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## COVER NOTE

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From:	Secretary-General of the European Commission, signed by Ms Martine DEPREZ, Director
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To:	Ms Thérèse BLANCHET, Secretary-General of the Council of the European Union

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No. Cion doc.:	SWD(2024) 247 final
Subject:	COMMISSION STAFF WORKING DOCUMENT Union submission to the 11th session of the International Maritime Organization's Sub-Committee on Ship Systems and Equipment proposing general text adjustments to the International Code for Application of Fire Test Procedures, 2010

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Delegations will find attached document SWD(2024) 247 final.

Encl.: SWD(2024) 247 final



Brussels, 17.10.2024  
SWD(2024) 247 final

## **COMMISSION STAFF WORKING DOCUMENT**

**Union submission to the 11th session of the International Maritime Organization's Sub-Committee on Ship Systems and Equipment proposing general text adjustments to the International Code for Application of Fire Test Procedures, 2010**

## **Union submission to the 11<sup>th</sup> session of the International Maritime Organization's Sub-Committee on Ship Systems and Equipment proposing general text adjustments to the International Code for Application of Fire Test Procedures, 2010**

### **PURPOSE**

This Staff Working Document contains a draft Union submission to the International Maritime Organization's (IMO) 11<sup>th</sup> session of the Sub-Committee on Ship Systems and Equipment (SSE 11). The IMO has indicatively scheduled SSE 11 from 24 to 28 February 2025.

The draft submission proposes various text adjustments and corrections to the International Code for Application of Fire Test Procedures, 2010 (2010 FTP Code). The aim is to improve uniformity, ensure a consistent and fair interpretation and, ensure a level playing field among manufacturers, test organisations, and classification societies.

### **EU COMPETENCE**

Article 6(2)(a)(i) of Directive 2009/45/EC<sup>1</sup> establishes that new passenger ships of Class A are to comply entirely with the requirements of the 1974 SOLAS Convention, as amended, as well as with the related Codes, including the 2010 FTP Code. Article 6(2)(a)(ii) of the same Directive establishes that new passenger ships of Classes B, C and D are to comply with specific requirement specified in the Directive, which including the 2010 FTP Code where applicable. More specifically, Annex I to the Directive 2009/45/EC states that the test methods shall be in accordance with the Fire Test Procedures Code.

The 2010 FTP Code form part of the Annex to Commission Implementing Regulation (EU) 2024/1975 of 19 July 2024 laying down rules for the application of Directive 2014/90/EU of the European Parliament and of the Council, as regards design, construction and performance requirements and testing standards for marine equipment and repealing Commission Implementing Regulation (EU) 2023/1667<sup>2</sup>. This issue therefore falls within the scope of Directive 2014/90/EU of the European Parliament and of the Council of 23 July 2014 on marine equipment and repealing Council Directive 96/98/EC, as amended, (Marine Equipment Directive 2014/90/EU)<sup>3</sup>.

In light of all of the above, the present draft Union submission falls under EU exclusive competence, pursuant to article 3(2) TFEU as the text adjustments, which, once adopted, risks affecting or altering Union legislation and in particular Directive 2009/45/EC and Directive 2014/90/EU.<sup>4</sup> This Staff Working Document is presented to establish an EU position on the matter and to transmit the document to the IMO prior to the required deadline of 22 November 2024.

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<sup>1</sup> OJ L 163, 25.6.2009, p. 1.

<sup>2</sup> OJ L, 2024/1975, 26.7.2024.

<sup>3</sup> OJ L 257, 28.8.2014, p. 146.

<sup>4</sup> An EU position under Article 218(9) TFEU is to be established in due time should the IMO Maritime Safety Committee eventually be called upon to adopt an act having legal effects as regards the subject matter of the said draft Union submission. The concept of '*acts having legal effects*' includes acts that have legal effects by virtue of the rules of international law governing the body in question. It also includes instruments that do not have a binding effect under international law, but that are '*capable of decisively influencing the content of the legislation adopted by the EU legislature*' (Case C-399/12 Germany v Council (OIV), ECLI:EU:C:2014:2258, paragraphs 61-64). The present submission, however, does not produce legal effects and thus the procedure for Article 218(9) TFEU is not applied.

