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# Technical characteristics of Segursinal® photoluminescent signs

### MATERIAL

Photoluminescent rigid plastic 2,00mm thickness (+-) 0,1mm

### **PRINTING**

Serigraphy, high quality gloss paint with UV resistance and a 5 years guarantee

### FIRE RESISTANCE

Flame retardant according to IEC 60092 - 101: 2002 and IMO FTPC Part 5 (IMO Res. A. 653 (16)

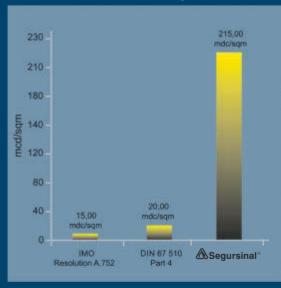
### **SURFACE**

Antistatic and easy to clean

### CHEMICAL CHARACTERISTICS

Non-radioactive, non-phosphorous, lead free and poisonless

### Luminescent Intensity: 10 minutes

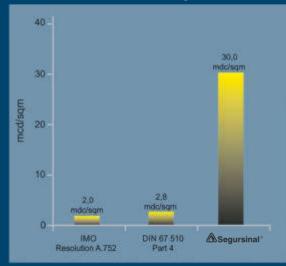


Indicates the measurement, in milicandelas, per square meter (mcd/sqm), of signs luminous intensity,10 minutes after removing the light source.

Time after removing the exciting light	Luminescent intensity (mcd/sqm)			
	According IMO	DIN 67510	<b>⚠</b> Segursinal <sup>◎</sup>	
10 minutes	15,00	20,00	215,00	



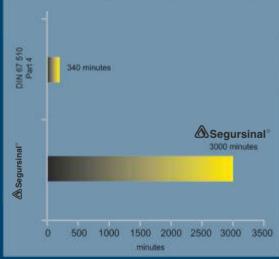
### Luminescent Intensity: 60 minutes



Luminous intensity, 60 minutes after removing the light source.

Time after removing the exciting light	Luminescent intensity (mcd/sqm)			
	According IMO	DIN 67510	<b>∕</b> Segursinal <sup>®</sup>	
60 minutes	2,0	2,8	30,0	

### Period of light decay (minutes)



This is the time, in minutes, during which luminescent intensity is higher than 0,32 mcd/sqm, a value approx. 100 times greater than the limit of visibility

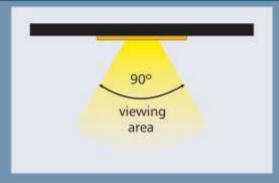
Luminescent intensity greater than 0,32 mcd/sqm	Period of light decay (minutes)			
	According IMO	DIN 67510	<b>∕</b> Segursinal <sup>⊚</sup>	
60 minutes	C-44	340	3000	





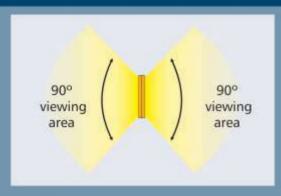
### Alternatives for mounting signs

For the correct functioning of the signs, they must be mounted according to the correct viewing angle.



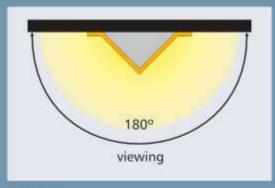
TYPE 1 Surface printed parallel wall mounted sign.







TYPE 2
Suspended double-sided sign, to be hung from the ceiling. The sign is supplied with holes on the top corners allowing appropriate fixings to be used (fixings not supplied).





TYPE P

Panoramic signs. This signs are printed on both exterior surfaces and guarantee a viewing angle of 180°. The sign with greatest visibility area.

### Legislation and Certification

# All the signalization (A) Segursinal® and (A) Segursinal® LLL are strictly produced in accordance to the following International Standards and Legislation:

IMO Resolution A.654(16) adopted on 19 October - Graphical symbols for fire control plans

IMO Resolution A.752(18) adopted on 4 November 1993 - Guidelines for the evacuation, testing and application of low-location lighting on passenger ships

IMO Resolution A.760(18) adopted on 4 November 1993 - Symbols related to life-saving appliances and arrangements

IMO Resolution A.952(23) adopted on 5 December 2003 - Graphical Symbols for shipboard fire control plans

SOLAS Convention 2004 chapter II-2 Regulation 13.3.2.5 - Construction - Fire protection, fire detection and fire extinction - Means of escape - Marking of escape routes

SOLAS Convention 2004 chapter II-2 Regulation 13.7.2.2 - Construction - Fire protection, fire detection and fire extinction - Means of escape - Instruction for safe escape

SOLAS Convention 2004 chapter III-Regulation 9.2.3 - Life-saving appliances and arrangements - Operating instructions

MARPOL 73/78 adopted on 17 February 1978 - International Convention for the Prevention of Pollution from Ships

ISPS Code 2003 adopted on 12 December 2002 - International Ship and Port Facility Code

ICAO and IMO document 9636 - International signs to provide guidance to persons at airports and marine terminals

IMDG Code 2010 Edition - International Maritime Dangerous Goods (IMDG) Code

ISM Code 2010 Edition - International Safety Management (ISM) Code

European Commission Directive 2002/25/EC adopted on 5 March 2002 - Amending Council Directive 98/18/EC on safety rules and standards for passenger ships

ISO 24409-1:2010 - Ships and marine technology - Design, location and use of shipboard safety signs, safety related signs, safety notices and safety markings - Part 1:Design principles

ISO 16069;2004 - Graphical symbols - Safety signs - Safety way guidance systems (SWGS)

ISO 7010;2011 - Graphical symbols - Safety colors and safety signs - Registered safety signs

ISO 3864-1:2011 - Graphical symbols - Safety colors and safety signs - Part 1: Design principles for safety signs and safety marking

ISO 3864-2:2004 - Graphical symbols - Safety colors and safety signs - Part 2: Design principles for product safety labels

ISO 17631:2002 - Ships and marine technology - Shipboard plans for fire protection, life-saving appliances and means of escape

ISO 15370:2010 - Ships and marine technology-Low loccation lighting (LLL) on passenger ships-Arrangement

ISO 14726:2008 - Ships and marine technology - Identification colors for the content of piping systems

ISO 20712-1:2008 - Water safety signs and beach safety flags - Part 1 Specifications for water safety signs used in workplaces and public areas

BS 5499 -11:2002 - Graphical symbols and signs. Safety signs, including fire safety signs. Specification for geometric shapes, colors and layout

DIN 67510-1:2009 - Photoluminescent pigments and products - Part 1: Measurement and marking at the producer

DIN 67510-4:2008 - Phosphorence pigments and products - Part 4: Products for phosphorescent escape route systems - Marking and applications

MCALY2 published on September 2007 - The large Commercial Yacth Code (LY2)





Signs according to the symbols for fire protection appliances according to IMO A.654 (16), IMO A.952 (23) and ISO 17631

size (mm) 150X150



80.001 Fire control plan





80,002 Manually operated call



80.003 Push button for general alarm



80.004 bell fire alarm



80.005 Manually operated call points



80.006 Space protected by automatic fire



80,007 Control panel for fire detection and alarm system



80.008 Fire station



80.009 Locker with fireman's outfit



80.010 Emergency



80.011 Control system



80.012 Fire locker



80.013 Inert gas installation



80.014 Horn



80.015 Halon hom



80.016 Sprinkler horn



80.017 CO2 hom



80.018 A class sliding fire door self-closing



80.019 A class sliding fire door self-closing



A class fire door self-closing



80.021 A class fire door



B class sliding fire door self-closing



B class sliding fire door



B class fire door self-closing



B class fire door

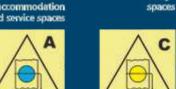




FIRE PROTECTION IMO



80.050 Remote ventilation shut-off for accommodation and service spaces



80.056



Remote ventilation shut-off for cargo

80.057



80.052 Remote ventilation shut-off for machinery spaces



80.053 Remote control for emergency bilge pump



80.054 Remote ventilation shut-off



80.055 Remote control for watertight doors



Remote control for fire dumpers in accommodation and service spaces



80,051

Remote control for fire dumpers in cargo spaces



80.058 Remote control for fire dumpers in machinery spaces



80.059 Remote control for skylight



80.060 Remote controled skylights



80.061 Remote control for closing devices of vent. inlet and outlet in accom. and service spaces



80,062 Remote control for closing devices of vent. inlet and outlet in machinery spaces



80,063 Remote control for closing devices of vent. Inlet and outlet in cargo spaces



