CỤC ĐĂNG KIỂM VIỆT NAM - VIETNAM REGISTER
PHÒNG TÀU BIỂN
SEA-GOING SHIP CLASSIFICATION AND REGISTRY DEPARTMENT
ĐỊA CHỈ
ADDRESS *18 PHAM HUNG, HA NOI*
TEL: *(84) 4 7684701*
FAX: *(84) 4 7684722*
Web site: www.vr.org.vn

THÔNG BÁO KỸ THUẬT- TECHNICAL INFORMATION

Ngày 25 tháng 06 năm 2008
Số thông báo: 019KT/08TB

Nội dung: Thông tư MSC.1/Circ.1275 ngày 03 tháng 06 năm 2008 của Uỷ ban An toàn hàng hải về số lượng và việc bố trí các bình cứu hoả xách tay trên tàu biển.

Kính gửi: **Các Chủ tàu/ Công ty quản lý tàu**
Các Đơn vị thiết kế tàu
Các Nhà máy đóng tàu
Các Chi cục Đăng kiểm tàu biển

Ngày 03 tháng 06 năm 2008, Uỷ ban An toàn hàng hải (MSC) của Tổ chức Hàng hải quốc tế (IMO) đã ban hành Thông tư MSC.1/Circ.1275 về việc giải thích thống nhất chương II-2 của Công ước SOLAS 74 liên quan đến số lượng và việc bố trí các bình cứu hoả xách tay trên tàu.

Liên quan đến vấn đề nêu trên, chúng tôi xin được gửi đến các Quý Cơ quan, kèm theo Thông báo kỹ thuật này các tài liệu sau đây:

1. Thông tư MSC.1/Circ.1275 về việc giải thích thống nhất chương II-2 của Công ước SOLAS 74 liên quan đến số lượng và việc bố trí các bình cứu hoả xách tay trên tàu.

2. Nghị quyết A.951(23) về các hướng dẫn sửa đổi đối với bình cứu hoả xách tay dùng trong ngành hàng hải.

Đề nghị các Quý Cơ quan áp dụng các tài liệu nói trên của IMO trong việc trang bị bình cứu hoả xách tay cho tàu biển.

Thông báo kỹ thuật này được nêu trong mục: *Thông báo của VR/ Thông báo kỹ thuật TB* của trang tin điện tử của Cục Đăng kiểm Việt Nam: *http://www.vr.org.vn*

Nếu Quý cơ quan cần thêm thông tin về vấn đề nêu trên, đề nghị vui lòng liên hệ:

Cục Đăng kiểm Việt Nam, Phòng Tàu biển
Địa chỉ: 18 Phạm Hùng, Từ Liêm, Hà Nội
Điện thoại: + 4 7684701 (số máy lẻ: 521)
Fax: +4 7684722
Thư điện tử: hainv@vr.org.vn

Xin gửi đến các Quý Cơ quan lời chào trân trọng.

TRƯỞNG PHÒNG TÀU BIỂN

Nơi nhận:
-Như trên
-QP, CN, CTB, VRQC, MT
-Lưu TB

Nguyễn Vũ Hải

INTERNATIONAL MARITIME ORGANIZATION
4 ALBERT EMBANKMENT
LONDON SE1 7SR

Telephone: 020 7735 7611
Fax: 020 7587 3210

IMO

E

Ref. T4/4.01

MSC.1/Circ.1275
3 June 2008

UNIFIED INTERPRETATION OF SOLAS CHAPTER II-2 ON THE NUMBER AND ARRANGEMENT OF PORTABLE FIRE EXTINGUISHERS ON BOARD SHIPS

1 The Maritime Safety Committee, at its eighty-fourth session (7 to 16 May 2008), with a view to providing more specific guidance for vague expressions such as "to the satisfaction of the Administration", which are open to different interpretations contained in IMO instruments, approved the Unified interpretation of SOLAS chapter II-2 on the number and arrangement of portable fire extinguishers on board ships prepared by the Sub-Committee on Fire Protection at its fifty-second session, set out in the annex.

2 Member Governments are invited to use the annexed unified interpretation as guidance when applying relevant provisions of SOLAS chapter II-2 on the number and arrangement of portable fire extinguishers on board ships on or after 1 January 2009 and to bring the unified interpretation to the attention of all parties concerned.

