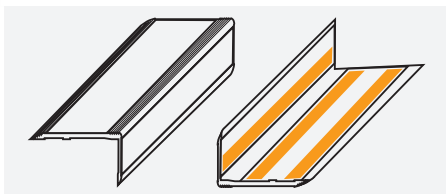

Remove the backing material.
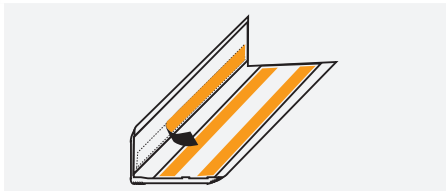
Present the interior angle of the aluminium profile along the length of the stair edge at points A & B. Once positioned, roll the profile back towards the rear of the stair and apply direct pressure along the edges of both profile surfaces to ensure adhesion.
Note: The self-adhesive material is high tack and should only be presented to the receiving surface once as adjustment/repositioning is likely to damage the surface.

Figure 1   Figure 2
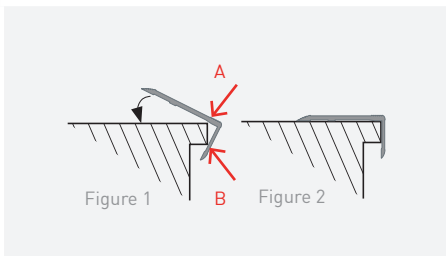
If the stair material is rough or porous it may be advisable to consider installation using rawl-plugs and screws. The aluminium profiles can be supplied with pre-drilled holes if specified when ordering.
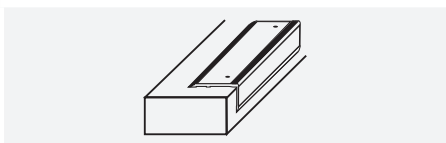
• **Floor Strips**

Everlux photoluminescent aluminium profile floor strips have been developed to be applied to irregular floor surfaces. They offer anti-slip characteristics, even in oil spill situations, due to the inclusion of slots throughout all their extension.
It is gifted with polycarbonate sheeting Everlux-LLL also non-slip, to ensure a perfect identification of the boundaries of the corridors and an excellent viewing even when cutting or failure of the power.

The floor strips are supplied with high tack self-adhesive backing tape applied to both inner surfaces to allow simple, quick and effective installation.
Note: ensure that the surface where the ground profile will be applied is clean and free from dust and grease.

Remove the backing material and apply pressure along the entire length of the floor strip to ensure complete adhesion.
Note: The self-adhesive material is high tack and should only be presented to the receiving surface once as adjustment/repositioning is likely to damage the surface.
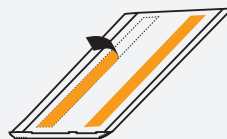
If the floor surface is rough or porous it may be advisable to consider installation using rawl-plugs and screws. The aluminium floor strips can be supplied with pre-drilled holes if specified when ordering.

• Frames
There are 3 types of frames for installation of signs:
- Tamper-proof Frames
- Self-assembly Frames
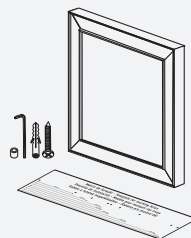## - Slim-line Frames
- Flexi

Since each type requires a different installation process in this document we explain all the steps needed for the installation of each type of frame.
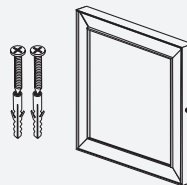
Tamper-Proof Frames
These Frames combine an aesthetic sense to the installed signs with a permanent fixation to the wall thus preventing vandalism.

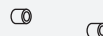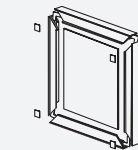|	
The Tamper Proof frames are provided with aluminum profiles already assembled and with the following accessories: - 2 bolts and plugs for wall mounting; - 2 nylon washers; - 2 Allen bolts; - 1 Allen wrench; - Stencil for marking bolt positions.	
The back side of the sign with the frame has two holes installed in the middle of the side profiles which will fit the wall mounting bolts with nylon washers.	
With the help of the Stencil mark the holes in the wall and install the bolts with the nylon washers.	
Install the sign with the frame by tightening the Allen bolts to the nylon washers, using the Allen wrench. Ensure that the sign was well fixed and cannot be removed from the wall.	
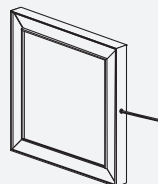
Self-Assembly Frames

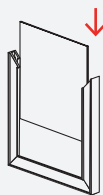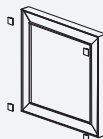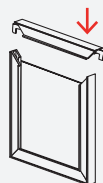|	
Self-assembly frames are provided with the following materials: - 4 Extruded aluminium profiles; - 4 PVC "L" connectors; - 4 Self-adhesive pads.	
Start by connecting the L's to the profiles to form a "U".	
Then insert the sign into the structure.	
Install the last profile with the L's for connection.	
On the back (of the frame) install the 4 self-adhesive pads in the corners of the frame.	

Slim-Line Frames

Slim-line frames are already provided with the profiles assembled, so their installation is equal to a Type 1 sign (see page 5).	
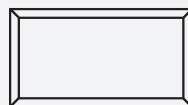
EVERLUX PROTECTION

In especially harsh environments, it is recommended that aluminium signage is considered. Additionally, further consideration may also be given to whether the application of an additional transparent protective film is appropriate. This offers further protection against degrading factors such as salinity aggression, humidity, UV damage etc. The protective film can also offer a measure of protection against graffiti and is suitable for application on either aluminium or PVC signage.

Protective Film Characteristics:

Characteristics	Unit	Nominal value	Tolerance	International Standard and/or internal
Substrate: PVC calendered monomeric thickness	mm	0,070	+/- 10 %	ASTM D374 6
Adhesive: acrylic				
Total thickness	mm	0,100	---	ASTM D374 6
Steel accession	N/ "	10	+/- 2	AFERA 4001 25
Tensile strength	N/cm	23	Minimum	ASTM D882 14
Breaking extension	%	250	Minimum	ASTM D882 14
Application temperature	°C °F	10 - 40 50 - 104	---	---
Temperature of exercise	°C °F	-20 - +80 -4 - +176	---	---

In these situations fixing the signs with screws etc may also be considered to be advantageous compared with adhesive methods.

When ordering signage that is to be installed in outdoor conditions it is advised that this is specified to ensure that the most appropriate signage is supplied to ensure longevity.

Figure showing the application of the transparent protective film to a sign that is to be installed outdoors.

Sign fitted to a pole outdoors.

www.**everluxmaritime**.com

For more information, please consult the technical data sheets for the relevant self-adhesive product.