



Product Data Sheet

SafeSign™

PL ISO-17398 Class C 185/23

PET-X-XL Photoluminescent Safety Signage (Class C⁺) PET-X-XL Photoluminescent Low Level Lighting (Class C⁺)

Product Description

SafeSign™ PET-X is a coated PET (polyethylene terephthalate) sheet with a back printed photoluminescent (UV-solvent) layer, ensuring high visibility during power outages, for the use of safety signage and low level lighting systems.

Due to the back printed product configuration, the color print and photoluminescent solvent layer are protected by the PET front sheet for impact, scratching, UV and salt water (weathering).

SafeSign™ PET-X-XL signage and strips fitted with a self-adhesive PE closed foam tape backing can be applied to (coated) steel, aluminium, plastic, glass and (silicon free) painted surfaces.

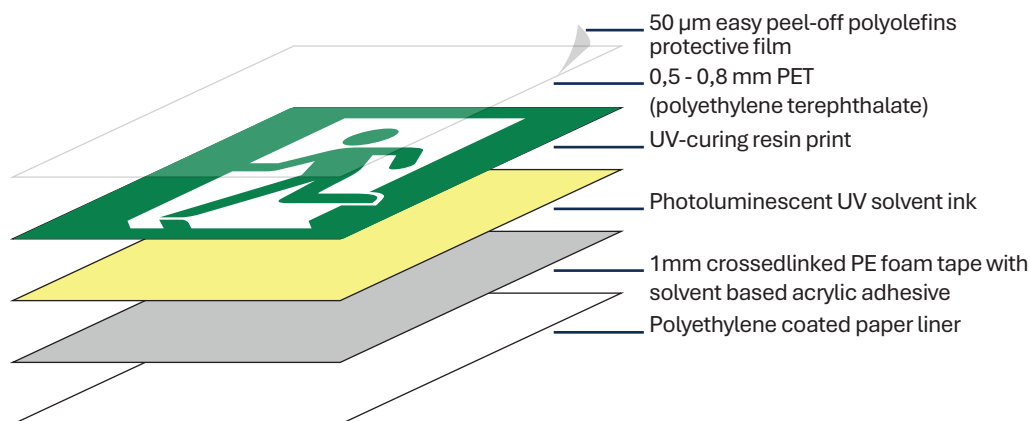
SafeSign™ PET-X-XL signs and strips are non toxic and non-radioactive and Halogenes and PVC-free manufactured.

Featured standard SafeSign™ product compositions are:

- SafeSign™ Photoluminescent PET-X-XL signs non-adhesive**
- SafeSign™ Photoluminescent PET-X-XL signs adhesive foam backing**
- SafeSign™ Photoluminescent PET-X-XL strips non-adhesive**
- SafeSign™ Photoluminescent PET-X-XL strips adhesive foam backing**

SafeSign™ PET-X-XL has a DNV-GL certificate module B & D and Green Passport, compliant with SOLAS, IMO Res. A.760(18) as amended ISO 17631:2002 and approved according to ISO 16069, ISO 17398, ISO 15370, ISO 22578 and DIN 67510

Product composition figure





Product Characteristics

Physical & Application

Note : These are indicative values for processed products.

Material:

0,5-0,8mm PET back-printed with UV-curing resin ink on a 3M™ configured printer and screenprinted photoluminescent (UV-solvent), with crosslinked 4 PCF 1mm PE foam tape with adhesive backing and removable paper liner. The PET sheet is fitted with an easy peel-off protective film

Surface finish :	Glossy	
Thickness (PET sheet) :	0,5 - 0,8 mm	
Density (PET sheet) :	1.27 g/cm ³	(DIN & ISO 1183-1)
Rockwell hardness :	105 R-Skala	(DIN & ISO 2039-1 & ASTM D785)
Bending Modulus :	1900 MPa,	(DIN & ISO 178)
Bending strenght :	70 MPa	(DIN & ISO 178)
Elastic modulus :	2000 Mpa	(DIN & ISO 572-2)
Tensile strenght :	50 Mpa	(DIN & ISO 572-2)
Impact strenght :	± 7 kJ/m ²	(DIN & ISO 179)
Vicat softening temperature :	70°C	(DIN & ISO 306)
Thermal conductivity :	0.2 W/m K	(DIN 52612 & ISO 22007-1)
Coeff. of linear thermal expansion :	0.068 mm/m °C	(DIN 53752 & ISO 11359-2)
Dielectric strenght :	16 kV/mm	(IEC 60243-1 & ASTM D149)
Dielectric constant :	2.6 (at 100 Hz)	(DIN 53438-2 & IEC 60250)
Specific volume resistance :	≥10 ¹⁵ Ωm	(IEC 60093, DIN 62631-1-1-3-1 & ASTM D257)
Protective peel-off film :	50 µm easy peel-off polyolefins protective film	
Thickness (PE foam tape) :	1.0 mm	
Adhesive type (PE foam tape) :	0,1mm solvent based acrylic, pressure sensitive	
Adhesive appearance :	Transparant	
Liner :	80grs/m ² White Glassine Paper	
Adhesion :	(PTSC-3) 2.1kg / 25 mm - FTM 1: 180° peel, substrate: stainless steel; cond: 24 h 25°C	
Application method :	Dry only!	
Application temperature :	+7°C to +38°C (for flat and curved to corrugated surfaces)	
(minimum air and substrate)		
Service temperature :	-20°C to +65°C (not for extended periods of time at the extremes)	
(after application)		
Surface type :	Flat to curved, including rivets and corrugations, deep channels and recesses	
Substrate type :	Aluminum, PMMA, ABS, glass and (silicon free) painted steel	
Print - Ink :	3M™ (co-branded) UV-curing resin ink	
Flammability :	Ask your local SafeSign contact	
Chemical Resistance :	Tested according to ISO 2812-1	
	Resistant to most mild acids, alkalis, and salt solutions including water	
	Resists Petroleum Vapors	