***

ANNEX

UNIFIED INTERPRETATION ON THE NUMBER AND ARRANGEMENT OF PORTABLE FIRE EXTINGUISHERS ON BOARD SHIPS

1 Scope and application

1.1 The unified interpretation provides guidance on the number and arrangement of portable fire extinguishers on board ships as required by SOLAS regulations II-2/10.3, II-2/10.5.1.2, II-2/10.5.2.2, II-2/10.5.3.2.2, II-2/10.5.4, II-2/18.5.1.1, II-2/18.5.1.2, II-2/19.3.7 and II-2/20.6.2.1 and chapter 4 of the International Code for Fire Safety Systems (FSS Code).

1.2 This unified interpretation should be used for ships constructed on or after 1 January 2009. For ships constructed before 1 January 2009, shipowners are encouraged to implement this unified interpretation.

1.3 SOLAS regulation II-2/10.3.2.3 (regarding the allowed spaces to arrange carbon dioxide fire extinguishers) and paragraph 4.2.1.1.1 of the FSS Code (regarding the quantity of medium of portable fire extinguishers) should be applied to ships constructed on or after 1 January 2009.

2 Unified interpretation on the number and arrangement of portable fire extinguishers in the various types of spaces on board ships

2.1 The table below should be applied for the number and arrangement of portable fire extinguishers in accommodation spaces, service spaces, control stations, machinery spaces of category A, other machinery spaces, cargo spaces, weather deck and other spaces on board ships.

2.2 SOLAS regulation II-2/10.3.2.2 requires that "one of the portable fire extinguishers intended for use in any space shall be stowed near the entrance to that space. It is recommended that the remaining portable fire extinguishers in the public spaces and workshops be located at or near the main entrances and exits.

2.3 If a space is locked when unmanned, portable fire extinguishers required for that space may be kept inside or outside the space.

2.4 Unless expressly provided by the Unified interpretations of SOLAS chapter II-2, the FSS Code, the FTP Code and related fire test procedures (MSC/Circ.1120) or SOLAS regulation II-2/10.5, the following table should be applied to the number and arrangement of portable fire extinguishers in machinery spaces of category A.

3 The selection of portable fire extinguishers

The selection of portable fire extinguishers should be appropriate to the fire hazard(s) in the space in accordance with the Guidelines for marine portable fire extinguishers, as adopted by resolution A.951(23). The classes of portable fire extinguishers in the table are only for reference.

Table – Minimum numbers and distribution of portable fire extinguishers in the various types of spaces on board ships

Type of spaces		Minimum number of extinguishers	Class(es) of extinguisher(s)
Accommodation spaces	Public spaces	1 per 250 m^2 of deck area or fraction thereof	A
	Corridors	Travel distance to extinguishers should not exceed 25 m within each deck and main vertical zone	A
	Stairway	0	
	Lavatories, cabins, offices, pantries containing no cooking appliances	0	
	Hospital	1	A
Service spaces	Laundry drying rooms, pantries containing cooking appliances	1[2]	A or B
	Lockers and store rooms (having a deck area of 4 m^2 or more), mail and baggage rooms, specie rooms, workshops (not part of machinery spaces, galleys)	1[2]	B
	Galleys	1 class B and 1 additional class F or K for galleys with deep fat fryers	B , F or K

Type of spaces		Minimum number of extinguishers	Class(es) of extinguisher(s)
Service spaces	Lockers and store rooms (deck area is less than 4 m^2)	0	
	Other spaces in which flammable liquids are stowed	In accordance with SOLAS regulation II-2/10.6.3	
Control stations	Control stations (other than wheelhouse)	1	A or C
	Wheelhouse	2, if the wheelhouse is less than 50 m^2 only 1 extinguisher is required[3]	A or C
Machinery spaces of category A	Central control station for propulsion machinery	1, and 1 additional extinguisher suitable for electrical fires when main switchboards are arranged in central control station	A and/or C
	Vicinity of the main switchboards	2	C
	Workshops	1	A or B
	Enclosed space with oil-fired inert gas generators, incinerators and waste disposal units	2	B
	Separately enclosed room with fuel oil purifiers	0	
	Periodically unattended Machinery spaces of category A	1 at each entrance [1]	B
Other spaces	Workshops forming part of machinery spaces and other machinery spaces (auxiliary spaces, electrical equipment spaces, auto – telephone exchange rooms, air conditioning spaces and other similar spaces)	1	B or C
	Weather deck	0[4]	B