80,064 Lube oil pump(s) remote shut-off



80.065 Fuel oil pump(s) remote shut-off



80,066 Remote control for



80,067 Remote control for



80.068 Remote control for fire pump(s) valves



80.069 Remote control for lube oil valves



80.070 Remote control for fuel oil valves



80.071 Remote control for fire doors



80.072 Remote control fuel lubricating oil



80.073 Area protected by sprinkler or high pressure water



80,074 Area protected by powder



80,075 Area protected by CO2



80,076 Area protected by



80.077 Area protected by gas



80.078 Remote release station of nitrogen



80.079 Remote release station of CO2





80.090 Remote release station of powder



80.091 Remote release station of water



80.092 Remote release station of gas



80.093 Closing device for vent, inlet or outlet of accommodation and service spaces



80.094 Closing device for vent, inlet or outlet of cargo



size (mm) 150X150

80.095 Closing device for vent, inlet or outlet of machinery spaces



80.100 Section valves drenching



80.101



80,096 Fire dumper for accommodation spaces



80.097 Fire dumper for cargo spaces



80.098 Fire dumper for machinery spaces



80.099

Fire dumper in



80.106 Fire main section



Fire main with



80.102 Sprinkler section



80.103 Powder section



Foam section





80.112 Space or group of spaces monitored flame detector(s)



80.113 Space or group of spaces monitored heat detector(s)



80.108 Fire hydrant



80.109 International shore connection



80.110 Space or group of spaces monitored heat detector(s)



Space or group of



80.118 Primary means of escape



80.119 Secondary means of escape



80.114 Space or group of spaces monitored smoke detector(s)



80.115 Main vertical zone symbol



80.116 A class division



FIRE PROTECTION IMO





80.129 Area sprinkler protected



80,130 Sprinkler instalation



80.131 Drenching instalation



80,132 Halon portable fire extinguisher



80.133 Halon 1301 battery



80.134 Halon 1301 bottles placed in protected areas



80.135 Halon release station



80.136 Locker for protective clothing



80.137 Locker for breathing apparatus



80,138 All compressor for breathing devices



80.139 CO2 portable fire extinguisher 2 Kg



80.140 CO2 portable fire extinguisher



80.141 CO2 wheeled fire extinguisher



80.142 Fixed fire extinguisher CO2 battery



80.143 Fixed fire extinguisher CO2 instalation



80.144 Fixed fire extinguisher CO2 bottled placed in protected area



80.145 Fixed fire extinguisher CO2 ntrogen battery



80.146 Fixed fire extinguisher CO2 nitrogen instalation



80.147 Fixed fire extinguisher nitrogen bottle placed in a protected area



80.148 Foam portable fire extinguisher



80,149 Foam wheeled fire extinguisher



80.150 Foam monitor



80,151 Fire hose and nozzle of foam



80.152 Fixed fire extinguisher foam battery



80.153 Fixed fire extinguisher foam instalation



80.154 Fixed fire extinguisher foam bottle placed in a protected area



80.155 Portable foam applicator



80.156 Foam nozzle



80.157 Space protected by foam



80.158 High expansion foam supply trunk (outle)



# Signs according to the symbols for fire protection appliances according to IMO A.654 (16), IMO A.952 (23) and ISO 17631



80,168 Powder monitor gun



80.169 Powder wheeled fire extinguisher



80.170 Powder portable fire extinguisher 12 Kg



80.171 Powder portable fire extinguisher 9 Kg



80.172 Powder portable fire extinguisher 6 Kg



80.173 Powder portable fire extinguisher 2 Kg



80.174 Powder portable fire extinguisher



80.175 Fixed fire extinguisher powder battery



80.176 Powder fire hose and nozzle



80.177
Fixed fire extinguisher powder bottle placed in a protected area



80.178
Fixed fire
extinguisher
powder
instalation



80.179
Fixed fire extinguisher
gas bottle placed in a
protected area



80.180 Fixed fire extinguisher gas instalation



80.181 Fixed fire extinguisher gas battery



80.182 Gas wheeled fire extinguisher



80.183 Gas portable fire extinguisher



80.184 Water wheeled fire extinguisher



80.185 Water portable fire extinguisher



80.186 Fixed fire extinguisher water bottle placed in a protected area



80.187 Fixed fire extinguisher water instalation



80,188 Fixed fire extinguisher water battery



80,189 Water fire hose and nozzle



80.190 Portable water applicator



80.191 Water monitor gun



80.192 Emergency switch board



80.193 Emergency source of electrical power (battery)



80.194 Fire pump



80.195 Emergency fire pump



80.196 Blige pump



80.197 Emergency bilge pump

## Fire fighting equipment











80.209 80.208

80.210













80.211

80.212

80.213 80.214

80.215

80.216

size (mm) 100X200 150X300 200X400











80.226

80.227

80.228

80.229

80.230

size (mm) 150X200 200X300 300X400



80.240



80.242



80.243





80,245





80.246

80.247



Fire extinguisher (and blanket) identification signs are complementary to the main location signs. These signs fully conform to BS EN 3-5.

size (mm) 75X200

Under risk assessment, it is important to not only identify the location of fire extinguishers, but also display the types of fires that they are designed for. This will ensure that key personnel are given clear and unambiguous information when they need it most.









80.257 80.258 80.259 80.260









80.261 80.262 80.263 80.264

Fire extinguisher (and blanket) identification signs are complementary to the main location signs. These signs fully conform to BS EN 3-5.

size (mm) 150X100

Under risk assessment, it is important to not only identify the location of fire extinguishers, but also display the types of fires that they are designed for. This will ensure that key personnel are given clear and unambiguous information when they need it most.



80.274



80.276



80.278





80.275



80.277



80.279





# Signs for lifts







80.294



80.292



80.295



80.293



80.296

size (mm) 150X150 200X200 300X300



80.305





80.315



80.316



80.317



80,318



80.319



80.320



80.321



80.322

size (mm) 150X200 200X300 300X400



80,329



80.330



80.331

### Numbers

size (mm) 75X150 100X200 150X300



80,341



80.342



80.343



80,344

80.351



80.345





80.353

80.347

80.354





For use on any fire

A man

80.864



Fire extinguisher keep clear

STEELS NO

80,867



Not for use on electrical fires

STREET, STREET,

80.870



Fire hydrant keep clear

E-secure service

80.873



Fire hydrant

100000-000

80,876



Sprinkler control valve

80.879



Fire plan

80.882



Fire alarm control point inside

80,885



Fire fighting equipment stored inside

80,888



Foam inlet

80.891



Local electricity cut off point

A 16414-014

80,894



For use on flammable liquids fires

80.865



Fire hose keep clear

80.868



Open valve in case of fire

80.871



Open valve before running out hose

-01

80.874



Dry raiser

A seign-

80.877



Fireman's switch

80.880



Automatic fire alarm control point

80.883



Fire bucket

80.886



Fire alarm call point

80,889



Mains electricity cut off point

A1

80.892



Area equipped with fixed fire extinguishing system

80.892



For use on electrical fires

80.866



Fire hose reel

80.869



Dry powder

- fi 1000A

80.872



Sprinkler stop valve inside

A SECURE ASSESS

80,875



Wet riser

80.878



Fire alarm control panel

80.881



Fire pump start button

80.884



Fire flap

80.887



In case of fire break glass

80,890



Gas supply cut off point

80.893



Manual control of fixed fire extinguishing system

### Arrows and directions

size (mm) 300X100 400X150

IMO Regulations recommend that the location of emergency equipment, assembly and embarkation stations should be plainly indicated by the use of appropriate symbols, MCS/CIRC.777 states that "Assembly Station" has the same meaning as "Muster Station".





80.905 80,906









80.907









80,911













80.918

80.912









80.921



80.922



80.923



80.924



80.925

80,929



80.926

80.927

80.928

size (mm) 300X150

Escape Door

Escape Route

Escape Window Escape Hatch



80,939

80.940

80.941

80.942

80.943

150X150 200X200 300X300 400X400

size (mm)

MCS/CIRC,777 states that "Assembly Station" has the same meaning as "Muster Station"











Symbols for escape routes and life saving appliances according to IMO A.760 (18) and ISO 17631.

size (mm) 150X150 300X300

IMO regulations recommend that the location of emergency equipment, assembly and embarkation stations should be plainly indicated by the use of appropriate symbols.



