



European Guideline

CFPA-E Guideline No 15:2007

Fire Safety in Guest Harbours and Marinas





FOREWORD

The European fire protection associations have decided to produce common guidelines in order to achieve similar interpretation in the European countries and to give examples of acceptable solutions, concepts and models. The Confederation of Fire Protection Associations in Europe (CFPA E) has the aim to facilitate and support fire protection activities across Europe.

The market imposes new demands for quality and safety. Today fire protection forms an integral part of a modern strategy for survival and competitiveness.

The guideline is primarily intended for the public. It is also aimed at the rescue services, consultants, safety companies and the like so that, in the course of their work, they may be able to help increase fire safety in society.

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This guideline has been compiled by Guidelines Commission and adopted by all fire protection associations in the Confederation of Fire Protection Associations Europe.

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1 Introduction

Fires and explosions in pleasure boats are feared incidents. Especially on board a boat with narrow fittings, limited space and limited evacuation facilities a fire might have tragic consequences.

The elements of risk in such premises mainly comprise highly combustible materials, storage and use of flammable gas for cooking and heating and storage of fuel for the machinery.

So far the European communities have been spared from devastating fires in guest harbours and marinas, but the risk exist that a large fire might occur. The risk also includes the danger of injuries and fatalities.

Fires in pleasure boats do occur regularly, but if they should occur at night-time in a narrow guest harbour, personal injury and heavy material damage might be the result.

2 Scope

This guideline is meant for guest harbours for yachts and leisure boats of small or medium size, up to 35 - 40 feet (about 12 - 13 metres).

The aim of this guideline is to prevent injuries, loss of life and loss of property in fires on board pleasure boats or in marinas. It will recommend fire precaution measures to be taken by the owner of the harbours, and measures the guests may take to protect themselves from fires and explosions when they are visiting a harbour.

These precaution rules will also be useful to prevent fires in boats out at sea.

3 Definitions and comments

-Marina: Harbour arranged for fuelling of boats. May also be used as a guest harbour or a place where the public may hire a boat.

-Guest harbour: Harbour where pleasure boats may come to anchor and stay overnight. The harbour is mostly guarded and is equipped with reception, toilets, showers and kiosks. The guests have to pay a fee for the service.

- Leisure boat: A boat or yacht to be used for leisure time, weekends and holidays.

4 Description of the subject, -recommendation

4.1. Guest harbours

4.1.1. Generally

Like camping sites, guest harbours also represent the possibility of severe fires with threat to human life and property. Pleasure boats are mostly made of combustible plastic and, with an



engine fuelled by petrol and cooking equipment using propane, they have the makings of an incendiary bomb.

The owner of the harbour is responsible for providing appropriate and sufficient fire fighting equipment to which there is easy access at the site, and for displaying fire precaution rules.

4.1.2 Fire Risk Assessment

The owner or staff of the guest harbour has to draw up a risk analysis for the harbour dealing with emergencies such as fires, drownings and other accidents. The risk assessment should also deal with precautions on how to prevent fires and accidents in the harbour. (See next section 4.1.3.)

4.1.3 Fire precautions in guest-harbours

The intention of the fire precaution rules in this chapter is to reduce the risk of fire spreading to neighbouring boats and to alleviate the consequences if a fire should be break out. The greatest risk of fire spreading between boats is at night time when people are sleeping and there is a delay in discovering and fighting the fire.

Fires in guest harbours occur mainly in the boats and people are hurt from a fire in their own boat. It is therefore the individual owner who can diminish the risk of a fire in his own boat by having relevant fire fighting equipment on board.

The responsible staff at the guest harbour may undertake different fire precaution tasks to ensure that fire protection in the harbour is satisfactory. The following general advice will deal with the most important aspects of this work.

As part of the systematic work for the guest harbour, there should be a plan of the establishment where the maximum number of boats and their placing is stated.

The systematic fire prevention work may also deal with the removal of boats in case of a fire, the placing of the fire fighting apparatus and the checking of this, access for the fire brigade and routines if a fire should occur.

4.1.4. The placing of boats in the guest harbour

In the guest harbour the boats must be placed in such a way that the spread of a fire is hindered and the removal of boats in case of a fire is possible. The boats are to be placed so that they can be reached by the harbour's fire extinguishers. To ensure this, no more than three boats may be made fast alongside each other.

It is often difficult to create a sufficient distance between the boats even where they are berthed directly to the quay and therefore the number of boats in one section should be reduced. Where boats are berthed with the bow or the stern against the quay, it is necessary to make a partition every twenty-five metres or between every 8 – 10 boats. The clear width of the partition should be at least five metres or about the width of two boats.

A safe distance may also be obtained by erecting small piers with moorings only for about 6 – 8 boats, or in the case of bigger piers by creating fixed distances between the boats by using so called Y-booms.



Berthing alongside other boats makes it difficult to reduce the number of boats as it is in principle possible to continue to berth boats outside each other as long as there is free water surface in the harbour. This may complicate the access to fire equipment from the quay, and removal of boats from the fire sufficiently fast could be hindered.

Another solution might be if only two boats are berthed alongside each other.

4.1.5. Fire extinguishing equipment

Fire extinguishers must be available if there is a risk of the spread of fire between the boats. The crews of the boats must be able to use the extinguishers.

Fixed extinguishing equipment should be provided in harbours containing 80 boats or more.

