



# Everlux® news

## The efficiency of the sign



### The efficiency of the sign

Products are manufactured to achieve a certain objective. For example, extinguishers exist so as to enable fires to be extinguished; fire doors, with their positioning, enable areas to be compartmentalised and the propagation of smoke and fire to be prevented.



### Types of application

Once we define the purpose of the equipment, we can analyse its characteristics and the way it operates; in brief, its capacity to achieve the objective for which it was manufactured, bought and installed.

Following the same examples, a fire door can be characterised among others, as FD 60 or FD 120, that is, it guarantees an efficient resistance to fire, temperature and smoke for 60 or 120 minutes. The extinguisher characterises itself with an efficiency of 27 A or 233 B, that is:

- Efficiency 27 A - to be able to extinguish a "typical" fire of 27 pieces of wood with 500mm per layer and 2,7m length in up to 7 minutes Class A fire;
- Efficiency 233B - to be able to extinguish a Class B fire of 233 litres of liquid volume (1/3 water and 2/3 liquid fuel), in an area of 7,32sqm.



### Method of practical testing

How can these values be defined? Through laboratory tests in accordance with the approved Norms.

What about Photoluminescent Safety Signs? How are these products defined? In exactly the same way. >

## editorial

Everlux® has been present in various events related to Safety. In 2006 we were present at the Safety Fair in Spain Sicur 2006 (Madrid); at the International Conference of Sprinklers which took place in Portugal (Lisbon); at the Safety Fair in Hungary Securex 2006 (Budapest); at the Safety Fair in Brasil FISP 2006 (São Paulo); at the First Conference NFPA in Portugal (Lisbon) and at the Safety Fair in France Expo-Protection (Paris). In 2007 and up to the current edition of Everlux® news, we have been present at two International Safety Fairs. In March we were present at Segurex in Lisbon and in May at Firex in Birmingham, where we officially presented our new catalogue (the Everlux® 2007) together with the most recent photoluminescent safety products.

Signs for high-rise buildings, especially developed with the aim to minimise the risks associated with this type of buildings, with regard to signs and illumination of the evacuation routes; the Everlux® disc, with a metal support, to sign evacuation routes in platforms and metallic stairs.

Signs for extinguisher products, which allow for the numbering of both the sign and the extinguisher, to ensure that after being serviced or used the extinguisher will be placed in its correct place, so as to avoid swaps which can be very dangerous; Photoluminescent fire extinguisher signs;

Self-adhesive signs for doors and mechanisms to operate the doors;

Everlux®-AL, photoluminescent safety signs for tunnels, in accordance with Directive 2004/54/EC.

The fact that we are more and more involved in different markets and the experience and knowledge that we draw from it are a guaranty of our innovation and development. This is demonstrated by the continuous increase in the quality of our products and the solutions we propose with our safety signs, in our production procedures and in our relationship with clients.

We will continue to work towards learning from the different cultures, different countries and different markets so as to allow us to present the best products and the best solutions in Photoluminescent Safety Signs. ○

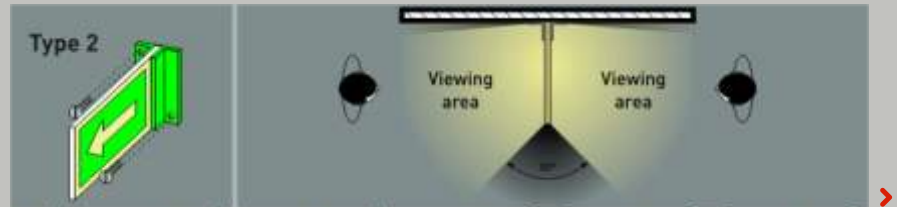


## Types of application



• With this kind of fixing, only one surface of the sign is fixed to the wall, in parallel; that is, it will be visible only from its front. The sign cannot be visible from its side, as we can see from the angle that limits the visibility zone in the picture. As a practical example, we have the case of signs in lifts, where it doesn't make sense to have signs fixed other than as in Type 1. This sign being located above the lift buttons, will always be seen from the front.

• In this case we have a sign with two opposite surfaces, located perpendicularly to the wall, and fixed with the help of a system of double brackets in termolacquered aluminium. This type of sign is appropriate for situations where the sign has to be visible from a side position to the wall where it is fixed. As an example we can refer an emergency door or an extinguisher in a corridor, as the sign above the equipment, of type 1 (parallel to the wall with only one surface being visible) would not be seen.



