

# **Comparison of Survival and Safety Requirements in European Union for Recreational Craft Inspections. A Spanish Case Study**

J. Torralbo & M. Castells

*Department of Nautical Sciences and Engineering, Universitat Politècnica de Catalunya (UPC), BarcelonaTech, Spain*

**ABSTRACT:** Statistical data shows that a large number of maritime accidents are related to recreational craft. For instance, in Spain, more than fifty percent of the emergencies are related to pleasure boats at sea. Recreational craft marketed in the EU must comply with harmonized technical safety and environmental requirements defined by Directive 94/25/EC, as amended in 2003. On 28 December 2013, the new recreational craft directive 2013/53/EU was published in the Official Journal of the European Union. EU Member States have until 18 January 2016 to amend their national legislation and transpose the new directive. The current directive 94/25/EC as amended by directive 2003/44/EC will be repealed on 18 January 2016, after the full application of the new text. Although this directive, there is not a clear coordination and equivalence among the EU countries according to the survival and safety equipment compulsory for recreational crafts. The main purpose of this paper is to analyze and compare the types of survey / inspections to be carried in pleasure craft (non-commercial use), periodicity and required safety equipment in some member states of the European Union. A case study of Spain is presented. From the results obtained, we can make clear that in the European Union there is a lack of coordination in this area and indicate the need to unify a common pattern in inspections and survival and safety requirements of recreational boats in the EU.

## 1 INTRODUCTION

The recreational craft industry covers boats of a certain length designed for sports and leisure purposes. These are high-value and very movable products, intended mainly for end consumers and with a relatively long life-cycle, which means that they are often on the market for a long time. The recreational craft industry has attracted the interest of the European Union (EU) Commission because of its impact on the environment and its economic significance in the European Union. To implement EU-wide initiatives in this sector, the Commission has legislated on recreational craft, which are boats of any type, regardless of their means of propulsion, between 2.5 and 24 metres hull length. This EU

legislation (Directive 94/25/EC, as amended by Directive 2003/44/EC) includes a number of exceptions and derogations.

Statistical data shows that a large number of maritime accidents are related to recreational craft. For instance, in Spain, more than fifty percent of the emergencies are related to pleasure boats at sea (Walliser et al., 2004). In order to promote sustainable development and decrease the number of emergencies at sea, the European legislation on recreational craft also introduced standard requirements regarding user safety, as well as exhaust and noise emissions. As a result, this European legal framework has removed disparities among Member

States, while facilitating free competition across the Union and trade with foreign countries.

Although Directive 94/25/EC establishes safety issues, there is a lack of coordination and equivalence among the EU countries according to the survival and safety equipment compulsory for recreational crafts.

## 2 CASE STUDY: SPAIN

With the approval of the Spanish legislation (*Real Decreto 1434/1999*), the government authorizes collaborating entities perform the inspections and surveys that must be submitted in pleasure craft registered in Spain, regardless of the means of propulsion. These entities can survey recreational crafts with a hull length between 2.5 and 24 meters, designed and aimed for recreational and sports purposes (list/register sixth and seventh), and not allowed to board more than 12 passengers.

The ship's register in Spain is done by a lists, which will be registered all ships, boats and floating structures. The sixth list is intended for sporting or recreational craft that are operated for commercial gain. The seventh list is for non-profit pleasure craft or fishing boats unprofessional.

All yachts have a certificate of seaworthiness. This certificate is a document attesting that the craft is fit to sail and in which is shown information such as the name and port of register of the vessel, its technical features and navigation area.