	Type of spaces	Minimum number of extinguishers	Class(es) of extinguisher(s)
	Ro-ro spaces and vehicle spaces	No point if space is more than 20 m walking distance from an extinguisher at each deck level [4, 5]	B
	Cargo spaces	0[4]	B
	Cargo pump-room	2	B
	Helidecks	In accordance with SOLAS regulation II-2/18.5.1	B

NOTES:

1 A portable fire extinguisher required for a small space may be located outside and near the entrance to that space.

2 For service spaces, a portable fire extinguisher required for that small space placed outside or near the entrance to that space may also be considered as part of the requirement for the space in which it is located.

3 If the wheelhouse is adjacent with the chartroom and has a door giving direct access to chartroom, no additional fire extinguisher is required in the chart room. The same applies to safety centres if they are within the boundaries of the wheelhouse in passenger ships.

4 Two portable fire extinguishers, each having a capacity of not less than 6 kg of dry powder or equivalent, should be provided when dangerous goods are carried on the weather deck, in open ro-ro spaces and vehicle spaces, and in cargo spaces as appropriate. Two portable fire extinguishers, each having a suitable capacity, should be provided on weather deck for tankers.

5 No portable fire extinguisher needs to be provided in cargo holds of containerships if motor vehicles with fuel in their tank for their own propulsion are carried in open or closed containers.

INTERNATIONAL MARITIME ORGANIZATION

IMO

E

ASSEMBLY
23rd session
Agenda item 17

A 23/Res.951
25 February 2004
Original: ENGLISH

Resolution A.951(23)

Adopted on 5 December 2003
(Agenda item 17)

IMPROVED GUIDELINES FOR MARINE PORTABLE FIRE EXTINGUISHERS

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

RECALLING ALSO that, by resolution A.602(15), it adopted the Revised Guidelines for Marine Portable Fire Extinguishers, to supplement the relevant requirements of chapter II-2 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, as well as chapter V of the Torremolinos International Convention for the Safety of Fishing Vessels, 1977,

RECOGNIZING the need to further improve the said Revised Guidelines following the adoption of amendments to chapter II-2 of the 1974 SOLAS Convention and of the 1993 Torremolinos Protocol to the 1977 Torremolinos Convention referred to above, and in the light of the experience gained from the application of the Revised Guidelines,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its seventy-fifth session,

1. ADOPTS the Improved Guidelines for Marine Portable Fire Extinguishers, the text of which is set out in the Annex to the present resolution;

2. RECOMMENDS Governments concerned to apply the annexed Improved Guidelines in conjunction with the appropriate requirements of the international instruments referred to above;

3. AUTHORIZES the Maritime Safety Committee to keep the Improved Guidelines under review and amend or extend them as necessary;

4. REVOKES resolution A.602(15).

ANNEX

IMPROVED GUIDELINES FOR MARINE PORTABLE FIRE EXTINGUISHERS

1 Scope

These Guidelines have been developed to supplement the relevant requirements for marine portable fire extinguishers[*] of the International Convention for the Safety of Life at Sea 74, as amended, the International Code for Fire Safety Systems (FSS Code) and the 1993 Torremolinos Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977. The Guidelines are offered to Administrations to assist them in determining appropriate design and construction parameters. The status of the Guidelines is advisory. Their content is based on current practices and does not exclude the use of designs and materials other than those indicated below.

2 Definitions

2.1 An *extinguisher* is an appliance containing an extinguishing medium, which can be expelled by the action of internal pressure and be directed into a fire. This pressure may be stored pressure or be obtained by release of gas from a cartridge.

2.2 A *portable extinguisher* is one, which is designed to be carried and operated by hand, and which in working order has a total weight of not more that 23 kg.

2.3 *Extinguishing medium* is the substance contained in the extinguisher which is discharged to cause extinction of fire.

2.4 *Charge of an extinguisher* is the mass or volume of the extinguishing medium contained in the extinguisher. The quantity of the charge of water or foam extinguishers is normally expressed in volume (litres) and that of other types of extinguishers in mass (kilograms).