## REVISION OF THE 2010 FTP CODE TO ALLOW FOR NEW FIRE PROTECTION SYSTEMS AND MATERIALS

### Proposal for General Text Adjustments to the 2010 FTP Code

Submitted by Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands (Kingdom of the), Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the European Commission, acting jointly in the interest of the European Union

#### SUMMARY

*Executive summary:* This document proposes various text adjustments and corrections to the International Code for Application of Fire Test Procedures, 2010 (2010 FTP Code). The aim is to improve uniformity, ensure a consistent and fair interpretation and, ensure a level playing field among manufacturers, test organisations, and classification societies.

*Strategic direction, if 7 applicable:*

*Output:* 7,35

*Action to be taken:* Paragraph 10

*Related documents:* MSC 102/21/11; MSC 103/21; MSC 105/20; MSC 107/17/8 and SSE 10/17/1; SSE 10/8

#### Introduction

1 The FTP code is widely used by various stakeholders within the maritime sector. The co-sponsors are under the impression that stakeholders frequently encounter instances where there is doubt or disagreement about the interpretation of the code.

2 Appendix 1 to this document provides concrete amendments to the FTP code that clarify some of the questions and disagreements, which the co-sponsors have identified over the past 15 years. It is crucial for the IMO to update ambiguous text to ensure that the intended level of safety is achieved and to ensure a level playing field within the stakeholders.

#### Background

3 Document SSE10/8, submitted by the United States, requests a revision of the 2010 FTP Code. The co-sponsors of this document agree and are of the view that, in addition to the issues described in SSE10/8, there are several amendments to the existing text that should be included in the revision.

### **IMO's objectives**

4 The prevention of fires to ensure maritime safety lies at the heart of the mission statement of IMO to promote safe, secure and environmentally sound, efficient and sustainable shipping.

### **Discussion**

5 It is important to recognize that the FTP code aims to create a common basis for manufacturers, designers, laboratories, and authorities. This common basis should be uniformly implemented and it should contribute to an adequate level of fire safety at sea.

6 Acknowledging that Fire Test Procedures technological develops rapidly due to increase in new materials and improved knowledge, the co-sponsors of this document aim to revise the FTP code to ensure it remains relevant and serves its purpose.

7 The amendments proposed in the appendix is based upon some of these developments. The amendments contain both editorial changes but also more substantial changes to the FTP code.

### **Proposal**

9 The co-sponsors of this document propose that the amendments in appendix 1 are considered during the revision of the 2010 FTP Code.

### **Action requested of the Sub-Committee**

10 The Committee is invited to consider the information provided in this document, and particularly the proposal contained in paragraph 9 and take action, as appropriate.

## Appendix 1

<b>Annex 1: Part 3 Appendix 1 cl. 8.4.5</b>	<b>Deformation</b>
<b>Suggestion to revision:</b>	
<p><b>8.4.5 Deformation</b></p> <p>The deflection of an "A", "B" or "F" class test specimen, and additionally in the case of a door the maximum displacement of each corner of the door leaf relative to the door frame, shall be recorded during the test. These deflections and displacements shall be measured with an accuracy of <math>\pm 2</math> mm.</p>	

<b>Annex 1: Part 3 Appendix 1 cl. 1.15</b>	<b>General</b>
<b>Suggestion to revision:</b>	
<p><b>1.15</b> Generic guidelines for the identification of worst-case scenarios cannot be provided. In cases where a manufacturer make claim to a worst-case scenario for a group of products, it is incumbent upon the manufacturer to provide documentation, in part from recognized testing body, for the worst-case scenario to be approved by the Administration. Such approved worst-case scenario claims may then be used to reduce the scope of testing.</p> <p><del>1.15</del> Constructions shall be tested without paint or other superimposed finish, provided that where they are only produced with a superimposed finish, and subject to the agreement of the Administration, they may be tested as produced. Such constructions may be required to be tested with a superimposed finish if such a finish is considered by the Administration to have a detrimental effect on the performance of the construction in the test.</p>	