Table 1. Navigation areas based on distance of operation. Source: Own based on FOM/1144/2003

Area	Distance of operation
Area 1	Unlimited
Area 2	Up to 60 miles
Area 3	Up to 25 miles
Area 4	Up to 12 miles
Area 5	Up to 5 miles
Area 6	Up to 2 miles
Area 7	Protected waters in general

### 2.1 Technical Inspections

Certificate of seaworthiness have expiry date and its validity is determined by the registration list (sixth or seventh), the length and the material of the hull. Tables 2 and 3 detail the types of inspections to be carried out in recreational boats according to the registration list and material of the hull:

Table 2. Type of technical inspections for List 7<sup>th</sup> depending on the length and hull material. Source: Own, based on RD 1434/1999

Inspection	Frequency	List 7
Regular	Every 5 years	6-24m
Intermediate	Between 2 <sup>nd</sup> and 3 <sup>rd</sup> year	15-24m 6-24m / wooden hull
Additional	In case of repairs or modifications	
Extraordinary Administration	Under request of the Maritime Administration	

Table 3. Type of technical inspections for List 6<sup>th</sup> depending on the length and hull material. Source: Own, based on FOM/1144/2003

Inspection	Frequency	List 6
Regular	Every 5 years	2.5-24m
Intermediate	Between 2 <sup>nd</sup> and 3 <sup>rd</sup> year	6-24m
Additional	In case of repairs or modifications	
Extraordinary	Under request of the Maritime administration	

It is important to note that boats that have less than 6 meters in length and registered in the 7<sup>th</sup> list should not perform periodic inspections and certificate of seaworthiness will include the phrase "No Expiration."

The collaborating entities of inspection (approved by the Spanish government) can carry out periodic, intermediate, additional and extraordinary inspections.



Figure 1. Hull inspection in a shipyard. Source: own

The periodic and intermediate inspection of the boat must be performed in a shipyard (dry) and floating. The inspection for boats less than 7 meters in length can be only performed in a shipyard (dry), provided that it's possible to start the engine of the boat.

According to the type of boat (motor / sail), all surveys are made considering the following points: hull and equipment, engine and auxiliary machinery, mast and rigging, electrical installation, radio communication equipment, survival and safety equipment, fire extinguishing equipment, nautical material, and navigation lights and anchoring equipment.

The owners and / or user of recreational craft are responsible for keeping up to date surveys and inspections. Emphasize that the inspection aims to ensure personal safety and preventing marine pollution accidents. Therefore, it is of vital importance to navigate with valid certificate of seaworthiness. In addition to the security issues indicated, to have the current certificate can avoid the possibility of being fined by the administration.

### 2.2 Compulsory survival and safety equipment

Compulsory survival and safety equipment will be determined by the navigation area of the boat. The

equipment for area "1" is most complete and is reduced to lower areas being the minimum equipment for the area "7". Table 4 shows the compulsory survival and safety equipment according to the navigation area:

Table 4. Compulsory safety equipment. Source: Own, based on FOM/1144/2003

Equipment	Navigation area						
	1	2	3	4	5	6	7
Liferaft	X	X	X				
Lifejacket	X	X	X	X	X	X	X
Lifebuoy	2	1	1	1			
Parachute flare	6	6	6	6			
Hand flare	6	6	6	6	3	3	
Buoyant smoke	2	2	1	1			

Table 4 shows that in areas "1", "2" and "3" is compulsory boarding a liferaft. All liferafts must be reviewed annually by an authorized station. In the case of a new liferaft revision, it must be made before two years from the date of manufacture.

A SOLAS (International Convention for the Safety of Life at Sea, 1974) liferaft means that complies with the requirements set by the International Convention and also indicates that manufacturing has been approved by the Spanish government. The SOLAS liferaft in area "1" must carry inside an emergency package type A SOLAS and in the case of a liferaft for areas "2" and "3" the emergency package must be type B SOLAS. Both packages contain emergency supplies to survive at sea, as first aid, food and water among others.



Figure 2. Container liferaft with hydrostatic release. Source: own

Regard to the compulsory pyrotechnics on board (parachute flare, hand flare and buoyant smoke), pointed out the need to control their expiration date. Due to its danger, it is recommended stow them in a dry and safe place. All the pyrotechnics, according to SOLAS, must be stored in a hydroresistant box and must indicate brief instructions or clearly diagrams explaining how to use them.