3 Classification

3.1 Extinguishers are classified according to the type of extinguishing medium they contain. At present the types of extinguishers and the uses for which they are recommended are as follows:

Extinguishing medium	**Recommended for use on fires involving**
Water Water with additives	wood, paper, textiles and similar materials
Foam	wood, paper, textiles and flammable liquids
Dry powder/dry chemical (standard/ classes B, C)	flammable liquids, electrical equipment and flammable gases
Dry powder/dry chemical (multiple or general purpose/classes A, B, C)	wood, paper, textiles, flammable liquids, electrical equipment and flammable gases
Dry powder/dry chemical (metal)	combustible metals
Carbon dioxide	flammable liquids and electrical equipment
Wet chemical for class F or K	cooking grease, fats or oil fires
Clean agents[**]	

[*] Wherever in the text of these Guidelines the word *"portable extinguisher"* appears it *should* be taken as meaning "marine portable fire extinguisher".

[**] Refer to the recommendations by the International Organization for Standardization, in particular Publication ISO 7165:1999, *Fire-fighting – Portable fire extinguishers – Performance and construction*.

3.2 A table is provided in the appendix which describes the general characteristics of each type of extinguisher.

4 Construction

4.1 The construction of an extinguisher should be designed and manufactured for simple and rapid operation, and ease of handling.

4.2 Extinguishers should be manufactured to a recognized national or international standard*, which includes a requirement that the body, and all other parts subject to internal pressure, be tested:

.1 to a pressure of 5.5 MPa or 2.7 times the normal working pressure, whichever is the higher, for extinguishers with a service pressure not exceeding 2.5 MPa; or

.2 in accordance with the recognized standard for extinguishers with a service pressure exceeding 2.5 MPa.

4.3 In the design of components, selection of materials and determination of maximum filling ratios and densities, consideration should be given to the temperature extremes to which extinguishers may be exposed on board ships and operating temperature ranges specified in the recognized standards.

4.3 The materials of construction of exposed parts and adjoining dissimilar metals should be carefully selected to function properly in the marine environment.

5 Fire classifications

5.1 Fire classifications are generally indicated as A, B, C, D and F (or K). There are currently two standards, defining classes of fires according to the nature of the material undergoing combustion, as follows:

International Organization for Standardization (ISO standard 3941)*		**National Fire Protection Association (NFPA 10)**	
Class A:	Fires involving solid materials, usually of an organic nature, in which combustion normally takes place with the formation of glowing embers.	**Class A:**	Fires in ordinary combustible materials such as wood, cloth, paper, rubber and many plastics.
Class B:	Fires involving liquids or liquefiable solids.	**Class B:**	Fires in flammable liquids, oils, greases, tars, oil base paints, lacquers and flammable gases.
Class C:	Fires involving gases.	**Class C:**	Fires, which involve energized electrical equipment where the electrical non-conductivity of the extinguishing medium is of importance. (When electrical equipment is de-energized, extinguishers for class A or B fires may be used safely.)
Class D:	Fires involving metals.	**Class D:**	Fires in combustible metals such as magnesium, titanium, zirconium, sodium, lithium and potassium.
Class F:	Fires involving cooking oils.	**Class K**:	Fires involving cooking grease, fats and oils.

***Comite Europeen de Normalisation (CEN standard EN2) closely follows ISO standard 3941.**

* Refer to the recommendations by the International Organization for Standardization, in particular Publication ISO 7165:1999, *Fire-fighting – Portable fire extinguishers – Performance and construction*.

6 Test specifications

6.1 Construction, performance and fire-extinguishing test specifications should be to the satisfaction of the Administration, having due regard to an established international standard*.

7 Criteria for assessing compliance with chapter 4 of the FSS Code and regulations V/20 and V/38 of the 1993 Torremolinos Protocol relating to the 1977 Torremolinos Convention

7.1 Chapter 4 of the FSS Code requires that extinguishers have a fire-extinguishing capability at least equivalent to that of a 9 L fluid extinguisher having a rating of 2A on class A fire which may be water or foam as required by the Administration. This equivalence may be demonstrated by fire test ratings determined according to an international, national or other recognized standard*.