<b>Annex 1: Part 3, Appendix 1 cl. 1.16</b>	<b>General</b>
<b>Suggestion to revision:</b>	
<p>1.16 "B" class constructions shall be tested without finishes. For constructions where this is not possible, the finishes may be included in the "B" class test specimen, and shall be included in the non-combustibility test of the construction. the required tests of the construction shall be conducted in accordance with the required approval test methods and interpretations summarized in Annex 3 and Annex 4.</p>	

<b>Annex 1: Part 3 Appendix 2 A.III and A. IV</b>	<b>Pipe and duct penetrations Cable transits</b>
<b>Suggestion to revision:</b>	
<p>We propose that the IMO consider revising Appendix 2 A.III and A.IV to harmonize in respect to multipurpose penetrations/transits which accommodate both pipes and cables, as well as to standardize the placement of thermocouples as described in Appendix 2 clause 3.</p>	

<b>Annex 1: Part 3 Appendix 1/2</b>	<b>A-Class Horizontal hatch</b>
<b>Suggestion to revision:</b>	
<b>Appendix 1:</b>	

### 3.1 Insulation

#### 3.1.1 "A" class divisions, including "A" class doors and "A" class hatches

### 3.2 Integrity

For all "A", "B" and "F" class divisions, including "A" class hatches and "A", "B" and "F" class doors, the following requirements shall be satisfied for the minimum test duration relevant to the classification (see paragraph 8.5 of appendix 1):

- .1 flaming: there shall be no flaming on the unexposed face;
- .2 cotton-wool pad: there shall be no ignition, i.e. flaming or glowing, of the cotton-wool pad when applied in accordance with paragraph 8.4.3 of appendix 1 or when used to assist evaluation of flaming (see paragraph 8.4.2 of appendix 1); and
- .3 gap gauges: it shall not be possible to enter the gap gauges into any opening in the specimen in the manner described in paragraph 8.4.4 of appendix 1.

"A", "B" and "F" class doors and hatches are not required to be able to be opened or closed, during or after the specified test duration.

### Appendix 2:

#### A.V "A" class horizontal hatches

The approach adopted for testing horizontal "A" class hatches shall generally follow the requirements for testing "A" class doors where relevant and appropriate.

<b>Annex 1: Part 3 Appendix 1 cl. 7.5.4.2 &amp; 7.5.4.3</b>	<b>Fixing of thermocouples – Mineral wool</b>
<b>Suggestion to revision:</b>	
<p>7.5.4.2 Mineral wool - The thermocouples with insulating pads fitted shall be arranged in such a way that if a surface wire mesh is present it may aid retention, and in all class "A-60" cases the bond to the fibrous surface shall be made using a "contact adhesive". The nature of the adhesive necessitates a drying time before mating surfaces are put together, thus obviating the need for external pressure.</p> <p>7.5.4.3 In all class "A-30" or "A-15" bulkheads with insulation as the unexposed face, or <del>W</del>where gluing is not possible or appropriate, decided by the testing institute, pins, screws or clips which are only in contact with those parts of the pad which are not over the (copper) disc shall be used. (Example: Low density insulation resulting in low contact bonding properties due to potential detachment, the use of U-shaped clips approximately 30 x 15 x 30 x 0.5 mm, which are in contact only with the extreme corners of the pad should be used. Heat transfer to the copper disc is negligible.)</p>	