81.003

81.004

81,005

81.001





**ESCAPE ROUTE AND LIFE SAVING IMO** 



81.006



81.007



81.008



81.009



81.010



81.011



81.012



81.013



81.014



81.015



81.016



81.017



81.018



81.019



81.020



81.021



81.022



81.023



81.024



81.025



81.026



81.027



81.028



81.029



81.030



81.031





81.033



81.034



81.035



81.036



81.037



81.038

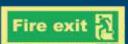


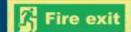
81.039



81.040







81.045

size (mm) 300X100 450X150 600X200



81.047



81.050



81.054



81.048

81.046



81.051



81.055



81.049



81.052



81.056



81.053



81.057

size (mm) 200X100 300X150 400X200 600X300



81.067



81.069



81.073



81.068



81.070



81.074



81.071



81.076



81.072



81.077

size (mm) 150X150 200X200 300X300 400X400



81.088



81.089



81.090

size (mm) 300X150 400X200 600X300









7

81.095

81.097

### Escape route signs in according whith ISO 7010 and BS 5499-1







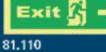




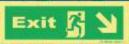


















81.112



81.114



81.116

size (mm) 150X150 300X300 400X400



81.126



81.127



81.128



81.129



81.130

23



### Escape route signs designed to European Council Directive 92/58/EEC

size (mm) 200X100 300X150 400X200 600X300











81.142



81.143



81.144



81.145



81.146



81.147



81.148



81.149



81.150



81.151



81.152



81.153



81.154



81.155



81.156



81.157

### Safety equipment signs

size (mm) 150X150 200X200 300X300 400X400

It is essential that all first aid, emergency equipment, escape route and access mechanisms provided for use in an emergency are clearly identified and that the appropriate operating instructions are clearly marked and identifiable.



















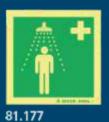






























81.181

81.182

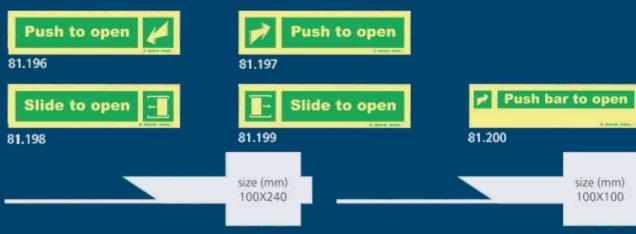
81.184

81.186



## Escape door mechanism signs

size (mm) 200X70 300X100 400X150 600X200















size (mm) 300X150 400X200 600X300







size (mm) 70X200 100X300



### Safety equipment signs with text

size (mm) 200X70 300X100 400X150 600X200



IMO regulations recommend that the location of emergency equipment, should be plainly indicated by the use of appropriate symbols.









81.228







**Emergency** stop

81.229

### Breaking glasses signs

size (mm) 200X70 300X100 400X150





In case of fire break glass for key

81.237

In case of fire break glass bolt to open

81.236



In case of fire break glass to reach latch

81.238

size (mm) 150X200 200X300 300X400









81.248



### Escape route signs for people with reduced mobility

size (mm) 200X100 300X150 400X200 600X300

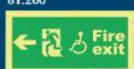














81.262















size (mm) 200X100 300X150 400X200 600X300



81.282



81.286

81.295





81.287



81.284



81.288



81.285



81.289

size (mm) 150X150 200X200 300X300





Refuge point Keep clear 81.291



Refuge point

81.292

size (mm) 150X200 200X300 300x400







size (mm) 150X150 200X200 300X300





The station letter or number should be placed on the right hand of the safety sign, and should be compatible in its dimensions.

A typical example is shown below:















Signs with symbols of emergency equipment life saving appliances according to SOLAS Convention, SOLAS Chapter III, Regulation 9.2.3. SOLAS Chapter III, Regulation 9.2.2.

SOLAS Chapter III, Regulation 9.2.3. requires symbols to be used "in accordance with the recommendations of the Organization" SOLAS, Chapter III, Regulation 9.2.2, requires to be "easily seen under emergency lighting conditions"







81,357



81.358



81.359



81,360



81.361



81.362



81.363



81.364



81.365

### Signs with symbols and complementary text

size (mm) 150X150

"Symbols should be used inside survival craft adjancet to the relevant control or function to wich they refer"



81,375



81,376



81.377



81\_378



81,379



81,380



81.381



81,382



81,383



81.384

Example how to shown in the appropriate sequence signs of emergency equipment life saving appliances according to SOLAS Convention. SOLAS Regulation 9.2.3. SOLAS Chapter III, Regulation 9.2.2.

Signs, shown in the appropriate sequence, can be displayed at the Coxswain's position in totally enclosed lifeboat, as a reminder of the sequence of actions which should take place during the launching of a lifeboat.

A typical example is shown below: In appropriate sequence with symbols and complementary text.

















A typical example is shown below: In appropriate sequence with symbols.



















# Alarm and fire fighting

size (mm) 150X150 200X200 300X300



81.400



81.401



81.405



81.402



81.406



81.403



81.407



81.404



81.408

size (mm) 100X200 150X300 200X400



81.420



81.424



81.421



81.425



81.422



81.426



81.423

size (mm) 150X200 200X300 300X400



81.437



81.438



81.439







81.452

size (mm) 150X200 200X300 300X400





81.463

### **Prohibitions**

size (mm) 150X150 200X200 300X300









### LLL SYSTEM



### LOW LOCATION LIGHTING SYSTEM

Loss of power and lighting in the event of an emergency can cause panic and confusion for the evacuation. The spreading of smoke is one of the most dangerous consequences of a fire, rending evacuation, difficult and in some cases impossible, as visibility is reduced causing panic and intoxication; the latter often lead to death.

Segursinal LL system, when used effectively to locate, identify and instruct on all aspects of fire safety management, can make a big difference in an emergency situation.

This system provide a conspicuous and unambiguous information and sufficient visual cues to evacuate an occupied area in an emergency along a specified escape route by using a comprehensive arrangement of visual components, signs and markings.

The \( \triangle \) Segursinal LL systems are manufactured to an extremely high technical standard, with a new generation of photoluminescent products, especially designed to ensure the best optimum performance for photometric brightness and product integrity for means of escape location, emergency equipment identification during an evacuation period.

This new generation of photoluminescent products, are especially development to achieving intensive and exceptionally high brightness, even though they are situated in areas that receive very little ambient light.

Under IMO regulations Low Level Lighting systems have been compulsory since 1989 and they are also now recommended by the ISO to be used in conjunction with emergency escape lighting and many areas where emergency lighting is not needed.

As identified in SOLAS, Chapter II-2 Regulation 28.1.10 and 41-2.4.7 and Chapter III-11.5 requires that ships carrying passengers shall be fitted with active photoluminescent Low Location Lighting and if carrying more than 36 passengers these regulations also apply to the crew accommodation.

Reference should also be made to Resolution A.752 (18) for the evaluation, testing and application of Low Location Lighting.

In addition reference must be made to ISO Standard ISO 15370 as adopted by IMO.

The ASegursinal LLL is a system that allows all evacuation routes to stay illuminated, communicating a clear and continuous means of escape message right through out to the final exit and a place of safety.

The location of fire fighting equipment is also clearly marked as part of the LLL system along the escape routes.

# System for vertical application (walls)



81.490



81.491



81.492



81.493



81.494



81.495











81.500



81.501

size (mm) 107X57



81.515







### Escape route signs with symbols designed to 95/58/EEC Directive

# System for vertical application (walls)





81.529



81.535





81.530



81.536





81.531





81.532



81.533



81.534

size (mm) 57X57 83X83



81.556



81.560



81.557



81.561



81.558





81,559





Escape route signs with symbols designed to ISO 7010 and BS 5499-1

size (mm) 107X57 158X83



81.584



81.588





81.589





81.590





81.591



81.592



81.593





81.606







81.608





81.609



Marking strips for wall guidance lines

81.607

size (mm) 1200X57 1200X83









# Non-slip self adhesive signs

size (mm) 107X57 158X83

# System for floor and stair marking









Non-slip self adhesive for wall guidance lines

size (mm) 1200X57 1200X83





81.632

Non-slip self adhesive marking strips

size (mm) 1200X57 1200X83

81.640

Strips for wall mounting

size (mm) 1200X57 1200X83

81.641

To indicate prohibited areas or the location of fire fighting equipment, hazard marking.

81.642

To indicate the location of hazards e.g. obstacles or changes of level.

81.643

To indicate the escape identification, exit door highlighting, marking safe areas.

