



SAFETY SIGN SYSTEMS ONBOARD FERRIES

T-ISS
Safety Suppliers

INTRODUCTION

SAFETY SIGNS AS A SYSTEM

Safety onboard is crucial, both for passengers and crew. SOLAS requires a clear escape route signage which directs to the assembly stations and embarkation stations.

In addition to fire and rescue signage, especially the design of the escape route signage requires expert attention. Proper escape route signage ensures that in an emergency, every passenger knows where to go and is able to find their assembly station. The primary escape route is a uninterrupted route via the safest and shortest route to the assembly station marked with the correct symbols. The signage for the designated secondary escape route requires the same; you should always end up at an assembly station.

Signs must be present both at eye level and at a low level, integrated in the LLL according to IMO 752(18) and ISO 15370. And, according to that regulation, clearly explained by safety Instructions.

Signs that simply state 'EXIT' cannot meet the goals of all regulations. SOLAS requires the use of correct symbols along with the word 'EXIT'.

An effective safety sign system consist of a coherent whole of:

- Electrical ceiling mounted escape signs
- Low Location Lighting (LLL), electrically powered or photoluminescent
- Safety signs both on eye level and mini symbols integrated in the LLL
- Safety Instructions both for cabins and public spaces

The safety sign system is based on all relevant rules according to SOLAS, IMO, FSS code and the latest ISO standards. We can offer an assessment on site, we can fulfill the complete engineering to a signage plan and approval drawings for authorities and classification societies. After this point we proceed to the implementation of the complete system.

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ELECTRICAL LED ESCAPE SIGNS

Our Maritime LED escape signs are designed to clearly identify escape routes, executed in a modern design that fits into today's marine architecture. The signs are IP44 protected, CE and RINA approved and have a lifetime of at least 40,000 hours thanks to the special LED technology.



ELECTRIC AND PHOTOLUMINESCENT IN ONE: THE BEST OF BOTH WORLDS

As the first and only one in the market, we have combined two technologies in our LED escape signs; the main source of energy is electricity, but if the power fails due to an emergency, the photoluminescent capabilities of the sign take over. An innovation that makes this the LED escape sign of the future. A clear visibility is guaranteed for more than 3 hours without electrical power.



LOW LOCATION LIGHTING

Blomsma Signs & Safety provides Low Location Lighting system for all situations. Both the luxury LED LLL in a variety of profiles as well as the more economic photoluminescent systems.

We are specialists in the project based implementation of Low Location Lighting systems on passenger ships both technical and according the latest IMO and SOLAS regulations and relevant ISO Standards. And in addition, also in performing LLL measurements and certifications.



REGULATIONS AND STANDARDS

SOLAS regulation II-2/13.3.2.5.1 is clear in that the means of escape, including stairways and exits, shall be marked by lighting or photoluminescent strip indicators placed not more than 300 mm above the deck at all points of the escape route. IMO Resolution A.752(18) gives more specific information.

The main goal is that the LLL system provides marking of escape routes in line with the ship's evacuation analysis as given in SOLAS regulation II-2/13.3.2.7. All escape routes should lead to the assembly stations and embarkation station by use of the right symbols.