<b>Annex 1: Part 3 cl. 7.6.1.x</b>	<b>Placement of thermocouples – Mineral wool pins</b>
<b>Suggestion to revision:</b>	
<p><b>7.6 Positioning of thermocouples on the specim</b></p> <p><b>7.6.1 "A" class divisions, excluding doors</b></p> <p>The surface temperatures on the unexposed face of the test specimen shall be measured by thermocouples located as shown in figures 7 and 8:</p> <ul style="list-style-type: none"> <li>• .1 five thermocouples, one at the centre of the test specimen and one at the centre of each of the four quarters, all positioned at least 100 mm away from the nearest part of any joints and/or at least 100 mm away from the welds to any stiffeners;</li> <li>• .2 two thermocouples, one placed over each of the central stiffeners and for a bulkhead at 0.75 height of the specimen and for a deck at mid-length of the deck;</li> <li>• .3 two thermocouples, each placed over a vertical (longitudinal) joint, if any, in the insulation system and positioned for a bulkhead at 0.75 height of the specimen and for a deck at mid-length of the deck;</li> <li>• .4 when a construction has two differently orientated joint details, for example normal to each other, then two thermocouples additional to those already described in paragraph 7.6.1.3 above shall be used, one on each of two intersections;</li> <li>• .5 when a construction has two different types of joint detail, then two thermocouples shall be used for each type of joint;</li> <li>• .6 additional thermocouples, at the discretion of the testing laboratory or Administration, may be fixed over special features or specific construction details if it is considered that temperatures higher than those measured by the thermocouples listed above may result.; and</li> <li>• .7 Additional thermocouples, at the discretion of the Administration, may be fixed on pins, if it is considered that temperatures higher than those measured by the thermocouples listed above may result; and</li> <li>• .87 the thermocouples specified in subparagraphs .4 to .76 above for measurements on bulkheads, e.g., over different joint types or over joint intersections, shall, where possible, be positioned in the upper half of the specimen.</li> </ul>	

<b>FTP Code Part 1-11</b>	<b>Header editorial</b>
<b>Suggestion to revision:</b>	
<p>Header shows: Annex 1: Part X.</p> <p>Suggestion for revision is to additionally show appendix in the header.</p> <p>Header should preferably show: Annex 1: Part X, Appendix Y.</p>	



## Reaction to fire

<b>Annex 2:</b>	<b>'Products which may be installed without testing'</b>
<b>Suggestion to revision:</b>	
<p><i>Cl. 6 on page 12 refers to Annex 2: Products which may be installed without testing. Annex 2 should be divided and distributed to each of the parts 1-11 of the FTP Code. See the following:</i></p>	
<p><b>Part 1: Annex 1, Appendix 2 "Products that may be installed without testing and/or approval"</b></p>	
<p>2.1 In general, products made only of glass, concrete, ceramic products, natural stone, masonry units, common metals and metal alloys are considered as being non-combustible and they may be installed without testing and approval.</p>	
<p><b>Part 2: Annex 1, Appendix 3 "Products that may be installed without testing and/or approval"</b></p>	
<p>3.1 In general, non-combustible materials are considered to comply with the requirements of part 2 of annex 1 without further testing.</p>	
<p>3.2 In general, surface materials and primary deck coverings with both the total heat release (<math>Q_t</math>) of not more than 0.2 MJ and the peak heat release rate (<math>Q_p</math>) of not more than 1 kW (both values determined in accordance with part 5 of annex 1) are considered to comply with the requirements of part 2 of annex 1 without further testing.</p>	
<p>3.3 Materials meeting the provisions in paragraph 2.2 above are exempted from testing in accordance to standard ISO 1716. They will be expected to satisfy a requirement of maximum gross calorific value (e.g., 45 MJ/m<sup>2</sup>) without further testing.</p>	
<p>3.4 For high-speed craft, fire-restricting materials are considered to comply with the requirements of part 2 of annex 1 without further testing.</p>	
<p><b>Part 3: Annex 1, Appendix 5 "Products that may be installed without testing and/or approval"</b></p>	
<p>5.1 The following products may be installed without testing or approval:</p>	
<b>Classification</b>	<b>Product description</b>
Class "A-0" bulkhead	A steel bulkhead with dimensions not less than the minimum dimensions given below:
	thickness of plating: 4 mm
	stiffeners 60 mm x 60 mm x 5 mm spaced at 600 mm or structural equivalent
Class "A-0" deck	A steel deck with dimensions not less than the minimum dimensions given below:
	thickness of plating: 4 mm
	stiffeners 95 mm x 65 mm x 7 mm spaced at 600 mm or structural equivalent.
<p>5.2 Notwithstanding the provisions in paragraph 3.1 above, the materials which are used in "A", "B" and "F" class divisions and which are required to have certain other specified characteristics (e.g., non-combustibility, low flame-spread characteristics, etc.) shall comply with the appropriate parts of annex 1 to this Code.</p>	
<p><b>Part 4: Annex 1, Appendix 2 "Products that may be installed without testing and/or approval"</b></p>	
<p>No entries.</p>	
<p><b>Part 5: Annex 1, Appendix 5 "Products that may be installed without testing and/or approval"</b></p>	

**approval”**

5.1 Non-combustible materials are considered to comply with the requirements of part 5 of annex 1. However, due consideration shall be given to the method of application and fixing (e.g., glue).