# LEGISLATION AND NORMATIVE REFERENCES



European Directive 2002/25/EC - Safety rules and standards for passenger ships.

SOLAS Convention 2004 - Means of escape - Marking of escape routes.

IMO Resolution A.752 (18) - Guidelines for the evalution, testing and application of low-location lighting on passenger ships

ISO 15370 - Low Location Lighting (LLL) on passenger ships

ISO 3864 - Graphical symbols - Safety colors and safety signs

ISO 6309 - Safety signs in workplaces and public

ISO 16069 - SWGS - Safety Way Guidance Systems

Guidance systems at floor level (Low Location Lighting System) began with legislation covering areas of greatest risk, firstly in aviation with FAA in 1984 and then in maritime with the IMO regulations in 1989.

ISO 16069 approved on November 2004, normalised Safety Way Guidance Systems (SWGS).

Segursinal® LLL System of Sign-Strip for walls:

The system of sign strip can be mounted directly on the walls using the tape high adherence bi-adhesive; they can also be mounted into Segursinal® frames which can be screwed our directly with high adherence bi-adhesive into place, simply remove the backing material and position accurately. According to IMO A.752 (18) this system shall be positioned in the following way:

Where the width is less than 2 meters, one guidance line may be sufficient and should be continuous as possible on the side where the fire fighting equipment is located.

If there is no fire fighting equipment the strips should be applied continuously on the side that leads to the next door handle. The strips should not be installed more than 30cm above deck.

Where a corridor has a width of 2 meters or more the guidance line shall be applied continuously to both sides of the corridor.

Segursinal® LLL System of Sign – Strip for floors and stairs:

The system of sign strip can be placed directly on floors and stairs using the integral high adherence adhesive. Simply remove the backing material and position accurately.

According to IMO Resolution A.752 (18), chapter 9, a maintenance of LLL systems and components shall be visually inspected and cleaned at appropriate intervals, once a week, by a competent person and record kept.

Any deterioration, discoloration or missing component shall be recorded in the logbook for immediate replacement. All LLL systems should have their luminance tested at least once every five years. Readings should be taken on place.

Readings should be taken in at least ten locations equally spaced apart in space.

If more than 30% of readings do not meet the requirements of these guidelines, the LLL should be replaced. If between 20% and 30% of the readings do not meet the requirements of these guidelines, the LLL should be checked again in one year or may be replaced.

39



# Technical characteristics of Segursinal®LLL photoluminescent signs

#### MATERIAL

Photoluminescent rigid plastic 2,00mm thickness (+-) 0,1mm

#### PRINTING

Serigraphy, high quality gloss paint with UV resistance and a 5 years guarantee

#### FIRE RESISTANCE

Flame retardant according to IEC 60092 - 101: 2002 and IMO FTPC Part 5 (IMO Res. A. 653 (16)

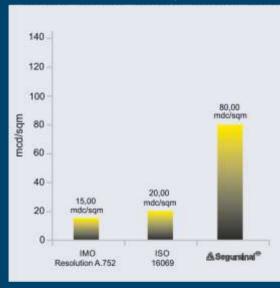
#### **SURFACE**

Antistatic and easy to clean

#### CHEMICAL CHARACTERISTICS

Non-radioactive, non-phosphorous, lead free and poisonless

## Luminescent Intensity: 10 minutes



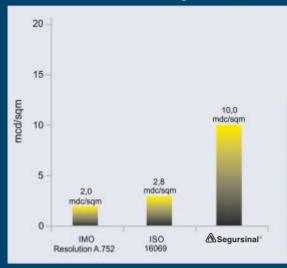
Indicates the measurement, in milicandelas, per square meter (mcd/sqm), of signs luminous intensity,10 minutes after removing the light source

Time after removing the exciting light	Luminescent intensity (mcd/sqm)			
	According IMO	DIN 67510	<b>∕</b> Segursinal <sup>®</sup>	
10 minutes	15,00	20,00	80,00	

# Technical characteristics of Segursinal® LLL photoluminescent



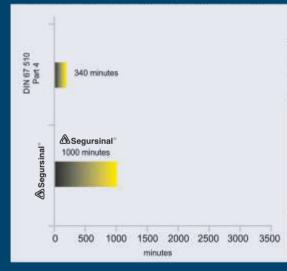
# Luminescent Intensity: 60 minutes



Luminous intensity, 60 minutes after removing the light source

Time after removing the exciting light	Luminescent intensity (mcd/sqm)			
	According IMO	ISO 16069	<b>∕</b> Segursinal <sup>®</sup>	
60 minutes	2,0	2,8	10,0	

# Period of light decay (minutes)



This is the time, in minutes, during which luminescent intensity is higher than 0,32 mcd/sqm,a value approx. 100 times greater than the limit of visibility

Luminescent intensity greater than 0,32 mcd/sqm	Period of light decay (minutes)			
	According IMO	ISO 16069	<b>∆</b> Segursinal <sup>®</sup>	
60 minutes	( <del>4 )</del>	340	1000	





# Legislation and Certification

# All the signalization Segursinal and Segursinal LLL are strictly produced in accordance to the following International Standards and Legislation:

IMO Resolution A.654(16) adopted on 19 October - Graphical symbols for fire control plans

IMO Resolution A.752(18) adopted on 4 November 1993 - Guidelines for the evacuation, testing and application of low-location lighting on passenger ships

IMO Resolution A.760(18) adopted on 4 November 1993 - Symbols related to life-saving appliances and arrangements

IMO Resolution A.952(23) adopted on 5 December 2003 - Graphical Symbols for shipboard fire control plans

SOLAS Convention 2004 chapter II-2 Regulation 13.3.2.5 - Construction - Fire protection, fire detection and fire extinction - Means of escape - Marking of escape routes

SOLAS Convention 2004 chapter II-2 Regulation 13.7.2.2 - Construction - Fire protection, fire detection and fire extinction - Means of escape - Instruction for safe escape

SOLAS Convention 2004 chapter III-Regulation 9.2.3 - Life-saving appliances and arrangements - Operating instructions

MARPOL 73/78 adopted on 17 February 1978 - International Convention for the Prevention of Pollution from Ships

ISPS Code 2003 adopted on 12 December 2002 - International Ship and Port Facility Code

ICAO and IMO document 9636 - International signs to provide guidance to persons at airports and marine terminals

IMDG Code 2010 Edition - International Maritime Dangerous Goods (IMDG) Code

ISM Code 2010 Edition - International Safety Management (ISM) Code

European Commission Directive 2002/25/EC adopted on 5 March 2002 - Amending Council Directive 98/18/EC on safety rules and standards for passenger ships

ISO 24409-1:2010 - Ships and marine technology - Design, location and use of shipboard safety signs, safety related signs, safety notices and safety markings - Part 1:Design principles

ISO 16069;2004 - Graphical symbols - Safety signs - Safety way guidance systems (SWGS)

ISO 7010:2011 - Graphical symbols - Safety colors and safety signs - Registered safety signs

ISO 3864-1:2011 - Graphical symbols - Safety colors and safety signs - Part 1: Design principles for safety signs and safety marking

ISO 3864-2:2004 - Graphical symbols - Safety colors and safety signs - Part 2: Design principles for product safety labels

ISO 17631:2002 - Ships and marine technology - Shipboard plans for fire protection, life-saving appliances and means of escape

ISO 15370:2010 - Ships and marine technology-Low loccation lighting (LLL) on passenger ships-Arrangement

ISO 14726:2008 - Ships and marine technology - Identification colors for the content of piping systems

ISO 20712-1:2008 - Water safety signs and beach safety flags - Part 1 Specifications for water safety signs used in workplaces and public areas

BS 5499-11:2002 - Graphical symbols and signs. Safety signs, including fire safety signs. Specification for geometric shapes, colours and layout

DIN 67510-1:2009 - Photoluminescent pigments and products - Part 1: Measurement and marking at the producer

DIN 67510-4:2008 - Phosphorence pigments and products - Part 4: Products for phosphorescent escape route systems - Marking and applications

MCA LY2 published on September 2007 - The large Commercial Yacth Code (Ly2)

# **MARKING STRIPS FOR DANGEROUS AREA**

# Marking strips for signing of evacuation routes

size (mm) 1200X35 1200X57 1200X83



81.645

To indicate for signing evacuation routes

81.646

To indicate mandatory instructions e.g. "keep clear"

81.647

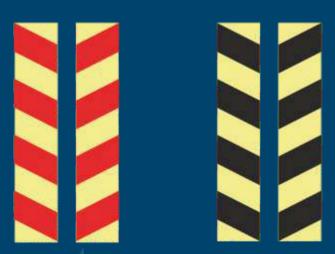
To indicate prohibited areas or location of fire fighting equipment

81.648

To indicate prohibited areas or the location of emergency equipment

# Marking strips for signing dangerous areas

size (mm) 600X100



Recommend for areas where people circulate, especially for the signing of machines, pillars, corners, low-level fixed or protruding objects, dangerous areas, etc...