The equipment should be placed with good visibility at each pier and in connection with a reception or a service establishment. It may be placed together with other equipment for life saving or emergency.

If fixed extinguishing equipment is provided, it should be placed in such a way that it can be used by every boat in the harbour. If fire extinguishers are used, the distance between the equipment and the boats should not exceed 50 m.

Guest harbours which from time to time are visited by a great number of boats which makes the required berthing complicated, should be equipped with additional extinguishers and/or provide a night watch.

Boats which are used for overnight accommodation should have smoke alarms and fire extinguishers installed.

Fixed extinguishing equipment with fire hoses should have a capacity of at least 50 l per minute at a pressure of 0.6 Mpa.

Fire extinguishers should be of dry powder type with a content of 6 kg.

The marking of the equipment should meet the national requirements and standards.

4.1.6. Routines if a fire occurs and if the fire risk is increased

Written instructions on how the responsible personnel have to react if a fire should occur must be accessible. These instructions should set out how to:

- Alert the guests in their boats
- Alert the fire brigade
- Move the boats
- Fight the fire
- Reduce the damage

The personnel should also have routines for the cases where the fire risk is increased by too many boats in the harbour. In these cases additional night watches should be provided.



4.1.7. Information to the guests

The guests should be informed about fire prevention in the harbour, how to avoid fires, how to fight a fire, placing of fire equipment, alerting other guests, the staff and fire brigade and how to move the boat to a safe place.

4.2. Marinas

4.2.1. Generally

A marina may be like a boat harbour where it is possible to fill up the boat's fuel tanks with petrol or diesel. It may also be possible to fill propane bottles for cooking or heating appliances. In many marinas it is also possible to rent a boat for a trip on the sea.

4.2.2. Regulations

The national authorities issue their own demands regarding the planning, construction and operation of plants that deliver engine fuel.

The authorities are also making clear demands regarding the personnel who shall establish and operate a plant for fuelling. It is mandatory that the responsible personnel knows the regulations very well and realize the commitment which follows the rules.

4.2.3. Safety precautions

The same safety precautions set out above in section 4.1. are also valid for marinas. In addition the following precautions should be taken into consideration:

- Everybody visiting a plant for fuelling is obliged to act carefully to prevent fires and explosions.
- Everybody is obliged to act in accordance with displayed instructions.
- The responsible personnel should verify that the plant satisfies the relevant regulations.

Marinas should be constructed in such a way that boats are not able to drift under the quay when fuelling. Boats should be moored in such a way that they can be quickly shifted if an emergency situation should occur, and other boats should not be moored at the marina in a way that could cause problems with shifting in such a situation.

A sufficient number of extinguishers suitable for flammable liquids should be placed at easily accessible places on the plant.

4.3. Training of the staff

The responsible staff of a guest harbour or a marina should be trained in:

- How to prevent fires, explosions and other accidents
- how to act if a fire or an explosion should occur and how to alert and rescue the guests



- how to alert the fire brigade
- how to operate the fire hoses and extinguishers

A risk analysis and an emergency plan should be drawn up and exercises and training should be held twice every year. The analysis should comprise all the above mentioned items and point out where the risk of a fire or other accidents is most probable. Measures to reduce the risk should be considered.

Fire safety signs referring to emergency equipment, assembly points, fire alarms, phone number to emergency units, etc. must be placed at several points about the plant.

A documentation containing all check points and the way they are carried out should be prepared and kept for the supervision of the authorities.

See also Guideline No 1:2002 – Internal Fire Protection Control.

4.4. Access for the fire brigade and other rescue units, water supply. (Common to Marinas and Guest Harbours)

If a fire or accident should occur, it is important that the fire brigade have good access to every part of the guest harbour or marina. Consult the fire brigade to get the necessary information about the width, height and axle load of their fire engines and the minimum swing radius they can manage. On the plant places must be arranged where the vehicles can be drawn up.

The access routes must be free of obstacles and parked cars.

It is also important to decide the maximum distance to the water supply (hydrants or cistern). The water supply must give the necessary quantity of water and pressure.



Marina for fuelling of boats, Lyngør Norway



5 Reference Publications

- 1 Statens Råddningsverks allmänna råd om brandskydd I gästhamnar (remiss),
- 2 Direktoratet for samfunnssikkerhet og beredskap (DSB): Campingplasser og gjestebåthavner.(Camping sites, Marinas and Guest Harbours).
- 3 The Norwegian Building Regulations.
- 4 The Norwegian Fire Regulations.

5 European guidelines

- Guideline No 1:2002 - Internal fire protection control
- Guideline No 2:2007 - Panic & emergency exit devices
- Guideline No 3:2003 - Certification of thermographers
- Guideline No 4:2003 - Introduction to qualitative fire risk assessment
- Guideline No 5:2003 - Guidance signs, emergency lighting and general lighting
- Guideline No 6:2004 - Fire safety in residential homes for the elderly
- Guideline No 7:2005 - Safety distance between waste containers and buildings
- Guideline No 8:2004 - Preventing arson – information to young people
- Guideline No 9:2005 - Fire safety in restaurants
- Guideline No 10:2007 - Smoke alarms in the home
- Guideline No 11:2005 - Number of fire protection trained staff
- Guideline No 12:2006 - Fire safety basics for hot work operatives
- Guideline No 13:2006 - Fire protection documentation
- Guideline No 14:2007 - Fire protection in information technology facilities
- Guideline No 15:2007 - Fire safety in guest harbours and marinas