5.2 Primary deck coverings classified as not readily ignitable in accordance with part 5 of annex 1 are considered to comply with the requirements for floor coverings.

5.3 For high-speed craft, surfaces and materials that are qualified as fire-restricting materials are considered to comply with the requirements of part 5 of annex 1 without further testing.

**Part 7: Annex 1, Appendix 4 “Products that may be installed without testing and/or approval”**

No entries.

**Part 8: Annex 1, Appendix 4 “Products that may be installed without testing and/or approval”**

No entries.

**Part 9: Annex 1, Appendix 2 “Products that may be installed without testing and/or approval”**

No entries.

**Part 10: Annex 1, Appendix 3 “Products that may be installed without testing and/or approval”**

No entries.

**Part 11: Annex 1, Appendix 2 “Products that may be installed without testing and/or approval”**

No entries.

<b>Annex 3:</b>	<b>Fire protection materials and required approval test methods</b>
<b>Suggestion to revision:</b>	
<p>4.1.1 Annex 1 of this Code presents the required test procedures which shall be used in testing products as a basis for approval (including renewal of approval), except as provided in paragraph 8.</p> <p>4.1.3 Annex 3 of this Code presents the fire protection materials and required approval test methods.</p> <p>4.1.4 Annex 4 of this Code presents an interpretation of SOLAS, chapter II-2, regulations 5.3 and 6.2 (MSC/Circ.1120).</p>	

<b>Annex 1: Part 2 cl. 9.2</b>	<b>Clear beam correction factor</b>
<b>Suggestion to revision:</b>	
<p><b>9.2 Clear-beam correction factor <math>D_c</math></b></p> <p>For each specimen, record the value of the "clear beam" reading <math>T_c</math> (see paragraph 8.7.4) to determine the correction factor <math>D_c</math>. Calculate <math>D_c</math> as for <math>D_s</math> max in paragraph 9.1.1. Do not record the correction factor <math>D_c</math> if it is less than 5% of <math>D_s</math> max.</p> <p>(For information purpose only).</p>	

<b>Annex 1: Part 5 cl. 1.3</b>	<b>Application</b>
<b>Suggestion to revision:</b>	
<p><b>1 APPLICATION</b></p> <p>1.1 Where a product is required to have a surface with low flame-spread characteristics, the product shall comply with this part.</p> <p>1.2 Where the primary deck coverings are required to be not readily ignitable, they shall comply with this part.</p> <p>1.3 Where a product of surface material is approved based on a test of a specimen applied on a non-combustible and non-metallic substrate, that product shall be approved for application to any non-combustible and non-metallic substrate with similar or higher density (similar density may be defined as a density equal to or greater than 0.75 times the density used during testing) or with a greater thickness if the density is more than 400 kg/m<sup>3</sup>.</p> <p>1.4 Where a product is approved on the basis of a test result obtained after application on a metallic substrate (e.g., thin film of paints or plastic films on steel plates), such a product shall be approved for application to any metallic base of similar or higher thickness (similar thickness is obtained as a thickness equal to or greater than 0.75 times the thickness of metallic substrate used during testing).</p>	