Table 5 provides details of the means of fire extinguishing and bilge drainage equipment:

Table 5. Compulsory fire extinguishing and bilge drainage equipment. Source: Own, based on FOM/1144/2003

Equipment	Navigation area						
	1	2	3	4	5	6	7
Portable extinguishers X (depending on length)	X	X	X	X	X	X	X
Portable extinguishers X (depending on power)	X	X	X	X	X	X	X
Fire buckets	2	2	1	1			
Scoop	2	2	2	1	1	1	
Extractor fan	X	X	X	X	X	X	X
Bilge pump	2	2	2	1	1	1	1
Fixed installation	X	X	X	X	X	X	X
Gas detector	X	X	X	X	X	X	X

Engines that use gasoline as fuel must install an extractor fan that works for suction and discharge directly from the outside. This extractor must renew completely the air of the engine compartment and fuel tanks in less than four minutes. Before starting the engine, the extractor must be switch on to ensure the renewal of the air and avoid a possible explosive atmosphere.

The engines that use gasoline are equipped with a fixed fire extinguishing installation. This installation has to be activated manually from outside of the engine compartment. Automatic fire extinguishers are only allowed when the engine compartment is not accessible.

Table 6 shows other survival and safety equipment compulsory according to the navigation area:

Table 6. Other survival and safety compulsory equipment compulsory equipment Source: Own, based on FOM/1144/2003

Equipment	Navigation area						
	1	2	3	4	5	6	7
Rudder emergency	X	X	X	X	X	X	X
Mooring line	2	2	2	2	2	2	2
Boat hock	1	1	1	1	1	1	1
Oar	1	1	1	1	1	1	1
Inflator	X	X	X	X	X	X	X
Repairing set	X	X	X	X	X	X	X
First aid outfit	X	X	X	X	X	X	X

Table 7 provides details of the navigation equipment required depending on the navigation area:

Table 7. Navigation compulsory equipment compulsory equipment. Source: Own, based on FOM/1144/2003

Equipment	Navigation area						
	1	2	3	4	5	6	7
Anchor lines	X	X	X	X	X	X	X
Navigation lights and shapes	X	X	X	X	X	X	X
Compass	2	2	1	1			
Speedometer	1	1					
Sextant	1						
Chronometer	1						
Dividers	1	1					
Course protractor	1	1					
Rule of 40 cm	1	1					
Binoculars	1	1	1	1			
Nautical charts	1	1	1	1			
Fog horn	1	1	1	1	1	1	1
Bell	1	1	1	1			
National flag	1	1	1	1	1	1	1
Flag code	1	1					
Waterproof torch	2	2	1	1			
Ship's log-book	1						
Heliograph	1	1	1	1	1	1	1
Radar reflector	1	1	1	1			
Signals code	1	1	1	1	1	1	1

Finally, radio and navigation equipment is required in all area navigation as follows:

Area 1:

- VHF with DSC class A (SOLAS)
- MF / HF with DSC or LES(Land Earth Station - SOLAS)
- RLB (Manual and automatic)
- NAVTEX ( SOLAS)
- Portable VHF adapted to GMDSSM
- SART 9 GHz (Search And Rescue radar Transponder - SOLAS)

Area 2:

- VHF with DSC
- RLB (Manual and automatic)
- Portable VHF (GMDSSM or submersible IPX7) or SART 9 GHz (Search And Rescue radar Transponder)



Figure 3. RLB 406 Mhz with GPS. Source: own

Area 3:

- VHF with DSC
- RLB (Radio Locator Beacon -Manual and automatic or manual only)

Area 4:

- Fixed VHF

Area 5:

- Fixed or portable VHF



Figure 4. Portable VHF SOLAS with the emergency battery. Source: own.

### 3 COMPARISON STUDY WITH OTHER MEMBER STATES

In the European Union, a variety in technical inspection for Recreational Craft can be found, as well as non-uniformity in minimum and maximum length of the technical inspections and range and number of navigation areas. Moreover, survival and safety requirements for Recreational Craft Inspections can vary greatly from country to country.

From 27 member countries of European Union, in this section these diversities will be compared considering the following six countries: France, United Kingdom, Italy, Portugal, Ireland and Spain (explained in the above section).

#### 3.1 France

In France, from April 15, 2008 is in force Division 240 and this normative applies to all ships less than 24 meters in length (French Division 240, 2008).