Photoluminescence

Note : the color appearance is a general, non measured indicative description.

Color appearance : Light yellowish

Light color appearance : Light greenish yellow to white

Photoluminescent class : Class C (DIN 67510 & ISO 17398)

Luminance values : Minimum luminance mcd/m² (Lighting source D65, approx. 6504 K)

At decay time:	Performance:	Required: (DIN 67510 & ISO 17398)
2 minutes	1138,0 mcd/m ²	690 mcd/m ²
10 minutes	220,0 mcd/m ²	140 mcd/m ²
30 minutes	60,1 mcd/m ²	45 mcd/m ²
60 minutes	25,1 mcd/m ²	20 mcd/m ²

Storage & Shipment

Shelf life : This product has a shelf life of 1 year if stored between 10°C and 25°C and 40 to 60% RH

HS Code : 3919 9080 (self-adhesive film / labels)

Weight per standard sizes

Sign Width	Sign Height	Sign Weight
50mm	50mm	0,004kg
75mm	75mm	0,018kg
300mm	100mm	0,031kg
150mm	150mm	0,036kg
150mm	200mm	0,041kg
300mm	150mm	0,066kg
450mm	150mm	0,106kg

Maintenance and Cleaning

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline).



Durability

The durabilities mentioned below are the results of illustrative lab tests of the separate components, with an intended indoor use. PET-X is suitable for use in outdoor environments; however, photoluminescent material is intended for indoor use. A continuous exposure of sunlight to photoluminescent pigments, inks and finished materials will result in a rapid decay of the luminous performance. The durability statements do not constitute warranties of quality, life and characteristics. The durability of products is also influenced by:

- the type of substrate and thorough preparation of the surface
- application procedures
- environmental factors
- the method and the frequency of cleaning

Warranty

The warranty granted by SafeSign™ for indoor use is 5 years from the date of sale. Abrasion and loss of gloss are not covered by any warranty. This is considered normal wear and tear.

Climatic zones

This warranty does not apply if the materials have been scratched, abraded or broken, or have been exposed to corrosive substances. This warranty also excludes products that have been subjected to extreme temperatures for an extended period.

Graphic durability is largely determined by the climate and the angle of exposure. Find below a table showing the durability of a product according to the angle of exposure and the geographical location of the application.
Zone 1 - Northern Europe, Italy (north of Rome), Russia
Zone 2 - Mediterranean area without North Africa, South Africa
Zone 3 - Gulf area, Africa

	Zone 1	Zone 2	Zone 3
Vertical outdoor exposure :	5 years	2 years	2 years
Indoor (interior) application :	8 years	8 years	8 years

(interior) means an application inside a structure without direct exposure to sunlight.

Limitations of End Uses

SafeSign™ specifically does not recommend or warrant the following uses;

- low surface energy substrates or substrates with low surface energy coating
- stainless steel, (un)painted rough wallboard, gypsum board and wallpaper
- surfaces with poor paint to substrate adhesion
- surfaces that are not clean

Remarks

Important notice

This Product Data Sheet provides technical information only.
All questions of warranty and liability relating to this product are governed by the terms and conditions of the sale, subject, where applicable, to the prevailing law. Before using, the user must determine the suitability of the product for its required or intended use, and the user assumes all risk and liability whatsoever in connection therewith.
As outdoor graphics age, natural weathering occurs causing a gradual reduction in gloss, slight color changes, some lifting of the graphic at the edges or around rivets, and ultimately a minor amount of cracking. These changes are not evidence of product failure and are not covered by a warranty.