<b>Annex 1: Part 5 Appendix 4</b>	<b>Guidelines for the specimen of the FTP Code, part 2 and 5, and the type approval of those products (range of approval and restriction in use)</b>
<b>Suggestion to revision:</b>	
<p><b>1 SCOPE</b></p> <p>This appendix provides recommended guidelines for the selection and preparation of the specimen for surface materials for parts 2 and 5 of this Code, including the selection of substrates or backing materials. This appendix also provides the guidelines for the conditions of type approval for such surface materials.</p> <p><b>4 PREPARATION OF TEST SPECIMEN FOR PARTS 2 AND 5</b></p> <p>According to the relationships of the specimen substrate and the range of type approval of surface materials described in paragraph 3, the choice of specimen including substrate should be considered carefully. This section specifies how to make the test specimen for parts 2 and 5 of this Code.</p> <p><b>4.4 Specimen size</b></p> <p>4.4.1 For part 5: width 150 mm to 155 mm, length 795 mm to 800 mm (part 5, appendix 1, paragraph 7.2.1).</p> <p>4.4.2 For part 2: width <math>75 \pm 1</math> mm, length <math>75 \pm 1</math> mm (part 2, appendix 1, paragraph 4.2.1).</p> <p><b>4.5 Specimen thickness</b></p> <p>4.5.1 The specimens should be tested using their full thickness (part 5, appendix 1, paragraph 7.2.2).</p> <p>4.5.2 For part 5: maximum 50 mm (part 5, appendix 1, paragraph 7.2.2).</p> <p>4.5.3 For part 2: maximum 25 mm (part 2, appendix 1, paragraph 4.2.3).</p> <p>4.5.4 If the product thickness is greater than in paragraphs 4.5.2 and 4.5.3 above, the specimens should be obtained by cutting away the unexposed face to reduce to the above maximum thickness.</p>	

<b>Annex 1: Part 2 Appendix 3</b>	<b>Guidelines for the specimen of the FTP Code, part 2, and the type approval of those products (range of approval and restriction in use)</b>
<b>Suggestion to revision:</b>	
<p><b>1 SCOPE</b></p> <p>This appendix provides recommended guidelines for the selection and preparation of the specimen for surface materials for part 2 of this Code, including the selection of substrates or backing materials. This appendix also provides the guidelines for the conditions of type approval for such surface materials.</p> <p><b>2 BASIC PRINCIPLES FOR SELECTION OF THE TEST SPECIMEN</b></p> <p><b>2.1 Basic principle</b></p> <p>The test specimen to be used for the test shall be selected as representative of the characteristics of the product in actual operating conditions in ships. It means that the product which would be expected to have the worst result should be selected. Specimen selection should be concerned with thickness, colour, organic content, substrate of the product, and its combination of a product.</p> <p><b>2.2 Specimen dimensions</b></p> <p>The specimens shall be square, with sides measuring <math>75 \pm 1</math> mm. Materials and composites of normal thickness 25 mm or less should be tested using their full thickness, attaching</p>	

them, by means of an adhesive if appropriate, to the substrate. The total thickness including the material and substrate must not exceed 25 mm. For materials and composites of normal thickness greater than 25 mm, the required specimens should be obtained by cutting away the unexposed face to reduce the thickness to 25 mm or below (part 2, appendix 1, paragraph 4.2).

### 2.3 Substrate

Substrate of surface material and floor coverings: Materials and composites materials shall be tested using their full thickness, attaching them to the substrate to which they will be attached in practice when using an adhesive, if appropriate. The test specimen shall reflect actual application on ships.

### 2.4 Composites

Assembly should be as specified in paragraph 4.2 (Size of specimens) of appendix 1. However, where thin materials or composites are used in the fabrication of an assembly, the nature of any underlying construction may affect the ignitability of the exposed surface. The influence of the underlying layers should be recognized, and care taken to ensure that the test result obtained on any assembly is relevant to its use in practice.

### 2.5 Colour variation and organic contents of the specimen

Usually, the influence of the colour and organic content of the specimen have a significant effect on the result of a fire test. The organic content of the specimen is a key factor of the combustion characteristic of the product. The specimen should be selected to have the maximum organic content within the product variation. The colour of the specimen is also a key of it, because the dark colour of specimen that absorbs the radiant heat would extensively affect its flammability. Therefore, the test results of the dark colour specimen and the bright colour specimen would be different. In general, at least, the maximum organic content and the dark colour specimen within the product variation should be selected if the product has colour variation.