This legislation establishes safety and rescue equipment that is compulsory according the navigations distance allowed. So this can be basic - *basique* (navigation to two miles from a shelter), coast - *côtier* (up to 6 miles from a shelter) or ocean navigation - *hauturier* (navigation over 6 miles from the coast).

Table 8. Mandatory equipment in France. Source: Own, based on French Division 241.

Equipment	Navigation area		
	Basique	Côtier	Hauturier
	X (>50N)	X (>100N)	X
(>150N)			
Navigation lights	X	X	X
Manual bilge pump	X	X	X
Ladder	X	X	X
MOB device (>4.5 kW)	X	X	X
Fire fighting device	X	X	X
Towing device	X	X	X
Sea anchor	X	X	X
Lifebuoy light	X	X	X
Lifeline	X	X	X
National flag	X	X	X
3 Hand flare		X	X
1 Lifebuoy		X	X
Fog horn		X	X
Heliograph		X	X
MOB system		X	X
Steering compass		X	X
RIPA		X	X
Signal code		X	X
Navigational charts		X	X
Harness and H. line			X
Liferaft			X
3 parachute flare or VHF with DSC			X
2 Buoyant smoke or VHF with DSC			X
Weather Device aboard			X
Dividers			X
Sextant or GPS			X
Rule for navigation			X
Bearing compass or GPS			X
Lighthouse notebook			X
First aid outfit			X
Ship's log-book			X
Tide book			X
(not in Mediterranean)			X

Some of the notable aspects of the French legislation would be that the VHF is not required for recreational craft. But is highly recommended to equip the boat with VHF. In the case of installing a VHF, the skipper must have a restricted certificate of GMDSSM. It is also not compulsory to install a beacon neither an electric bilge pump.

Regarding inspections for the French case, the first inspection must be performed three years after the purchase of the boat. The next inspection should take place in a period not exceeding 36 months, and at least two inspections should be carried out within a period of five years. For boats boarding more than 12 people in addition to the crew, the maximum time between inspections is 12 months.

### 3.2 United Kingdom

Pleasure craft of less than 13.7 metres in length are not covered by any statutory requirements as far as lifesaving or fire fighting equipment is concerned.

At 13.7 metres in length and over they are, however, obliged to comply with the Merchant Shipping (Life-Saving Appliances for ships other than ships of Classes III to VI (A)) Regulations 1999 and

the Merchant Shipping (Fire Protection: Small Ships) Regulations 1998 respectively. According UK non-passenger ship classification, these vessels are classified as being Class XII in these Regulations. It is compulsory for Class XII vessels to carry Life-Saving Appliances and Fire Protection equipment.

Table 9. Mandatory equipment in United Kingdom. Source: Own, based on www.rya.org.uk

Equipment	For vessels of 13.7 m in length and over			
	>3'	3-20'	20-150'	>150'
Lifejacket	X	X	X	X
Lifejacket lights		X	X	X
Life raft		X (B)	X (B)	X(A)
Lifebuoys and lines	2	2	2	2
Flares				
Training manual	Containing instructions and information on the life-saving appliances provide in the vessel and their maintenance			
Lifesaving signals	A copy of the table "Life-saving signals and Rescue methods, SOLAS 1" or "Life-saving signals and rescue methods, SOLAS 2".			
Maritime radio	Capable of transmitting and receiving, appropriate to the area of operation.			
Ladder	X	X	X	X
Fire extinguisher	X	X	X	X
Fire buckets	Not less than 2 with lanyards			

According to the Survey and Certification Policy Instructions for the Guidance of Surveyors by the Maritime and Coastguard Agency (MCA), for Pleasure Vessels (Non-Commercial) are required the following certification: If certified for > 15 persons and on international voyages, an International Sewage Pollution Prevention Certificate, if registered: Certificate of Registry, which will normally be valid for a period not exceeding 5 years and the Certificate of Measurement.

Smaller boats may be registered on the Small Ships Register (SSR) if they are to be used abroad and they should display a number preceded by the letters 'SSR'.