7.2 The size and type of extinguishers should be dependent upon the potential fire hazards in the protected spaces while avoiding a multiplicity of types. Care should also be taken to ensure that the quantity of extinguishing medium released in small spaces does not endanger personnel.

8 Marking of extinguishers

8.1 Each extinguisher should be clearly marked with the following minimum information:

.1 name of the manufacturer;

.2 types of fire and rating for which the extinguisher is suitable;

.3 type and quantity of extinguishing medium;

.4 approval details;

.5 instructions for use and recharge (it is recommended that operating instructions be given in pictorial form, in addition to explanatory text in language understood by the likely user);

.6 year of manufacture;

.7 temperature range over which the extinguisher will operate satisfactorily; and

.8 test pressure.

9 Periodical inspections and maintenance

9.1 Extinguishers should be subject to periodical inspections in accordance with the manufacturer's instructions and serviced at intervals not exceeding one year.

---

* Refer to the recommendations by the International Organization for Standardization, in particular Publication ISO 7165:1999, *Fire-fighting – Portable fire extinguishers – Performance and construction*.

9.1.1 At least one extinguisher of each type manufactured in the same year and kept on board a ship should be test discharged at five yearly intervals (as part of a fire drill).

9.1.2 All extinguishers together with propellant cartridges should be hydraulically tested in accordance with the recognized standard or the manufacturer's instruction at intervals not exceeding ten years.

9.1.3 Service and inspection should only be undertaken by, or under the supervision of, a person with demonstrable competence, based on the inspection guide in table 9.1.3.

9.2 Records of inspections should be maintained. The records should show the date of inspection, the type of maintenance carried out and whether or not a pressure test was performed.

9.3 Extinguishers should be provided with a visual indication of discharge.

9.4 Instructions for recharging extinguishers should be supplied by the manufacturer and be available for use on board.

ANNUAL INSPECTION	
Safety clip and indicating devices	Check to see if the extinguisher may have been operated.
Pressure indicating device	Where fitted, check to see that the pressure is within limits. Check that dust covers on pressure indicating devices and relief valves are in place.
External examination	Inspect for corrosion, dents or damage which may affect the safe operation of the extinguisher.
Weight	Weigh the extinguisher and check the mass compared to the fully charged extinguisher.
Hose and nozzle	Check that hoses and nozzles are clear and undamaged.
Operating instructions	Check that they are in place and legible.
INSPECTION AT RECHARGE	
Water and foam charges	Remove the charge to a clean container if to be reused and check if it is still suitable for further use. Check any charge container.
Powder charges	Examine the powder for reuse. Ensure that it is free flowing and that there is no evidence of caking lumps or foreign bodies.
Gas cartridge	Examine for damage and corrosion.
INSPECTION AT FIVE AND TEN YEAR INTERVALS	
INSPECTION AFTER DISCHARGE TEST	
Air passages and operating mechanism	Prove clear passage by blowing through vent holes and vent devices in the cap. Check hose, nozzle strainer, discharge tube and breather valve, as applicable. Check the operating and discharge control. Clean and lubricate as required.
Operating mechanism	Check that the safety pin is removable and that the lever is undamaged.
Gas cartridge	Examine for damage and corrosion. Weigh the cartridge to ascertain that it is within prescribed limits.
O-rings washers and hose diaphragms	Check O-rings and replace hose diaphragms if fitted.
Water and foam bodies	Inspect the interior. Check for corrosion and lining deterioration. Check separate containers for leakage or damage.
Powder body	Examine the body and check internally for corrosion and lining deterioration.
INSPECTION AFTER RECHARGE	
Water and foam	Replace the charge in accordance with the manufacturers instructions.
Reassemble	Reassemble the extinguisher in accordance with the manufacturers instructions.
Maintenance label	Fill in entry on maintenance label, including full weight.
Mounting of extinguishers	Check the mounting bracket or stand.
Report	Complete a report on the state of maintenance of the extinguisher.