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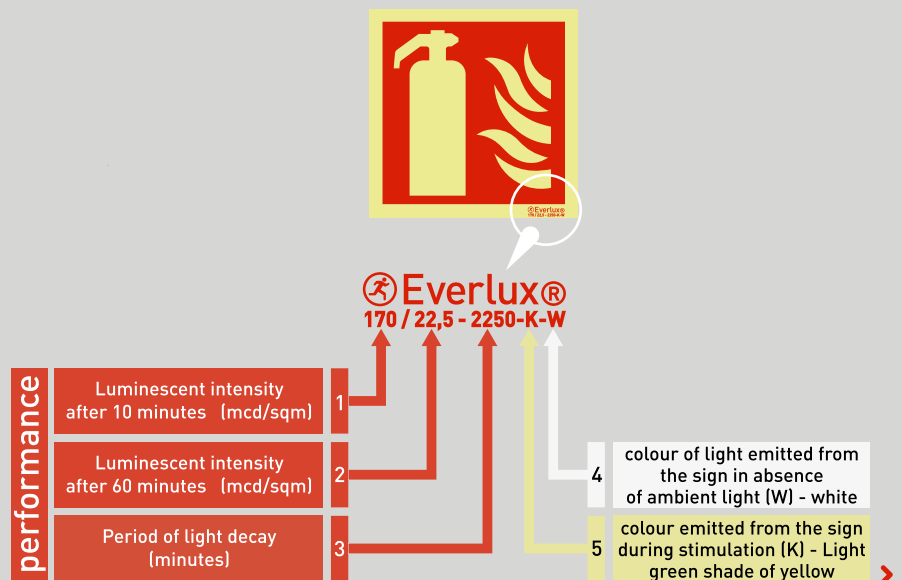
What is the objective of a photoluminescent sign? It must efficiently transmit the message for which it was created, that is, it must signal the equipment, the route, the danger, the obligation or the prohibition. Moreover, because it is a photoluminescent sign, it must guaranty that the message is received by the consumer/user even in situations of absence of light.

And how can the efficiency of a photoluminescent sign be assessed?

Through tests to measure its luminous properties. The present Norms define that the evaluation must consist in the measurement of the photoluminescent properties of the sign, bearing in mind 5 parameters :

1. the intensity of light after 10 minutes;
2. the intensity of light after 60 minutes;
3. the autonomy of the sign;
4. the colour emanating from the sign during stimulation;
5. the tone of light emanating from the sign in the absence of surrounding light.

The intensity of light of a sign is measured in millicandelas per square meter (mcd/sqm) and, according to the Norm it must be quantified after 10 and 60 minutes of being in a situation of total absence of light. The autonomy of the sign means the measurement of time, in minutes, during which the sign can be



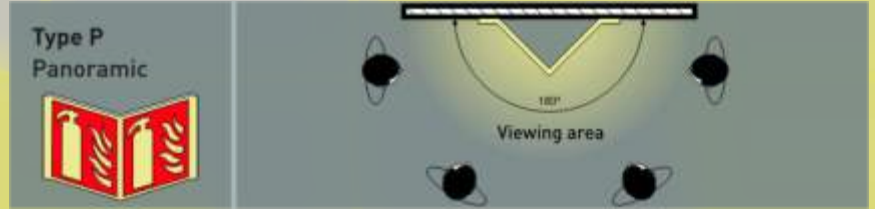
## millicandelas





• This is the sign that offers better visibility as the two surfaces of the sign form a 45 degrees angle with the wall, enabling a visibility of 180 degrees, and therefore make it visible from any point. It is generally used in corridors, halls and very big spaces, where it is necessary for it to be visible independently of the place where people are. For example, if we want to conveniently sign an extinguisher, located on a pillar in a car park, we can signal it with four type 1 signs, one in each side of the pillar, or with a panoramic sign, visible from the front and sides, and one more type 1 sign on the opposite side of the pillar from the location of the extinguisher. ◉

• This is a sign with two opposite surfaces but in this case it is suspended from the ceiling. The sign has two holes in the top for the suspending thread. This type of application is very useful for warehouses or hypermarkets, that is, very big surfaces where it is very difficult to find a place to fix the sign or even when we do find one, the sign cannot be placed without its visibility being compromised.



► considered as visible. The Norms specify that a sign in order to be visible, must have a minimum intensity of light of 0,32 mcd/sqm.

classification and efficiency in accordance with the Norms. This is the only way consumers can have the knowledge and the real guaranty of quality of all the products they are acquiring. With this demand the consumer also has the guaranty that the manufacturer of the product takes all civil and professional responsibility for their quality and efficiency.

The Norms also define the methods of testing, from which we point out some aspects that show their practical concern:

- Definition of the type of light to be used in the stimulation of a sign, in accordance with its applicability:

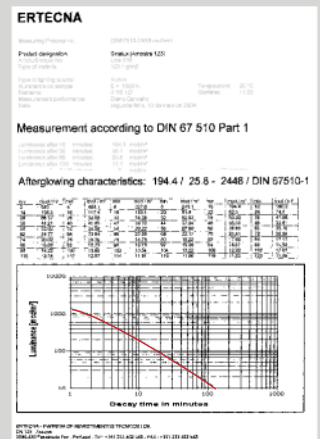
- a) if it is to show a location and is at a high level, 1000 lux bulbs must be used;
- b) if it is a low level sign, at floor level (low location lighting system) 25 lux bulbs must be used.