For commercial boat, the Small Commercial Vessel and Pilot Boat (SCV) Code, also known as the harmonised code, states that the hull, shell fittings, external steering and propulsion components of the vessel should be examined out of the water at intervals not exceeding 5 years. The Certifying Authority may stipulate a lesser interval in consideration of hull construction material or the age or the type and service of the vessel. A certificate is to be valid for not more than five years. Every boat has to be inspected by an RYA (*Royal Yachting Association*) Inspector at least once during its first three years of operation, and be completely resurveyed and certificated every five years

For non-commercial recreational craft, Boat Safety Certificate (BSC) will be issued for a 4-year period, after which it must be renewed.

Table 10. Mandatory equipment in Italy. Source: Own, based on Capitanerie di porto - Guardia Costiera

	No limitation	Less than 50 miles	Less than 12 miles	Less than 6 miles	Less than 3 miles	Less than 1 mile	Less than 300 meters	Inland waters
Liferaft	X	X	X					
Lifejacket	X	X	X	X	X	X		X
Lifebuoy	1	1	1	1	1	1		1
Light buoy	1	1	1	1				
Buoyant smoke	3	2	2	2	1			
Compass and deviations table	X	X	X					
Watch	X	X						
Barometer	X	X						
Binoculars	X	X						
Nautical charts								
Instruments for charts : dividers, course protractor, rules,etc.	X	X						
Hand flare	4	3	2	2	2			
Parachute flare	4	3	2	2				
First aid outfit	X	X						
Navigation lights	X	X	X	X	X			
Fog horn / Bell	X	X	X	X	X			
Navigation equipment (LORAN, GPS)	X	X						
VHF	X	X	X					
Radar reflector	X	X						
EPIRB	X							
Bilge pump / Scoop	X	X	X	X	X	X		
Fire extinguisher	X	X	X	X	X	X		

### 3.3 Italy

In Italy the *Capitanerie di Porto – Guardia Costiera* according to the *Decreto 5 ottobre 1999 n. 478 "Regolamento recante norme di sicurezza per la navigazione da diporto"* (G.U. del 17.12.1999) establish the survival and safety equipment compulsory in recreational crafts. The survival and safety equipment is related with the distance of the boat is allowed to navigate.

In Italy the first inspection of the recreational craft must be performed between the eighth and tenth year (depending on the design and construction category A, B, C or D). After the first inspection, the security certificate -*Certificato di sicurezza*- has an expiration date of five years, so the next inspection should take place in a period of five years.

### 3.4 Portugal

In Portugal the *Decreto-Lei n.º 124/2004, de 25 de Maio – Regulamento da Náutica de Recreio, Portaria n.º 689/2001, de 10 de Julho – Seguro obrigatório de Responsabilidade Civil and Portaria n.º 1491/2002, de 5 de Dezembro – Requisitos de segurança, classificação evistórias das embarcações de recreio* establish the rules for inspections and survival and safety equipments for recreational crafts.

This legislation establishes safety and rescue equipment that is compulsory according the navigations distance allowed. So this can be:

Type 1 - oceanic sailing, navigation without limits.

Type 2 - navigation offshore; designed and suitable for sailing up to 200 miles from a safe haven.

Table 11. Mandatory equipment in Portugal. Source: Decreto-Lei n.º 124-2004, de 25 de Maio- Regulamento da Náutica de Recreio.

	Type 1	Type 2	Type 3	Type 4	Type 5
Liferaft	X	X	X	X or Inflatable device	
Compass	X	X	X	X	X
Lifejacket (100% people on board)	X	X	X	X	X
Lifebuoy					
5-9 m length	1	1	1	1	1
9-15 m length	1	1	1	1	1
15-24 m length	3	3	3	3	3
Lifebuoy with light					
5-9 m length	0	0	0	0	0
9-15 m length	1	1	1	1	1
15-24 m length	1	1	1	1	1
Hand flare	4	4	3	2	2
Parachute flare	6	4	3	2	0
Buoyant smoke	2	1	1	1	0
Safety harness	3	3	3	0	0
Bilge pump / Scoop (manual and electrical)	1	1	1	1	1
Thermal protective aids	3	3	0	0	0
Access ladder on board	1	1	1	1	1
Fire extinguisher of chemical powder (one in the salon, kitchen, an next to the engine)	1	1	1	1	1
Sextant	1	1	1	1	0
Radar reflector	1	1	1	1	0
Horn or bell	1	1	1	1	1
Anchor	2	2	2	2	1
VHF with DSC	1	1	1	1	0
Portable VHF	1	1	1	0	0
EPIRB	1	1	0	0	0
INMARSAT	1	1	0	0	0
NAVTEX	1	1	0	0	0
HF	1	1	0	0	0

