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To relevant departments of CCS Headquarters, Shanghai Rules and Research Institute, plan approval centers, branches/offices, related shipyards, product manufacturers, testing organizations, design units, ship management companies and shipowners

Notice on Implementation of MSC.307(88) Relating to the International Code for Application of Fire Test Procedures, 2010

1. Background

The Maritime Safety Committee of the International Maritime Organization, at its eighty-eighth session on 3 December 2010, adopted resolution No.307 relating to 2010 FTP Code, which will be effective on 1 July 2012.

Relevant amendments, interpretations adopted by IMO and application experience of the states were included in 2010 FTP Code on the basis of 1996 FTP Code. Resolution MSC.307(88) supersedes the existing resolution MSC.61(67).

This Circular covers the contents and instructions on implementation of the annex to resolution MSC.307(88), which will be effective on 1 January 2012.

For the text and Chinese translation of resolution MSC.307(88), see separate edition of International Code for Application of Fire Test Procedures, 2010 (2010 FTP Code) published by CCS for details.

2. Technical key points

2.1 New 2010 FTP Code covers:

.1 Text, including application, test (including test procedures, laboratories, test reports, etc.), approval, products which may be installed without testing and/or approval, use of equivalents and modern technology and period of grace for type approvals issued in accordance with the previous FTP Code.

.2 Four annexes

- (1) Annex 1 is the fire test procedures covering Part 1 to Part 11, including non-combustibility test, smoke and toxicity test, test for “A”, “B” and “F” class divisions, test for fire door control systems, test for surface flammability (test for surface materials and primary deck coverings), test for vertically supported

textiles and films, test for upholstered furniture, test for bedding components, test for fire-restricting materials for high-speed craft and test for fire-resisting divisions of high-speed craft.

- (2) Annex 2 covers products which may be installed without testing and/or approval.
- (3) Annex 3 covers fire protection materials and required approval test methods.
- (4) Annex 4 covers interpretation of SOLAS chapter II-2, regulations 5.3 and 6.2 (MSC/Circ.1120).

2.2 Major revisions of 2010 FTP Code

Compared with 1996 FTP Code, major revisions and new additions of 2010 FTP Code are as follows

.1 Text

- (1) The use of standard ISO/IEC 17025 is added, requiring that the testing laboratory use a quality control system audited in accordance with standard ISO/IEC 17025 and the test reports issued be in accordance with standard ISO/IEC 17025.
- (2) The validity of the test report for the first request of type approval certificate and renewal of the certificate is added. Test reports no more than 5 years are to be submitted for the first request of type approval certificate. The Administration may accept the test reports no more than 15 years without retesting provided that no alteration of components or construction has been made to the product.
- (3) The requirement that the necessary product information be included in the type approval certificate is added. The information includes: the organic content of non-combustible materials, colour, organic contents and thickness of surface materials, substrate applied for the surface flammability test, type approval certificates for “A”, “B” and “F” class divisions are to state the thickness and density of the insulation materials, how to fix the materials to the division, and how to insulate to the stiffener, which side of the window was exposed to the heating condition and optional tests.
- (4) The transitional period for the new version of Code is one year. During the transitional, the testing laboratories may be tested in accordance with the previous version of the Code. While after the transitional period, the testing laboratories are to be tested in accordance with the new version of the Code.

.2 Part 1 of Annex 1

- (1) ISO 1182 is included as the appendix of Part 1.
- (2) The test exposure of non-combustibility is amended as not to exceed 30 min duration.
- (3) Methods for determining and calculating the moisture content and organic content of test specimen are added.
- (4) For non-homogeneous materials, basic principles for preparation of the test specimen, necessary number of tests, conditions of the tests and method for judging the test results are clarified.
- (5) Thermocouple is not required to be provided in the centre of the specimen.

.3 Part 2 of Annex 1

- (1) The requirements of ISO5659-2 and ISO21489 are included as Appendix 1 and Appendix 2 respectively.