### 2.6 Exemption of the test in accordance with part 2

Surface materials and primary deck coverings with both the total heat release ( $Q_t$ ) of not more than 0.2 MJ and the peak heat release rate ( $Q_p$ ) of not more than 1.0 kW (both values determined in accordance with part 5 of annex 1) are considered to comply with the requirements of part 2 without further testing (see paragraph 2.2 of annex 2).

## 3 RANGE OF TYPE APPROVAL OF SURFACE MATERIALS

3.1 According to the basic principles for selection of the test specimen described in paragraph 2, the range of type approval would be considered according to its specimen selection including its substrate or backing material.

3.2 Table 1 shows the relationships of the specimen substrate and the range of type approval of surface materials.

**Table 1 - Specimen substrate and the type approval of surface materials (Range of approval and restriction in use)**

In the following table:

- First column: product to be tested.
- Second column: substrate.
- Third column: range of approval and restriction in use.

Products	Test substrate	Limitation of product application for ships
Paints and surface veneer	Steel (e.g., 1 mm)	1 Products can be applied to any metallic base of similar or thicker substrates (metallic bases such as Steel, Stainless steel or Aluminium alloy). 2 It is not approved to apply to non-metallic

		<p>non combustible materials.</p> <p>3 Limitation, as appropriate, to ensure that the product is covered by the test specimen (such as thickness, adhesive, organic content, density, range of colours).</p> <p>4 When the products would be applied to the floor covering or primary deck covering that have been approved, no limitation of the base materials would be required.</p>
	Standard calcium silicate board, described as a dummy specimen, specified in paragraph 3.5 of appendix 1	<p>1 Products can be applied to any non-combustible substrate.</p> <p>2 Limitation, as appropriate, to ensure that the product is covered by the test specimen (such as thickness, adhesive, organic content, density, range of colours).</p>
Surface veneer	No substrate used at the test (The product has enough thickness for testing without substrate)	<p>1 Products may be applied to any metallic base and non-combustible base, if the product would not need any adhesive or combustible material layer.</p> <p>2 Limitation, as appropriate, to ensure that the product is covered by the test specimen (such as thickness, density, material composition, adhesive and application rate, and range of colours).</p> <p>3 When the products are to be applied to bulkheads or ceilings by using adhesive, a combination test with adhesive should be required.</p>
	Thick steel (3 mm)	<p>1 Limitation by the specimen colour and organic contents that was tested.</p> <p>2 May be applied over any low flame-spread floor covering, steel, or non-combustible material.</p>
Floor covering and primary deck coverings	Combination test (combination of layers)	<p>1 Limitation, as appropriate, to ensure that the product is covered by the test specimen (such as thickness, density, material composition, adhesive and application rate, and range of colours).</p> <p>2 The approval of the products may only apply to this combination. (If the floor covering has a multilayer construction, the Administration may require the tests to be conducted for each layer or for combinations of some layers of the floor coverings.)</p>

## **4 PREPARATION OF TEST SPECIMEN FOR PARTS 2**

According to the relationships of the specimen substrate and the range of type approval of surface materials described in paragraph 3, the choice of specimen including substrate should be considered carefully. This section specifies how to make the test specimen for parts 2 of this Code.

### **4.1 Test specimen**

The test specimen shall be selected as representative of the product. It means that the product which would be expected to have the worst result should be selected.

### **4.2 Application in ships**

The specimen should be tested using the thickness specified in paragraph 2.2. The substrate should be selected taking into consideration the substrates to which they will be attached in ships.

### **4.3 Exposed surface at the test**

Each different exposed surface of the product should be tested (part 2, appendix 1, paragraph 4.1). This means each side of the product that may be exposed; it does not refer to colour.

### **4.4 Specimen size**

4.4.2 For part 2: width  $75 \pm 1$  mm, length  $75 \pm 1$  mm (part 2, appendix 1, paragraph 4.2.1).

### **4.5 Specimen thickness**

4.5.1 The specimens should be tested using their full thickness (part 2, appendix 1, paragraph 4.2.2-4.2.4).

4.5.3 For part 2: maximum 25 mm (part 2, appendix 1, paragraph 4.2.3), including substrate.

4.5.4 If the product thickness is greater than in paragraph 4.5.2 above, the specimens should be obtained by cutting away the unexposed face to reduce to the above maximum thickness.