81.650

Red photoluminescent marking strip - left

81.65

Red photoluminescent marking strip - right

R1 653

Red photoluminescent marking strip - left

81.654

Red photoluminescent marking strip - right



# Tapes and marker dots

size (mm) 22500X100 22500X50

#### REFLECTIVE SELF ADHESIVE VINYL DIAGONAL

Recommend for areas where people circulate, especially for the signing of machines, pillars, corners, dangerous areas, car parking, etc...







size (mm) 10000X50

81,660

NON-SLIP SELF ADHESIVE BLACK DIAGONAL

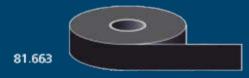
Recommend for dangerous areas, especially for the signing of machines, stairs, etc...

81,662



#### NON-SLIP SELF ADHESIVE BLACK

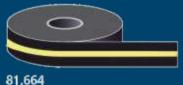
Recommend for dangerous areas, especially for stairs, walkways on deck, galleys, escape routes on deck, etc...





### NON-SLIP SELF ADHESIVE PHOTOLUMINESCENT

Recommend for areas where people circulate, especially for the signing of machines, pillars, stairs, corners, low-level fixed or protruding objects, dangerous areas, walkways on deck, galleys, escape route on deck, etc...



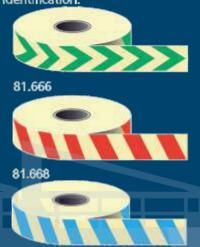


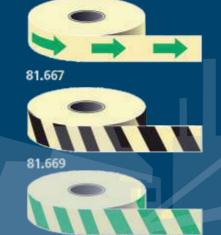


size (mm) 10000X50

#### PHOTOLUMINESCENT SELF ADHESIVE VINYL.

Suitable for hazardous areas, evacuation routes, delineation of fire fighting equipment, handrail identification, stair identification.









44

81.670

81.671







81.680

size (mm) 150X200 200X300 300X400 400X600



81.685



81.687



81.691



81.695



81.686



81.688



81.692



81.696



81.689



81.693



81.697



81.690



81.694



81.698





Do not throw garbage overboard



DO NOT THROW
GARBAGE OVERBOARD
This vessed operators in a special area
designated by international Worldone Law

81.720





Do not leave garbage here



81.723

No plastic or food waste



No smoking,drinking or eating within this area

81.724

81.722



Do not disturb



81.726

Do not close

V

Do not open

81.727





Do not watch the arc



No weapons, incendiary devices and explosives

81.730



Do not move

81.729



No workwear beyond this point

Microwave Oven

1. As a sensible precaution do not look closely into the oven when it is switched on

2. Metal containers such as tin fel

81.733



81.731

No admittance without ear protectors













81.750 81.751

81.753

81.754

size (mm) 150X200 200X300 300X400 400X600









81.765

81.766









81.767

81.768

No naked flames

81.769







No smoking

in bed







81.778

81.775





No smoking Smoke detectors in operation



81.889

You are entering a no smoking area Please extinguish your cigarette



No smoking

81.890



81.891

This is a no smoking area



81.892

No smoking in bed



All smoking strictly forbiden

81.893



No smoking in elevator

No smoking beyond this point



81.896

No naked flames

81.894



81.897

No hot work

81.898

81,895



No naked ligths

81.899



Do not extinguish with water

81.900



Do not drink

No matches

81.901



No exit





81.912



81.913



81.918



81.914



81.919



81.915



81.916



81.920

size (mm) 150X200 200X300 300X400 400X600



81.931



ó scom-su

81,932

81.937



A stour-se



81..934



81.935



81.936



Airnu



81.938

81,933



81.939



81.940



Unauthorised persons may not service machines







81,941

81.942

81.943

81.944

81,945





Do not touch



81,956

4 Do not touch 4 High voltage 4

81,955



81.957

Do not switch off

Do not switch on



Do not operate

81.958



Do not touch men working



Do not switch on under maintenance



Do not disconnect power suply





81.963



Do not use unless guards are in position

81.964



No valves to be opened or work to be performed without the permission of the Chief Officer

81.965



Unauthorised persons may not service machines

81,966



Do not carry out maintenance work on running machinery

81,967



Do not clean or oil this machine whilst in motion

81.968













81.981

81.982

size (mm) 150X200 200X300 300X400 400X600



81.978

81.979

81.980



81.992



81.993



81.994



81.995



81.996



81.997



81.998



81.999



82.000



82.001



phones,pagers, cameras,etc

82.003



82.004



82.005







STAFF ONLY Service door

82..015



NO ENTRY
Except by authorized personnel, and unless ventilation has been in use for at least 19 minutes select to enter the

82.018

Keep out



82.017



Do not enter without a permit to work



Do not enter



82.020



No access to car deck while vessel is at sea

82.024

82.021

No unauthorised weapons or photography



All mobile phones,pagers and other electronic equipment must be switched off or used in specified locations

82.023



Switch off mobile phones,pagers, cameras,etc

82.026



No photography

82.027 82



Do not run





82.039



82.040



82.041



82.042



82.043



82.044

size (mm) 150X200 200X300 300X400 400X600



82.054



82.056



82.057



82.058



82.059



82.060



82.061



82.062



82.063



82.064



82,065



82.066



82.067



82,068





Restricted area no unauthorised entry Unauthorised presence within this sens constitutes a breach of security

A SHILL WALL



82.079

Restricted area authorised persons only Unauthorised presence within this area constitutes a breach of security



82.080

Authorised personnel only

\_\_\_\_\_ &.ws

82.078



No admittance

021



No access

ANSO



82.083

82.086

No unauthorised persons beyond this point

.....

82.081



No access to unauthorised persons

82.084



No entry to unauthorised personnel

82.085

82.082



No visitors



82,087

Do not obstruct access to fire equipment

A team



Do not use the lift in case of fire

82.088



Do not wash your hands

82.089



No drinking or eating within this area

82.090



No admittance for people with pacemakers

82.091



No acess for persons with pacemakers





82.102

size (mm) 150X200 200X300 300X400 400X600



**Electrical** shock risk

82.112



82.115



82.119



82,123



Danger **Electrical** hazard

82.113



Danger Live terminal

82.116



82.120



82.124



**Electrical** switch gear

82.114



wires

82.117



82.121



82.125



82.118



82.122

**Danger** 6600 volts









Danger Electrical hazard

82.137



Danger Electrical shock risk

82.138



82.139



Danger High voltage

82.140



82.141



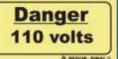
82.142



82.143



2



SECON SINKS



82.145



82,146



82.147

Danger 240 volts

A SEGUR-SINAL S



82.148



Danger 440 volts

A NEO



Danger 3300 volts

A seque-su



Danger 6600 volts

A SECUR-SING

82.149

82.150





82.161

size (mm) 150X200 200X300 300X400 400X600



82.171



Danger You are entering a CO2 protected

area

A SEGUR-SINAL S

82.174



82.178



Do not cover Danger of

Danger of explosion

82.182



Danger Dust hazard

A SPOUR SHAP

82.172



**Danger** 

Unmanned machinery space Machinery may start runing without warning & scoue-sine.