- (2) Specifications for optional method for toxic gas measurement are deleted and clarifies that the method for toxic gas measurement is FTIR.
- (3) Number of toxicity tests is amended as twice per test condition other than once per test condition. The average value of the test is not to exceed the performance criteria.
- (4) Clarifies the number of test specimens for the smoke density test, considering that materials of which two faces are likely to be the exposed face, materials with large dispersion or intumescent materials.
- (5) The specifications which were vague for the test duration are deleted and it is clarified that the test duration of subsequent smoke density test is to be determined according to the duration of the first test.

.4 Part 3 of Annex 1

- (1) Requirements of A.754(18) are included as Appendixes 1 and 2 of Part 3.
- (2) Definitions for “B-30” and “F-30” class divisions are deleted.
- (3) Combustible materials which may be used in “A” and “B” class divisions are summarized, including: adhesives, vapour barriers, sealing materials used in penetration systems, seals for fire doors, seals for windows, filling material within glazing systems, etc. However, adhesives and vapour barriers are to have low flame-spread characteristics.
- (4) Application of the ignition test of cotton wool pad is amended.
- (5) Test for aluminium deck and approval conditions are added.
- (6) Specifications for double leaf fire doors and approval are clarified.
- (7) The nominal equilibrium moisture content, nominal organic content, specific heat at ambient temperature and thermal conductivity at ambient temperature of the materials are to be submitted by the applicant.
- (8) Type approval certificates for non-combustible materials and materials have low flame-spread characteristics could supersede the test reports.
- (9) The environmental conditions for the preconditioning of specimens are amended and the requirements for humidity of 50% and a temperature of 23°C are deleted. The specimen could be conditioned in the laboratory at nominal ambient temperature. Requirements for verification that the test specimen reaches the equilibrium condition are also added.
- (10) Temperature in the test furnace is to be measured with plate thermocouple other than sheathed thermocouple.
- (11) Requirements for the ambient temperature in the laboratories are relaxed.
- (12) Requirements for the set length of fire dampers fixed to the unexposed face, the arrangement and number of thermocouples are amended. Specifications for the position of fuse and the closing time for the fire damper are added.
- (13) Specification is added that “A-60” class and “A-0” class pipe penetrations may not approve with each other and these two penetrations are to be tested and approved respectively. Specifications for relation between the arrangement of penetrations and approval for general application are added. Duct penetrations are to meet both integrity and insulation criteria.
- (14) Specification is added that “A-60” class and “A-0” class cable transits may not approve with each other and these two penetrations are to be tested and approved

respectively. Specifications for relation between the arrangement of cable transits and approval for general application are added. For the three situations where it is difficult to fix thermocouples for the cable transits, solutions are clarified. Cable transits are to meet both integrity and insulation criteria.

.5 Part 4 of Annex 1

Requirements are added that prior to the test, the fire door is to be at open position. At the start of the test, the fire door control system is to show its capability to close the door.

.6 Part 5 of Annex 1

- (1) Requirements of A.653(16) are included as Appendixes 1 and 2. The existing Appendix 1 is renumbered as Appendix 3.
- (2) Guidelines for the selection and preparation of the test specimen is added as appendix 4. the guidelines applies to part 2 and part 5.
- (3) Calculation method for heat for sustained burning is amended. Where the flame front reaches beyond 25 mm of the last station, the last station may be included in the calculation of heat for sustained burning. Where the flame front does not reach the 175 mm position, the heat of sustained burning is not defined. If the heat of sustained burning is not defined for all specimens, the criterion is deemed to have been met.
- (4) Ignition gas used is changed from acetylene to propane and the test condition is amended as impingement other than non-impingement.
- (5) Specifications are clarified on the substrates of surface material, floor coverings, primay deck covering and vapour barrier.

.7 Part 6 of Annex 1

Blank, no detailed information. Specifications on the test for primary deck coverings of the Part 6 of the previous version of the Code is incorporated into Part 5- Test for surface flammability of new version of the Code since the two tests are identical in the test principle, method and test equipment.