### **4.6 Colour variation of the paints or surface materials**

If the product has some colour variation, the specimen should be carefully selected as representative of the product, in accordance with the following.

#### **4.6.1 Organic content**

Carefully select the product with the maximum organic content when applied by maximum thickness shown in paragraph 4.5 above, considered the maximum organic content of the product, when the product would be applied by this maximum thickness.

#### **4.6.2 Colour of the specimen**

Black or a dark colour should be selected.

#### **4.6.3 Order of priority regarding specimen colour and organic content**

When the product of the darkest colour is different from the product with the maximum organic content, the Administration or the testing laboratory may decide on the specimen. If the amount of organic content between a black or dark specimen and a white or brightly-coloured specimen are similar (difference is within 5%), the black or dark specimen should be chosen. Otherwise, the specimen with the maximum organic content should be selected.

#### **4.6.4 Information on colour variation and its organic content**

Applicants or manufacturers who request the type approval should submit information on the colour variation and its organic content to the Administration or testing laboratories. The Administration or testing laboratories may order/advise the applicant on the selection of the test specimens where necessary.



#### **4.6.5 Attention regarding the type approval issued**

When approving, if the specimen tested can be considered as a representative specimen (i.e. dark in colour with maximum organic content), all the colour variations of the product may also be approved. If the particular condition of the product was tested, type approval is only available to the same or a similar conditioned product as tested.

#### **4.7 Substrate**

The substrate of the specimen should be selected as they are attached in actual ships. The test with metallic substrate is thought to be different from the test with non-combustible substrate (see part 5, paragraph 1.3 and 1.4).

#### **4.8 Thickness of the substrate**

The minimum thickness of the substrate that would be used in actual application should be selected as the test specimen, because the product should be approved for application to a similar or higher thickness of the substrate that was tested provided that the substrate has a density of 400 kg/m<sup>3</sup> or greater (see part 5, paragraph 1.3 and 1.4).

#### **4.9 Substrate of floor coverings**

4.9.1 Primary deck coverings and floor coverings should be applied to a steel plate thickness of 3 ± 0.3 mm.

4.9.2 Primary deck coverings, classified as not readily ignitable in accordance with part 5 of annex 1, are considered to comply with the requirements for floor coverings (annex 2, paragraph 5.2).

#### **4.10 Composite materials (for bulkheads and ceilings)**

4.10.1 Assembly should be as specified in paragraph 4.2 of appendix 1 to part 2 (Size of specimens). The influence of the underlying layers should be recognized, and care taken to ensure that the test result obtained on any assembly is relevant to its use in practice.

<b>Annex 1: Part 2</b>	<b>Test specimen</b>
<b>Suggestion to revision:</b>	<b>In extension of previous revision</b>
<b>2.2 Test specimen</b> Preparation of test specimen shall be in accordance with the practice outlined in appendix 34 to part 25 of this Code. If the product has two faces and either face is likely to be exposed to a fire condition when in use, then both faces shall be evaluated.	



<b>Annex 1: Part 1</b>	<b>Ranges</b>
<b>Suggestion to revision:</b>	
<p>Annex 1: Part 1 Appendix 7.3.12 “Non-homogenous insulation products with superimposed finish”</p> <p>The range of approval for non-homogenous insulation products with a superimposed finish should be based on testing the highest density products in the thinnest configuration, representing the worst-case scenario, while also requiring testing of the lowest density product in the thickest configuration to provide a complete performance assessment.</p> <p>Annex 1: Part 1 Appendix 7.3.13 “Non-homogenous products”</p> <p>Generic guidelines for the identification of worst-case scenarios cannot be provided. In cases where a manufacturer make claim to a worst-case scenario for a group of products, it is incumbent upon the manufacturer to provide documentation, in part from recognized testing body, for the worst-case scenario to be approved by the Administration. Such approved worst-case scenario claims may then be used to reduce the scope of testing.</p>	