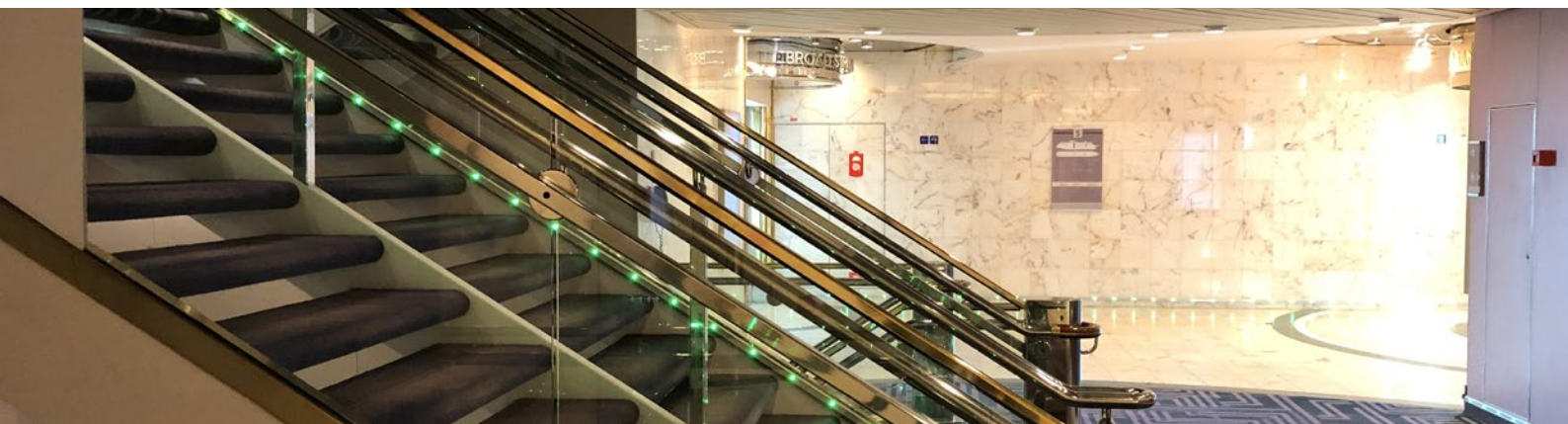
ISO 15370 describes how to install these products and how to certify and maintain these products of the complete Low Location Lighting system.

ELECTRICAL LOW LOCATION LIGHTING



We offer a wide range of profiles to integrate the LED-strip in. Profiles for wall mounting, floor mounting (low and high carpet profiles), from metal skirting boards till system integration into existing wooden wall panels or skirting boards on board.

Power supply units with or without battery backup, able to feed more than 1.000 m of the latest LLL systems. The system is compatible to the most common used LLL systems installed.



PHOTOLUMINESCENT LOW LOCATION LIGHTING



Our LightLine LLL can be provided in PET-X with or without green borders, or in aluminum profiles with PVC insert strips. Of course the products are fully certified.

LightLine Pet-X photoluminescent strips are Non PVC, Halogen-free, flame retardant, UV-resistant and 100% recyclable, and therefore exceeding all current requirements. Our strips have a high luminescence Class XXL backlighting material, which will light up well above the minimum set standards and hereby fully complies with IMO Resolution A. 752 (18) and ISO standard 15370. The material also has a 'glossy' finish which is easy to clean and gives it a high quality appearance.



ESCAPE SIGNS

All escape routes onboard passenger vessels shall lead to the ship's assembly stations. SOLAS Part 1, regulation II-2/13.7.1.1 and III/11.5 are clear the assembly station symbol from IMO A.1116(30) shall be used. According to the ship's escape plan the primary and secondary escape routes shall be visualized by escape signs, in line with the escape symbols at the LLL and the safety Instruction's explanation.



SAFETY SIGNS

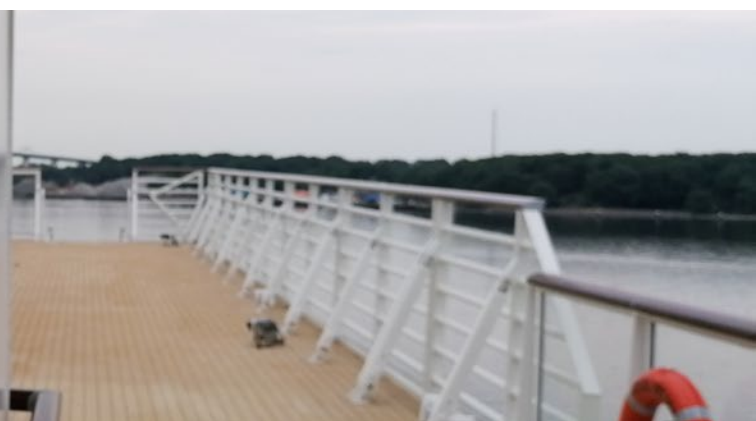
In addition to the escape route signs, signs for firefighting-, rescue- and fire control equipment according to IMO 1116(30) should also be used.

QUALITY OF SAFETY SIGNS

For all safety signs, we use 100% environmentally friendly photoluminescent material which is free of halogens. Our modified PET-X can be used safely anywhere inside and outside onboard ship's and exceeds all required photoluminescence requirements.