82.175



Caution Out of order

& SEGUR-SINA

82.179



Radio antennas to be earthed during cargo operations

82.183



82.173



& SEGUR-SINAL

82.176



Insulate before removing guards

82.180



82.184



82.177



82.181



5







Danger **Dust hazard** 

Warning Open slowly

82.197

82,195



Danger You are entering a CO2 protected area



82.199

Danger
Unmanned machinery space
Machinery may start runing
without warning



82.200



82.201

82.198

Caution **Exhaust** fumes

82.202



Caution **Vehicles** 



82,203



Warning Insulate before removing guards

82.204



82.205

82.208

Warning Hazardous area



82.206



82.207

Warning Radio antennas to be earthed during cargo operations













82,219

82.220







82.222 82.223

size (mm) 150X200 200X300 300X400 400X600









82.233



Explosion

gases

Caution Explosion risk

82.238

Danger **Explosive** 



82.237

82.241



82,239



material

Petroleum vapour 82.240



Danger

82.242



82.243

82.247



Caustic 82.244



82.248

Danger Solvents

Acid

82.245







Danger Compressed gases

A SECUR SHALL



82.259

Danger Compressed oxygen

82.258



Caution Explosion gases

A SEGUR-SINAL



82.261

Caution Explosion risk

Danger

A SEGUR-



82.262

Danger Explosive material

A sect

82.260



82,263

Danger Petroleum vapour

A SERVE-SINAL®



82.264

Acid

A SECUR-SIN



Danger Battery acid

82,265

82,268



Danger Corrosive substance

82.266



82.267

<u>Danger</u> Caustic

A SECUR-SINAL



Danger Solvents

\_ As



Danger Biological hazard

82.269



82.270

Of infection

A SECUR-SINAL O



Dangerous For the environment







82,281



82.282



82.283



82.284



82,285



82.286



82.287

size (mm) 150X200 200X300 300X400 400X600



82.297



82.298



gases

82.299



82,300



82.301



82,302



82.303



82.304



82.305



82.306



82,307



82,308



82.309



82.310



82.311





82,321

**Danger Flammable** atmosphere



Danger Flammable liquid

82,322



82,323

**Danger** Fire risk



82.324

Danger L.P.G. **Flammable** 

82.325





Danger Highly flammable gases

82,326



Danger Highly flammable material

82.327



Danger **Explosive** atmosphere

82.328



82.329



Danger High pressure

82.330



Caution Battery charging

82.331



82.332

Danger Static electricity



Caution Suden loud noises

82,333



82.334

Caution Noise



82.344



82,345



82.346



82.347



82.348



82.349



82.350



82.351

size (mm) 150X200 200X300 300X400 400X600



82.361



82.362



82,363



82,364



82.365



82,366



82.367



82.368



82.369



82.370



82.371



82,372



82.373



82.374









82.385



82.384

Danger Harmful chemicals

A SEGUR SINA



82,387

Danger Of death

....



82.388



82.389



82.390



82,391



82.392



82,393



82.394



82,395



82.396



82,397







82.407



82.408



82.409



82.410



82.411



82.412



82.413

size (mm) 150X200 200X300 300X400 400X600



82.423



82.424



82.425



82.426



82.427



82.428



82.429



82.430



82.431



82,432



82,433



82.434



82,435



82,436









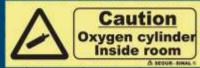
82.447







82,449



82.450



Danger Men working below



82,452



82,453



82,454



82,455



82.456



82.457



82.458



82.459







82.469

82.480

82.470

size (mm) 150X200 200X300 300X400 400X600







82.481

82.482









82.483

82.484

82.486

Caution Wet deck



82.495







82.499



size (mm) 200X70 300X100 400X150 600X200

82,497



Danger

Moving
machinery

Danger
Low
oxigen level

82.501

82,498

82.502



size (mm) 150X150 200X200 300X300 400X400



82.512

size (mm) 150X200 200X300 300X400 400X600



Adjust pressure



















size (mm) 200X70 300X100 400X150 600X200







82.529







82,532

82.535



82,533



personnel only

82,534











82.547



82,548



82.549



82,550

size (mm) 150X200 200X300 300X400 400X600



82.560



82.561



82.562



82.563



82.564



82.565



82.566



82.567



82.568



82.569



82.570



82.571

size (mm) 200X70 300X100 400X150 600X200



Lifejackets must be worn

82.581



High visibility must be worn

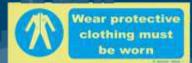
82,584



Wear respirator must be worn

82.587

82.590



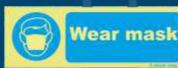
Lifejackets under the seat

82.582



High visibility clothing must be worn in this area

82,585



82,588

82.591



Protective clothing must be worn in this area

Lifejackets must be worn at all times

82,583



Wear respirator

82,586



Mask protection must be worn in this area

82.589



Protective clothing is provided for your safety and must be worn

82.592



size (mm) 150X150 200X200 300X300 400X400



82.612



82.613





82.614

82.615

size (mm) 150X200 200X300 300X400 400X600

























82.631

82,632

82,633

82,635

82.636

size (mm) 200X70 300X100 400X150 600X200

This is a

safety helmet

area







82.647

82,650

Head protection must be worn

82.648



**Head protection** is provided for your safety and must be worn

Boots protection



82.649



**Boots protection** is provided for your safety and must be worn





82.651

Wear shoes

82.652



**Shoes protection** must be worn



82.656

Wear gloves



**Gloves protection** must be worn

size (mm) 150X150 200X200 300X300 400X400









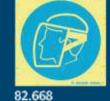




82.671

size (mm) 150X200 200X300 300X400 400X600











in this area





82.685



82.686

goggles 82,681





must be



must be





82.691

82.692

size (mm) 200X70 300X100 400X150 600X200



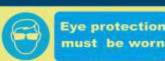




82.683



82.684





is provided for your safety and must be worn



Eye protection must be worn in this area

Wear goggles

82,715

82.712



Wear welding mask

82.718





Wear face shield

82.716



Metallic face must be worn when welding

82.719



Ear protection must be worn in this area

82.722



Face protection must be worn in this area

82.717



Wear ear protection

82.720



Ear protection must be worn









82.734



82.735



82.736



82.737



82.738



82.739



82.740



82.741



82.742



82.743

size (mm) 150X200 200X300 300X400 400X600



82.753



82.754



82.755



82.756



82.757



82.758



82.759



82.760



82.761



82.762



82.763



82.764





Hair covering must be worn

82.774



**Pedestrians** must use this route

82.777



**Protector** must be worn

82.780



To be kept locked

82.783



Hair covering must be worn in this area

82.775



Hand wash only

82.778



Switch after using

82.781



Lift correctly

82.784



Protective clothing must be worn in this area

82.776



**Guards** must be in position before starting

82.779



Sound horn

82.782



This door to be kept closed





### Fire doors

size (mm) 80X80 150X150 200X200

SOLAS Chapter II-1, Regulations 24.3.2 states "...doors and mechanisms shall be suitably marked to ensure that they may be properly used to provide maximum safety."



82.795



82.796



82.797



82.798



82.799



82.800



82,801



82.802



82.803



82.804



82,805



82.806



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82.814



82.815



82.816



82.817



82.818



82.819



82.820



82.821



82.822



82,823



SOLAS Chapter II-1, Regulations 24.3.2 states "...doors and mechanisms shall be suitably marked to ensure that they may be properly used to provide maximum safety."



Automatic watertight door keep clear

82.844



**Close these** doors at nigth

82.847



**Ensure this** door is fully closed

82,850



Fire door keep closed

82.853



Fire door keep locked shut

82.856



Fire notice: This area must be kept clear at all times

82.859



Keep clear

82.862



**Keep locked** shut

82.865



Please close this door

82.868



Security notice. This door is alarmed

82.871



Automatic fire door keep clear

82.845



Door to be kept closed when not in use

82.848



82.851



Fire door keep clear

82.854



Fire escape Keep clear

82,857



Gangway Keep clear



Keep clear Exit for emergency escape route

82.863



Keep clear when door is closing



Remove security fastening when premises are occupied

82.869



Close this door at nigth

82.846



**Escape route** keep clear

82.849



Fire door keep locked

82.852



Fire door keep shut

82.855



Fire exit Keep clear

82.858



In the event of fire this door to kept closed

82.861



Keep locked shut when not in use

82.864



Please switch off lights on leaving

82.867



Secure door open when premises are occupied



### Fire doors

size (mm) 80X80 150X150 200X200

SOLAS Chapter II-1, Regulations 24.3.2 states "...doors and mechanisms shall be suitably marked to ensure that they may be properly used to provide maximum safety."



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82.892



82.893



82.894



82.895



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82.897



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82.899



82.900



82.901



82.902



82,903



82.904



### Fire doors

size (mm) 200X70 300X100 400X150 600X200



FIRE DOORS AND MANDATORY SIGNS

SOLAS Chapter II-1, Regulations 24.3.2 states "...doors and mechanisms shall be suitably marked to ensure that they may be properly used to provide maximum safety."





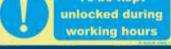
82.925





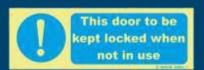
82,927















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82.933





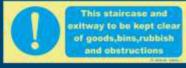


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82.939



# Temporary tie tags

Tie tags are required wherever a need occurs to temporarily mark items and areas for safety reasons, usually during maintenance and in connection with the permit to work system. The tags are supplied in packs of ten.