Table 9.1.3 – Inspection guide

APPENDIX

	TYPES OF EXTINGUISHER							
Extinguishing medium used:	**Water**			**Foam**		**Powder**	**Carbon dioxide**	**Clean agents**
	Water, with possible salts in solution				Water solution containing foam generating substances	Dry chemical Powders	Pressurized carbon dioxide	
Expellant charge of the extinguisher (stored pressure or cartridge as indicated):		Carbon dioxide or other pressurized inert gases or compressed air (stored pressure or separate cartridge)			Carbon dioxide or other pressurized inert gases or compressed air (stored pressure or separate cartridge)	Carbon dioxide or other inert gases or dry air (stored pressure or separate cartridge)		
The discharge of the extinguisher is achieved by:		Opening of the valve. Action of pressurized gas (opening of the cartridge)			Opening of the valve. Action of pressurized gas (opening of the cartridge)	Opening of the valve. Action of pressurized gas (opening of the cartridge)	Opening of the valve of the container constituting the extinguisher	

	TYPES OF EXTINGUISHER						
	Water		**Foam**		**Powder**	**Carbon dioxide**	**Clean agents**
The discharged extinguishing medium consists of:	Water with possible salts in solution			Foam containing the gas used	Dry chemical powders and carbon dioxide or other gas	Carbon dioxide	
The discharged extinguishing medium causes the extinction of the fire by:	Cooling of the burning materials. Water evaporation and consequent formation of a local atmosphere (water/steam) which isolates the burning products from the surrounding air		Formation of a foam layer which isolates the burning products from the surrounding air and cooling in the case of class A fires		Inhibition of the combustion process by the interrupting the chemical reaction. Some separation of burning materials from the surrounding air	Formation of a local inert atmosphere (carbon dioxide) which isolates the burning material from the surrounding air. Smothering and cooling action of carbon dioxide	
The electrical resistance of the discharged extinguishing medium is:	Very low	Very low		Varied	Very high. Under intense heat some powders may be electrically conductive	Very high	

<table>
<tr><td></td><td colspan="5">TYPES OF EXTINGUISHER</td></tr>
<tr><td rowspan="3">Operating peculiarities and limitations:</td><td>Water</td><td>Foam</td><td>Powder</td><td>Carbon dioxide</td><td>Clean agents</td></tr>
<tr><td colspan="2">The jet or spray of the extinguisher should be directed towards the base of the fire</td><td rowspan="2">Powder mixture subject to windage; they may therefore have reduced effectiveness in the open or in ventilated spaces</td><td rowspan="2">Gas subject to windage; they therefore have limited effectiveness in the open or in ventilated spaces</td><td rowspan="2"></td></tr>
<tr><td></td><td>The extinction of the fire achieved only when all the burning surface is covered by foam</td></tr>
</table>

<table>
<tr><td></td><td colspan="6">TYPES OF EXTINGUISHER</td></tr>
<tr><td></td><td colspan="3">Water</td><td colspan="2">Foam</td><td>Powder</td><td>Carbon dioxide</td><td>Clean agents</td></tr>
<tr><td rowspan="2">Disadvantages and dangers:</td><td colspan="5">Not to be used where there is electrical hazard</td><td rowspan="2">Generated powder mixtures may be suffocating and can impair vision. Powder can damage electrical contact.</td><td rowspan="2">Carbon dioxide may be suffocating</td><td rowspan="2"></td></tr>
<tr><td colspan="5"></td></tr>
<tr><td rowspan="4">Maintenance:</td><td colspan="5">Extinguishers with copper or copper alloy body should not be polished with products of corrosive or abrasive nature which may cause wall thickness reduction. Such extinguishers should be avoided but where used they should preferably be painted externally.</td><td rowspan="2">Some types of powder may be altered by humidity, therefore, avoid the refilling of the extinguisher in humid locations.</td><td rowspan="2"></td><td rowspan="4"></td></tr>
<tr><td colspan="3">The charge can freeze at temperatures of about 0^0C (unless the charge is made non-freezable chemically)</td><td colspan="2" rowspan="2">The charge can freeze at about 5^0C. The charge can be altered by elevated temperatures (about 40^0C or more). Therefore, the extinguisher should not be installed in positions where it may be exposed to high or low temperatures.</td></tr>
<tr><td></td><td>Avoid installing the extinguisher in excessively warm locations, where the internal pressure of the carbon dioxide in the cartridge might rise to a very high value</td><td></td><td colspan="2">When a carbon dioxide container is provided, avoid the installation of the extinguisher in excessively warm locations, where the internal pressure of the carbon dioxide in the container might rise to very high values.</td></tr>
</table>