5-YEAR WARRANTY

Our PET-X photoluminescent safety signs are UV resistance and equipped with an ultra-strong self-adhesive foam tape. When installed correctly we offer a 5-year warranty even when used outdoors, unlike PVC or other signs which quickly turns yellow.



SAFETY INSTRUCTIONS



SOLAS Part 1, regulation II-2/13.7.2.2, regulation III-part B. 8.4 and MSC/Circ. 699 requires emergency instructions in cabins, assembly stations and other passenger spaces. Of course from safety perspective they must be in line with the ship's evacuation analyses and help the persons on board as a preventive measure. The new developed ISO DIS 24409-4 describes the details for these instruction plans, the Blomsma Signs & Safety Safety Instructions are already fully in line with that new ISO standard and all other regulations.

The Safety Instruction sign in a cabin displays the primary and alternative route to the designated assembly station, displayed in both plan view and sideview, emergency instructions and donning instructions for the lifejackets.

The Safety Instructions for the public areas show the 'you are here' position in relation to the assembly stations, embarkation stations, emergency information and near the lifejacket storage areas, the instructions for putting on the lifejackets. This plan also shows in a plan view the positions of the lifeboats, embarkation stations and life jacket stowage areas on the respective decks.

Blomsma Signs & Safety can provide the development and drawing work for the Safety Instructions fully in line with the complete escape route system.

They can also be designed in the company's corporate branding guide lines with their logos or in a neutral ISO recommended style.



SAFETY SIGNS, SAFETY POSTERS & PIPE MARKING

Regulations and laws require more signage than just escape signs in the interior.

Safety signs outside, in galleys, stores and technical spaces require lots of safety signage. As signage specialists, we will make sure that this signage is installed with the right symbols and as a coherent whole, in line with the ship's evacuation analysis and escape and embarkation plan.

We produce all signs in-house, whereby custom signs in every language are possible. From our involvement in ISO safety sign standardization projects, we can develop all signs according to all standards.



Clear pipe marking according ISO 14726 or ISO 20560-1 prevents accidents in operating the vessel.



CARDECK SIGNS

European law requires safety signs for all people onboard, both for crew and passengers such as car drivers.

Blomsma Signs & Safety provides these signs, which can be tailor made in all languages and symbols according to ISO standards. Company branding elements such as logos and colours can be applied.

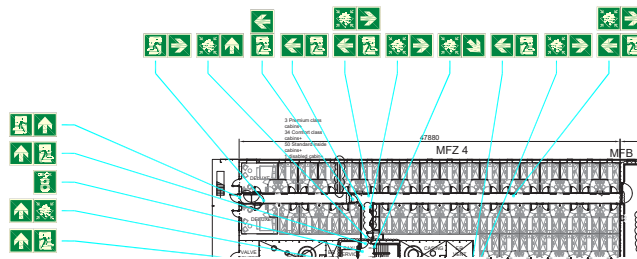




PROJECT MANAGEMENT & TURN-KEY SERVICES

Development and installation of an effective and compliant safety sign system in line with your embarkation- and safety plan and safety procedures as well as all regulations and standards has been our core business for many years. The safety of the crew and passengers is our top priority when implementing such a system. In order to implement an effective and compliant safety sign system, we approach each project systematically, based on our main pillar under success: good project management and knowledge of the relevant regulations and standards.

Our skilled workers can provide all types of safety signage, directional signage and other markings, based on an inventory and consultancy process. As an active member of ISO committees for safety signage Blomsma Signs & Safety helps to ensure unambiguous use of safety signage.



LLL Measurement & Certification



We are accredited by DNV to execute Low Location Lighting measurement services. As a ferry owner, you need to test all Low Location Lighting systems at least once every five years. Our engineers will test the state and luminance of your systems on-board with fully certified testing equipment. The photoluminescence measurement process as well as equipment are all certified by DNV.

We can provide you with several services, including:

- Photoluminescent Low Location Lighting measurements and tests (DNV certified)
- Electrical Low Location Lighting measurements and tests (DNV certified)
- Low Location Lighting refurbishment or replacement

After the measurements, the engineer will report all readings in a clear overview for Class approval. This includes all the upgrades and / or modifications that, when needed, you need to do to meet the required regulations.



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