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82.961



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82.970







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82.981



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82.983



82.984



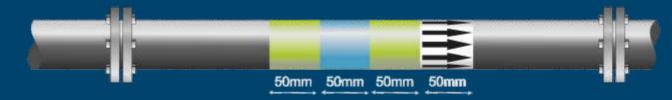
82.985



82.986



# Pipe identification according ISO 14726



# Use tapes in this sequence:

Waste Media	Ref. Nos.	Flammable	Ref. Nos
Black water	83.000-83.001-83.000	Hydrogen	83,011-83,001-83.011
Waste oil/Used oil	.83.000-83.002-83.000	Acetylene	83.011-83.004-83.011
Bilge water	83 000-83 003-83 000	Liquid gas	83.011-83.009-83.011
Exhaust gas	83,000-83.004-83.000	Steam	Ref. Nos
Grey water	83.000-83.010-83.000	Steam for heating	83.007-83.000-83.007
Sewage - contaminated	83.000-83.011-83.000	Exhaust steam	83.007-83.010-83.007
Fuel	Ref. Nos.	Supply steam	83.007-83.011-83.007
HFO (Heavy fuel oil)	83,002-83,000-83,002	Air in	Ref. Nos
Aviation fuel	83,002-83,001-83,002	Discharge air	83.010-83.000-83.010
Biological fuel	83.002-83.009-83.002	Mechanical supply air-cold	83.010-83.001-83.010
Gas turbine fuel	83.002-83.010-83.002	Natural exhaust air	83.010-83.002-83.010
MDO (Marine diesel fuel)	83.002-83.011-83.002	Atmospheric air	83.016-83.003-83-016
Fresh Water	Ref. Nos.	Mechanical exhaust air	83.010.83.004.83.010
Fresh water, sanitary	83.001-83.002-83.001	Decontaminated supply air	83,010-83,005-83,010
Potable water	83.001-83.003-83.001	Mechanical recirculated air	83:010-83:006-83:010
Distillate	83.001-83.004-83.001	Mechanical supply air-	83.010-83.007-83.010
Gas turbine wash water	83.001-83.006-83.001	Smoke clearance	83,010-83.008-83.010
Feed water	83.001-83.007-83.001	Conditioned supply air	\$3,010-83,009-83,010
Cooling fresh water	83.001-83.009-83.001	Natural supply air	83.010-83.011-83.010
Chilled water	83.001-83.010-83.001	Oil other than	Ref. Nos.
Condensate	83.001-83.011-83.001	Thermal fluid	83.006-83.001-83.006
Sea Water	Ref. Nos.	Lubrication oil for gas	83.006-83.003-83.006
Hydrogen	83,003-83,001-83,003	Hydraulic fluid	83 006-83 004-83 005
Acetylene	83.003-83.002-83.003	Lubrication oil for steam	83.006-83.007-83.006
Liquid gas	83.003-83.009-83.003	Lubrication oil for gears	83,006-83,009-83,006
Cooling sea water	83,003-83,011-83,003	Lub, oil for int.combustion engines	83.006-83.011-83.006
Non-flammable	Ref. Nos.	Fire fighting	Ref. Nos.
Oxygen	83.004-83.001-83.004	Fire-fighting water	83.008-83.003-83.008
Inert gas	83,004-83,002-83,004	Fire-fighting gas	83.008-83.004-83.008
Nitrogen	83:004-83.003-83.004	Sprinkler water	83.008-83.006-83.008
Refrigerant	83.004-83.005-83.004	Spray water	83.008-83.009-83.008
Compressed air-low	83.004-83.006-83.004	Fire-fighting powder	83.008-83.010-83.008
Compressed air-high	83.004-83.008-83.004	Fire-fighting foam	83.008-83.011-83.008
Control air/Regulation air	83,004-83,009-83.004	Flow arrows † † †	<b>† † † † †</b> 83,012
Breathing air*	83.004-83.010-83.004		
Breathing gas*	83.004-83.011-83.004		

<sup>\*</sup> Intended for use in submarines for distribution systems used for breathing air from cylinders

### Regulations

ISO 14726-1 (1999) details basic marking of piping systems in accordance with the content and/ or function on board ships and marine structures.

ISO 14726-2 (2002) details specific additional colors to be used in conjunction with the main colors given in ISO 14726-1.

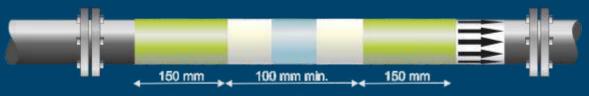
All pipe tapes on this page are offered as self adhesive rolls 50mm wide by 50 meters long.

For guidance on installation see example on top.

	Ret.nos	
Black	83,000	
Blue	83.001	
Brown	83.002	
Green	83.003	
Grey	83,004	
Marron	83.005	



# Pipe identification according to BS 1710 and BS 4800



Use tapes in this sequence:

The second second	ose tapes in this sequence:
Water	Ref. Nos.
Sea, river or untreated	83.003-83.003
Fire mains	83.003-83.008-83.003
Drinking	83.003-83.019-83.003
Cooling (primary)	83.003-83.010-83.010-83.003
Hydraulic power	83.003-83.022-83.022-83.003
Boiler feed	83.003-83.020-83.010-83.020-83.00
Condensate	83.003-83.020-83.003-83.020-83.003
Chilled	83.003-83.010-83.003-83.010-83.003
Heating over 100°C	83.003-83.013-83.020-83.013-83.003
Heating under 100°C	83.003-83.020-83.013-83.020-83.00
Hot	83.003-83.010-83.013-83.010-83.003
Cold	83.003-83.010-83.020-83.010-83.003
Oils	Ref. Nos.
Fumace	83.002-83.002-83.002
Diesel	83.002-83.010-83.010-83.002
Lubricating	83.002-83:003-83.003-83.002
Hydraulic power	83.002-83.022-83.022-83.002
Transformer	83.002-83.020-83.020-83.002
Gases	Ref. Nos.
Compressed air	83.013-83.013-83.013
Vacuum	83.013-83.010-83.010-83.013
Steam	83.014-83.014-83.014
Refrigerant 12	83.006-83,013-83.016
Refrigerant 22	83.006-83.016-83.016-83.006
Refrigerant 502	83.006-83.002-83.002-83.006
Anhydrous ammonia	83.006-83.018-83.018-83.006
Other refrigerants	83.006-83.021-83.021-83.006
Natural gas	83.006-83.011-83.011-83.006
Others	Ref. Nos.
Drainage	83.0000-83.000
Electric conduits and ventilation	83.006-83.006-83.006
Acids and alkalis	83.009-83.009-83.009
Flow direction arrows	↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ <b>83.012</b>

### Regulations:

Good working practice should dictate the use of a pipe identification system to promote a safe environment. The system detailed here conform to BS 1710, and the colors to BS 4800.

### Installation:

Tapes should be fitted either side of valves, at bulkhead penetrations, "T"s and crosses etc., and at regular intervals along the pipe. Prior to application pipes and lagging should be dust and oil free. The tape should be overlapped by at least 25mm on the blind side of the pipe.

Pof pos

All pipe tapes on this page are offered as self adhesive rolls 50mm wide by 50 meters long.

For guidance on installation see example on top.

	Ref.nos			Ref.nos
Black	83.000	Sea green		83.016
Ligth blue	83,013	Golden brown		83.017
Brown	83,002	Dark mauve		83.018
Green	83.003	Yellow		83.011
Silver/Grey	83,014	Red		83.008
Orange	83,006	Auxiliar blue		83.019
Yellow-ochre	83.015	Crimson		83,020
Violet	83,009	Green esmerald		83,021
		Salmon pink		83.022
		White		83,010
		Blue		83.001
		Flow arrows	ተተተተ	83.012



## Hazard warning diamonds with class numbers

size (mm) 100X100 200X200 250X250 300X300 400X400

The IMDG Code became mandatory in January 2004 through the adoption of the amendments to SOLAS chapter VII (Carriage of Dangerous Goods).

The International Maritime Dangerous Goods (IMDG) Code has been developed to create a uniform international code for the transport of dangerous goods by sea.