Type 3 - inshore, coastal navigation at a distance not exceeding 60 miles from a safe harbor and 25 miles offshore.

Type 4 - inshore, coastal navigation at a distance not exceeding 20 miles from a safe shelter and 6 miles from the coast.

Type 5 - sheltered and suitable for navigation in areas of low wave waters along the coast and inland.

Technical inspections must be performed every five years from the initial registration and it aims to verify the equipment and maintenance of the recreational craft and includes a dry and afloat inspection.

### 3.5 Ireland

Recreational boats in Ireland are regulated in different ways depending on their size and what they are used for.

Recreational craft with a length of 13.7m or greater, are classed as Class XII vessels. The lifesaving appliances requirements applicable to Class XII vessels under these Rules differ depending on the length and area of operation of the vessel, but basically it already depends on the type of equipment, for instance, mandatory lifesaving equipment depends on length and navigation area (see Table 12 and 13), but firefighting equipment only depends on length (see Table 14)

Table 12. Mandatory lifesaving equipment for Class XII Recreational Craft Constructed after 1986 and greater than 13.7m but less than 21.5m in length (Ireland). Source: Merchant Shipping(pleasure craft-safety)Regulations, 2004. S.I.No 259 of 2004.

Lifesaving Equipment	Navigation area Restricted operations	Seagoing
Lifebuoy per each 2 persons carried on board (Min of 2)	X	
One lifebuoy fitted with self activating smoke and light signal	X	
One lifebuoy fitted with buoyant line (18 m)	X	X
2 lifebuoys, on fitted with smoke/light signal		X
Lifejacket for each person on board	X	
Lifejacket for each person on board with light fitted		X
Six parachute flares or red star rockets	X	X
Waterproof container for flares	X	X
Rescue signal table	X	X
Liferaft of sufficient capacity for all person on board		X
Launching instructions/posters for liferaft on display		X
Training manual for onboard safety equipment		X
Maintenance instructions for safety equipment		X

Table 13. Mandatory lifesaving equipment for Class XII Recreational Craft Constructed after 1986 and greater than 21.5m but less than 21.5m in Ireland. Source: Merchant Shipping(pleasure craft-safety)Regulations, 2004. S.I.No 259 of 2004.

Lifesaving Equipment	Recreational Craft 21.5-25.90 m length	Recreational Craft 21.5-25.90 m length
2 lifebuoy fitted with Buoyant line (18 m)	X	X
2 lifebuoys, on fitted with smoke/light signal	X	X
Lifejacket for each person on board with light fitted	X	X
Six parachute flares or red star rockets	X	X
Waterproof container for flares	X	X
Rescue signal table	X	X
Liferaft of sufficient capacity for all person on board	X	X
Launching instructions/posters For liferaft on display	X	X
Training manual for onboard safety equipment	X	X
Maintenance instructions for safety equipment	X	X
Line throwing appliance	X	X
Rescue boat and launching davit		X

Table 14. Mandatory firefighting equipment for Class XII Recreational Craft in Ireland. Source: Merchant Shipping(pleasure craft-safety)Regulations, 2004. S.I.No 259 of 2004.