.8 Part 7 of Annex 1

- (1) Resolutions A.471(X II) and A.563 (14) are included as Appendixes 1, 2 and 3.
- (2) The outdated specifications on detergent are deleted. Specification is added that a fabric may be washed in accordance with the instructions or recommended method given by the manufacturer.

.9 Part 8 of Annex 1

- (1) Resolution A.652 (16) is included as Appendixes 1 and 2 of Part 8.
- (2) Guide for independent test for cover and filling materials is added as Appendix 3. The two materials may be tested jointly, however, the approval may only be given to the combination of the materials tested. Where the separate test is successful, the materials may be combined freely.
- (3) The flame ignition source is changed from butane to propane.

.10 Part 9 of Annex 1

- (1) Resolution A.688(17) is included as the Appendix of Part 9.
- (2) Re-specify the specifications and performance of cigarettes used as standard materials in the test.
- (3) The gas source of the burner is specified as propane uniformly.

- (4) A method for cleaning treatment for bedding components prior to the test is added.
- .11 Part 10 of Annex 1
 - ISO9750 and ISO5660-1 are included as Appendixes 1 and 2 of Part 10.
- .12 Part 11 of Annex 1
 - (1) Resolution MSC.45(65) is included as the Appendix of Part 11.
 - (2) Specifications are clarified on the loading equipment, conditions of loading and load distribution during the fire test.
- .13 Annex 3
 - Tables are added for the fire protection materials and required approval test methods for passenger ships carrying more than 36 passengers and cargo ships constructed with method IC.
- .14 Annex 4
 - Tables are added for the test methods of the fire test applicable to materials used in accommodation spaces of passenger ships carrying more than 36 passengers and cargo ships constructed with method IC.

3 Survey requirements

3.1 Survey requirements for products

- .1 The date of entry into force of 2010 FTP Code is 1 July 2012, however, transitional period of one year is given to testing organizations. Where the conditions of test required by 2010 FTP Code are not met for the test equipment of testing organizations after 1 July 2012, the 1996 FTP Code may also be applied during the type approval and certification of fire-resistant construction and materials before 1 July 2013.
- .2 Where the conditions of test required by 2010 FTP Code are met for the test equipment of testing organizations after 1 July 2012, the type approval and certification of fire-resistant construction and materials are to be carried out according to the 2010 FTP Code adopted by resolution MSC.307(88) on or after 1 July 2012.
- .3 Paragraphs 5.2.1, 5.2.2 and 5.2.3 of 2010 FTP Code specify that the certificates are to be issued on the basis of test reports no more 5 years old and the certificates are to be valid for 5 years in general. However, the Administration may renew the certificate without the retesting provided that no alteration of components or construction has been made to the product within 15 years, and that the manufacturers have a quality control system to control the quality of the product. That is, the validity of the certificates and test reports is not to exceed 15 years under certain conditions.
- .4 Where the expiry date of the certificates issued in accordance with 1966 FTP Code is later than the date of entry into force of 2010 FTP Code, retesting or renewal of the certificate is to be carried out according to the following requirements provided the conditions specified in .3 above are met.
 - (1) Where the existing certificate of the product is not extended to 15 years (e.g. 5 years or extended to 10 years), renewal of the certificate may be carried out according to .3 above.
 - (2) Where the existing certificate of the product has already been extended to 15 years, the product is to be retest according to 2010 FTP Code.

3.2 Requirements for construction survey

Attention is to be paid during plan approval and construction survey since 1 July 2012 that the certificates of the fire-resistant construction and materials installed onboard the ships may be issued in accordance with 1996 FTP Code or 2010 FTP Code adopted by resolution MSC.307(88), provided the product certificate is within the period of validity. Therefore, the surveyors are to check the validity of the certificates of products installed onboard the ship with special emphasis.

Please feel free to contact Technical Management Department of the Headquarters for any inquiry in the implementation by e-mail to: rt@ccs.org.cn. The Circular is made public on CCS website (www.ccs.org.cn), and be transmitted to the relevant shipyards, shipowners, testing organizations, design units and product manufacturers by the branches within their responsible area.