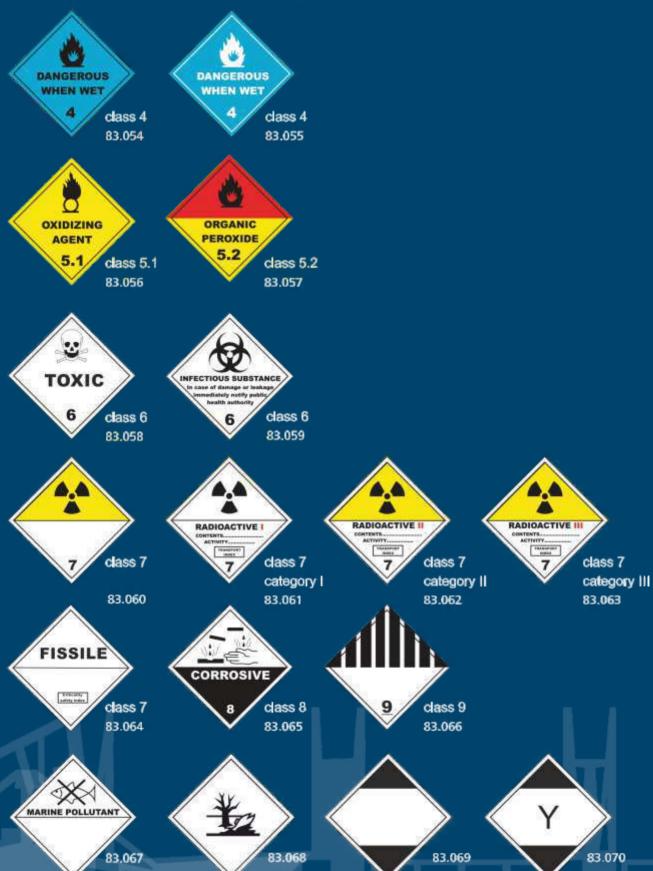
# Hazard warning diamonds with class numbers

size (mm) 100X100 200X200 250X250 300X300 400X400



The IMDG Code became mandatory in January 2004 through the adoption of the amendments to SOLAS chapter VII (Carriage of Dangerous Goods).

The International Maritime Dangerous Goods (IMDG) Code has been developed to create a uniform international code for the transport of dangerous goods by sea.





# Hazard warning diamonds with panel for UN numbers

size (mm) 100X100 250X250 200X200 300X300 400X400

The IMDG Code became mandatory in January 2004 through the adoption of the amendments to SOLAS chapter VII (Carriage of Dangerous Goods).

The International Maritime Dangerous Goods (IMDG) Code has been developed to create a uniform international code for the transport of dangerous goods by sea.



### **DRUG & ALCOHOL** WARNING INFORMATION



The use or possesion of alcohol, drugs or other illegal articles is absolutely forbidden on board of this ship. The shipowner will fully assist and help the police, local authorities or the coastguard in the prosecution of all persons which are using, possessing or under the influences of any illegal drug on board of this ship.

YOU HAVE BEEN WARNED!

### **DRUG** WARNING INFORMATION



The ship owners are fully cooperating with all public authorities in the criminal prosecution of anyone possessing or using illegal drugs or drug paraphemalia aboard this vessel.

YOU HAVE BEEN WARNED!



- Don't use drugs,
   Don't traffic drugs, Say NO to drug abuse and saruggling it will bring disaster to you and your
- sampging it will bring disaster to you and your family.

  If you see guilty of drug abuse or drug sampging, your contract of employment will immediatly be terminated.

  If you are charged by authorities with sampging, you will be responsible for your own legal costs.
- is you are found guilty of smuggling and are senfenced to a prison term, the company will not have any further responsibility toward you.

YOU HAVE BEEN WARNED!

83.101 83.102 83.100

# Warning notices

size (mm) 200X150 300X200 400X300

### **DISCHARGE OF OIL PROHIBITED**

83,106





### Prohibition notices

size (mm) 200X70 300X100 400X150 600X200



83.115

No smoking

No smoking

in elevator

No smoking in bed



This is a no smoking area

83,116



83,119

81.122

81.125

No unauthorized access

-

MIKT I



No entry

83,120



83.118

Do not drink

All mobile phones, pagers and other electronic equipment must be switched off

C 1000/C



DO NOT THROW
GARBAGE OVERBOARD
This reseal openines in a special area

81.123



81.121

Do not leave garbage here

A 1010A 2010.0

0

Do not throw garbage overboard

4.max.e



No workwear beyond this point

A HEAT A

81.124



81.127

81.130

Do not put foreign objects in toilet To flush close lid and press button

-



Do not put foreign objects in toilet Toilet paper and human waste only

2000



Do not store raw and cooked food together



Microwave Oven
1. As a sensible precention do not look closely into the oven when it is switched on
2. Motal containers such as the foil must not be placed in this oven

81.131



No smoking,drinking or eating within this area



No plastic or food waste

81.132

# Mandatory notices

size (mm) 200X70 300X100 400X150 600X200



Quiet please People sleeping



Please close door quietly People sleeping

81.141



To avoid injury take care in the shower during rough weather

....

81.140



Only human waste and toilet tissue to be flushed down these toilets (Ne determints, paper towels, etc.)

81.143



**ACCOMIMODATION** 





- 1. Throw lifebuoy.
- 2. Keep man insight.
- 3. Inform the bridge or the officer of the watch.
- 4. State man overboard and give location.





83,153

83,154

83,155









## Information signs

size (mm) 150X150 200X200 300X300

### Safety signs according to the ICAO and IMO Document 9636

The ICAO and IMO joint publication Document 9636 specifies the signs information to persons at airports and marine terminals. The "First Aid", "No Smoking", "No Entry/No trespassing" and "Carry no weapons on board" signs should be designed according to the colours specified in Section II of this publication whilst the colors.

General information signs can be decided by national or local authorities keeping in mind that readability is of the foremost importance.



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## Information signs

size (mm) 150X150 200X200 300X300



### Safety signs according to the ICAO and IMO Document 9636

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General information signs can be decided by national or local authorities keeping in mind that readability is of the foremost importance.



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83.200



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83.217

# Toilet signs

size (mm) 150X150 200X200 300X300



83.236



83.237



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83.239



83.240



83.241





# Toilet signs

size (mm) 200X100 300X150 400X200



83.242



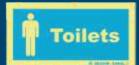
83.246



83.250



83.254



83.243



83.247



83.251



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83.24



83.248



83,252



83.256



83.24



83.249



83,253



83,257

### Numbers

size (mm) 75X150 100X200 150X300



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83.270



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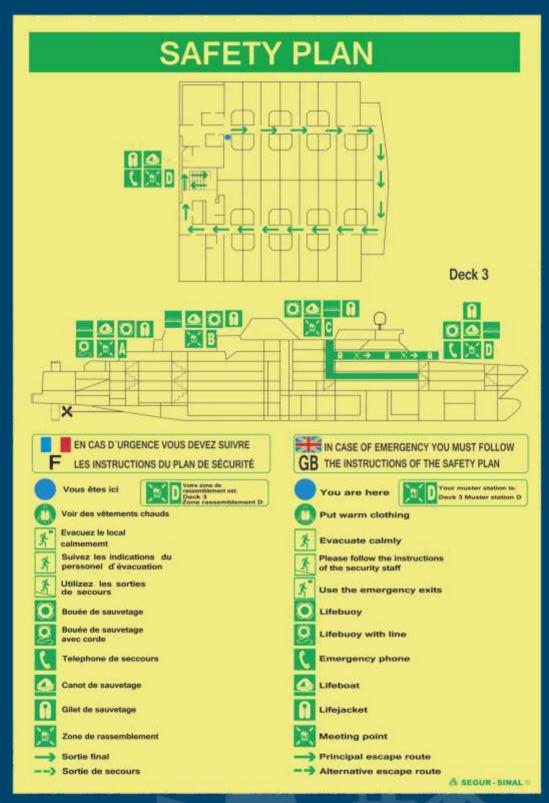


83.278



PE-DECK





PE-CABIN

### Legislation



Is essential to inform all passengers of the safety instructions. All information about safety equipment's, fire fighting equipment's and escape route information are demanding by legislation.

SOLAS Convention 2004 chapter II-2 Regulation 13.7.2.2 requires that a simple diagram plan showing the "you are here" position as well as the escape routes (marked by arrows) must be displayed on the inside of each cabin door and public spaces.

The plan should illustrate the directions of escape and be properly oriented in relation to its position on the ship.

- In addiction IMO Resolution A.752 4.6 urges that there should be a sign on the inside of all passenger cabin doors, explaining the Low Location Lighting LLL system and this location, and the way to the nearest available exit to each cabin.