Fire Fighting Equipment	Boats 13.7 m- 15.00 m length	Boat 15m- 21.34 m less 150 t.	Boats greater than 21.34 m
2 fire extinguisher of fire buckets (one with lanyard)	X	X	
3 fire extinguishers or Fire buckets (one with lanyard)			X
2 fire extinguisher suitable for use on oil fires, for boats with internal combustions engines fitted.	X	X	X
Manual fire pump	X	X	
Dedicated fire pump	X	X	X
Sea suction			
Fire Hose	X	X	
Fire Hose nozzle with jet and water spray	X	X	
Power driven fire pump			X
Fire Main and hydrant			X
2 fires hoses			X
Fire hose spray nozzle for machinery spaces			X

There are no statutory lifesaving appliance requirements for recreational craft less than 13.70m, apart from the Merchant Shipping (pleasure craft) (lifejackets and operation) (safety) Regulations, 2004, S.I. No 259 of 2004. However, it is strongly recommended that such vessels carry at least a minimum standard of life saving equipment and guidance on this is given in part B of this Code.

A technical inspection of recreational craft is mandatory every five years from the initial registration. However, under the merchant Shipping Act 1992, passenger ships that are licensed to carry more than 12 people are required to pass an annual safety inspection carried out by the Department of Transport, Tourism and Sport.

## 4 RESULTS

From the comparison of the information obtained in the above section, following comparative tables can be drawn:

Table 15. Minimum and maximum length and Areas of Navigation. Source: Own

Country	Length (m)	Navigational Area
Spain	2.5 - 24	Unlimited Up to 60 miles Up to 25 miles Up to 12 miles Up to 5 miles Up to 2 miles Protected waters
France	<24	Over to 6 miles Up to 6 miles Up to 2 miles
UK	>13.7	Over to 150 miles Over to 20 miles to 150 miles Over 3 miles up to 20 miles Up 3 miles
Italy	No requirement	Unlimited Up to 50 miles Up to 12 miles Up to 6 miles Up to 3 miles Up to 1 mile Up to 300 meters Inland waters
Portugal	No requirement	Unlimited Up to 200 miles Up to 60 miles from a safe harbor and 25 miles offshore Up to 20 miles from a safe shelter and 6 miles from the coast Protected waters
Ireland	>13.7	Registered operation Seagoing

From Table 15 we can observe that there is a lack of uniformity about the minimum and maximum required length. Maximum length of pleasure crafts in Spain and France is 24 meters. However, in United Kingdom and Ireland the minimum length is 13.7m and there is no requirement about length in Italy and Portugal.

We can detect similar results about the number and limits of the areas of Navigation: Spain and Italy have many areas of navigation (seven or eight) and other countries like France and Ireland has only two or three. In view of this, is quite difficult to reach a harmonized technical survival and safety requirements for different recreational vessels and diversity of navigation areas. If we compare, for

instance, the number of hand flares in similar area (up to 6 miles): in Spain and France it is required 3 and in Italy 2 (we cannot compare with other countries because there is not similar navigation area).

On the other hand, Table 16 shows information about mandatory technical inspections carried out to recreational boats considering countries analyzed:

Table 16. Comparison of Mandatory Technical Inspection. Source: Own

Country	Technical Inspections	
Spain	First inspection Regular Intermediate	Initial registration Every 5 years Between 2nd and 3rd year
France	First inspection Regular Intermediate	During 3 years after purchase During 36 months from 1st At least 2 in a period 5 years
UK	First inspection Regular	During its first three years Every 5 years
Italy	First inspection Regular	During Eighth and tenth year Every 5 years
Portugal	First inspection Regular	Initial registration Every 5 years
Ireland	First inspection Regular	Initial registration Every 5 years

In general terms, it can be observed that there is a uniformity related on periodicity of technical inspections. There is a first inspection (from the initial registration to tenth year depending on the country) and, after the first inspection, there is a regular inspection every 5 years (except France).

## 5 CONCLUSIONS

Since June 1998, it has been a requirement that all new boats offered for sale within the EU comply with the Recreational Craft Directive (RCD). This indicates that the craft fulfils certain essential criteria concerning safety and other associated matters. The boat must display a CE mark together with a plate detailing the maximum payload and operational limits. Local Authority Trading Standards officers have the responsibility to ensure that CE-marked craft comply with the RCD circulation of recreational craft in the EU.