- The period of stimulation:

- a) 5 minutes for the first situation high level signs (1000 lux)
- b) 15 minutes for the second situation low level signs (25 lux).

And how and why should the consumer be guaranteed the efficiency of a sign?

Very simply, by printing on all signs their



In a market where it is becoming more and more difficult to distinguish the original from the copy, the genuine from the fake, with ever more copies of products, catalogues and even certificates with no quality, the printing on each product of the information regarding its efficiency is the only guaranty of quality for the consumer. ►



## Method of practical testing to compare photoluminescent signs.

As with other markets that are open to free competition, we can also see in the photoluminescent product market a general proliferation of new signs from varied sources, some with their own brand, others "blank", claiming to have the most unlikely values of luminosity.

The very large majority of these signs do not achieve the luminescent values printed on the sign itself; the only guaranty of their efficiency.

This creates an enormous difficulty of decision to those who put together and analyse proposals for various materials and who have to decide which is the best option, as they do not have details nor real guarantees on which to base their choice. The technology to make measurements with the use of a

photometer is expensive, not always available and is not justifiable for it to be constantly used every time new materials for signalling appear.

In these circumstances we have been developing a non-quantitative method (only qualitative) which enables us to easily compare the relative efficiency of a set of different materials:

- Take the signs into a room with no exterior light and place them near a fluorescent light for 30 minutes.
- Switch the light off and see the descending curvature of the light intensity, without leaving the room.

Disregard the light emanating over the first few minutes. According to Norm DIN 67510 the first valid measurement should only take place after 10 minutes; The differences in the luminosity intensity verified after 10 minutes will be accentuated up to 60 minutes and will remain proportional thereafter (corresponding to an extrapolation with a rect segment in a logarithmic scale). This way the test can be concluded in between 10 and 60 minutes. ●

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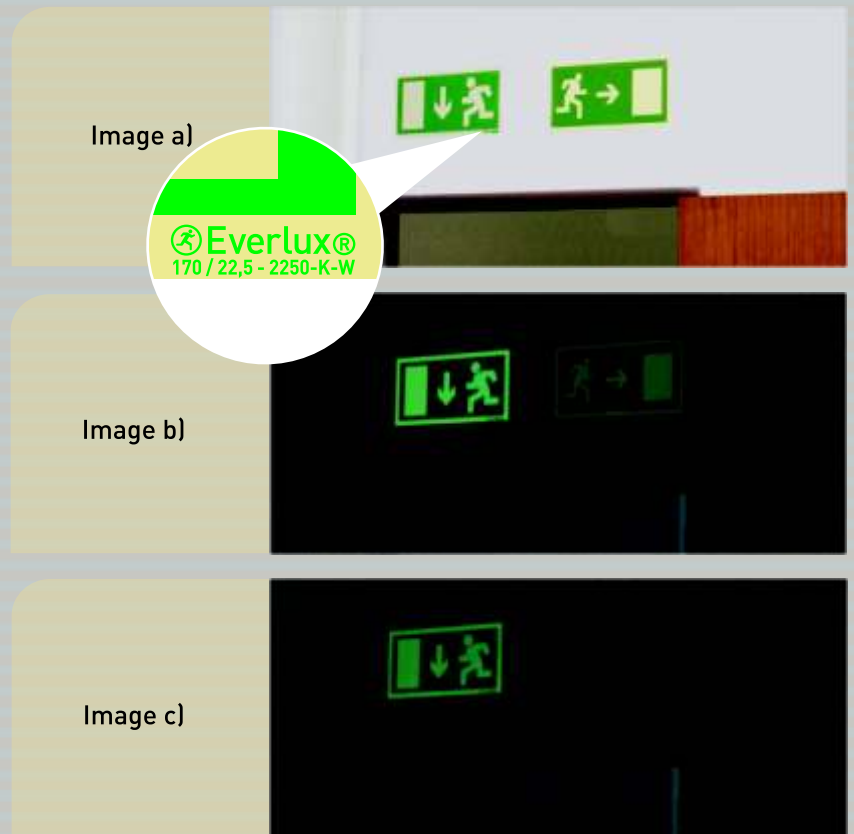
The quality of all **Everlux®** and **Masterlux®** signs is guaranteed by a continuous quality control, through equipment, laboratories and their own production procedures, which are periodically measured by a German optical laboratory.

In picture a) we can see two signs, apparently the same, in a normal light condition, that is, surrounding light.

In picture b) we can see the same signs in a situation of absence of light, 1 minute after their stimulation has finished. In picture c) also in the absence of light, 3 minutes after stimulation.

We would like to point out that according to the present Norms, the first measurement to evaluate the photoluminescent properties of signs should be after 10 minutes. ●

These photographs were taken in our quality control laboratory in the complete absence of light and with the signs in exactly the same conditions. ●



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