Recreational craft marketed in the EU must comply with harmonised technical safety and environmental requirements and meet a number of administrative obligations defined by Directive 94/25/EC, as amended in 2003. On 28 December 2013, the new recreational craft directive 2013/53/EU was published in the Official Journal of the European Union. EU Member States have until 18 January 2016 to amend their national legislation and transpose the new directive. The current directive 94/25/EC as amended by directive 2003/44/EC will be repealed on 18 January 2016, after the full application of the new text.

These safety and environmental requirements address the design and construction of the craft, and set limit values for their exhaust and noise emissions.

Although new Directive 2013/53/EU establishes safety issues, from the results obtained in the above sections, we can state that there is no coordination and equivalence among the EU countries according to the survival and safety equipment compulsory for recreational crafts.

In the case of the countries analysed, we note that each country establishes its classification of pleasure boats, required different safety equipment and types and frequency of the mandatory inspections are also different.

The diversity of criteria of the topics discussed states that it would be necessary to establish mechanisms to unify some aspects among countries of the European Union like:

- Classification of pleasure boats.
- List of mandatory safety and survival equipment according to classification of pleasure boat.
- Periodicity of inspections and items to be inspected.

To conclude, we can state that there is a lack of coordination in this area and further research is necessary to unify a common pattern in inspections/surveys and survival and safety equipment of recreational boats in the EU.

## REFERENCES

- [1] Arrêté du 11 mars 2008 modifiant l'arrêté du 23 novembre 1987 relatif à la sécurité des navires - Division 240. Division 241, France.
- [2] Decreto 5 ottobre 1999 n. 478 "Regolamento recante norme di sicurezza per la navigazione da diporto" (G.U. del 17.12.1999), Italy.
- [3] Decreto-Lei n.º 124/2004, de 25 de Maio – Regulamento da Náutica de Recreio, Portugal
- [4] Directive 2003/44/EC of the European Commission, 16 June 2003, amending Directive 94/25/EC on the

approximation of the laws, regulations and administrative provisions of the Member States relating to recreational craft

- [5] Directive 94/25/EC of the European Commission, 16 June 1994, on the approximation of the laws, regulations and administrative provisions of the Member States relating to recreational craft
- [6] International Convention for the Safety of Life at Sea (SOLAS), 1974.
- [7] Merchant shipping – Registration of ships. Regulations 1993
- [8] Merchant Shipping (Small Workboats and Pilot Boats) Regulations 1998, SI 1998/1609.
- [9] Merchant Shipping (Vessels in Commercial Use for Sport or Pleasure) Regulations 1998; SI 1998/ 2771 as amended,
- [10] Orden FOM/1144/2003, se regulan los equipos de seguridad, salvamento, contra incendios, navegación y prevención de vertidos por aguas sucias, que deben llevar a bordo las embarcaciones de recreo, 28 April 2003, Spain
- [11] Portaria n.º 1491/2002, de 5 de Dezembro – Requisitos de segurança, classificação evistorias das embarcações de recreio, Portugal
- [12] Portaria n.º 689/2001, de 10 de Julho – Seguro obrigatório de Responsabilidade Civil, Portugal
- [13] Real Decreto 1434/1999, se establecen los reconocimientos e inspecciones de las embarcaciones de recreo para garantizar la seguridad de la vida humana en la mar y se determinan las condiciones que deben reunir las entidades colaboradoras de inspección, 10 Septiembre 1999, Spain.
- [14] Royal Yachting Association.  
Available: [www.rya.org.uk](http://www.rya.org.uk) [Accessed 10 March 2013]
- [15] Walliser J., Piniella F., Rasero J.C., Endrina N.: Maritime Safety in the Strait of Gibraltar. Taxonomy and Evolution of Emergencies Rate in 2000-2004 Period. TransNav - International Journal on Marine Navigation and Safety of Sea Transportation, Vol. 5, No. 2, pp. 189-194, 2011
- [16] Directive 2013/53/EU of the European Parliament and of the Council of 20 November 2013 on recreational craft and personal watercraft and repealing Directive 94/25/EC