



Bedding Components

IMO FTP Code Annex 1, Part 9 - Test for bedding components

This information sheet describes the general principles of the fire test to determine the ignitability of bedding components.

General

The test procedure provides a simple exposure of the product to a typical potential fire situation. That situation is represented in the test by a smouldering cigarette and a flame, which is equivalent to a match.

The method is described in full in IMO Resolution A.688 (17).

Before the test

Although general rules have been adopted by IMO, interpretation of those rules may differ between national authorities and classification societies. Therefore it is important both to determine which type approvals are to be obtained and to consult the relevant bodies. DBI has wide experience in co-operating with national authorities and classification societies and offers guidance about the steps, which must be taken to ensure that the process of testing will meet all the requirements.

Information Sheets: 'SHIP WHEEL-MARKING AND TYPE APPROVAL OF MARINE PRODUCTS' and 'TESTING AND INSPECTION FOR USGC'.

Test procedure

Testing with a smouldering ignition source

The test is performed with the specimen placed in a horizontal position on a test rig. Determination of ignitability is carried out using both smouldering and flaming ignition sources.

During the test with a smouldering cigarette, the cigarette is covered with a cotton wool pad, to simulate smouldering materials in a bed. The progress of combustion is observed and any evidence of progressive smouldering ignition or of flaming ignition of the specimen will be recorded. Three tests are performed.

Testing with a flame as the ignition source

A small flame is used as a flaming ignition source. The burner is placed horizontally on the specimen, which is exposed to the flame for 20 seconds. The progress of combustion is observed and any evidence of progressive smouldering ignition or of flaming ignition of the specimen will be recorded. Three tests are performed.

Specimens

Mattresses: Four specimens with dimensions 450 x 350 mm in their normal full thickness. The cover should envelop the mattress completely, without wrinkles.

For testing mattresses with removable covers, eight specimens (four with the mattress cover and four without) with dimensions 450 x 350 mm in their normal full thickness.

Pillows: Four full-size samples.

Other than mattresses and pillows: Four specimens, each of size 450 x 350 mm.

Criteria to determine ignitability

Progressive smouldering ignition

For the purpose of this test method, all the types of behaviour described below in .1 to .5 are considered to be progressive smouldering ignition:

1. any test specimen that produces externally detectable amount of smoke, heat or glowing after a period of 1 hour following the application of the ignition source;
2. any test specimen that displays escalating combustion behaviour so that it is unsafe to continue the test and requires forcible extinction;
3. any test specimen that smoulders until it is essentially consumed within the duration of the test;
4. any test specimen that smoulders to the extremities of the specimen, viz. to either side or to full thickness of the specimen, within the duration of the test. However, all materials having a thickness of 25 mm or less, such as light mattresses, quilts and blankets are allowed to smoulder to the full thickness of the specimen;
5. any test specimen that, on final examination, shows evidence of smouldering (other than discoloration) more than 25 mm in any horizontal direction from the nearest part of the original position of the edge of cotton wool pad and open flame ignition source.

Flaming ignition

Mattresses

For the purpose of this test method, all the types of behaviour described below in .1 to .5 are considered to be flaming ignition:

1. the occurrence of any flames initiated by a smouldering ignition source;
2. any test specimen that continues to flame for more than 150 seconds after removal of the igniting flame;
3. any test specimen that displays escalating combustion behaviour, so that it is unsafe to continue the test and requires forcible extinction;
4. any test specimen that burns until more than 66 % consumed within 150 seconds after removal of the igniting flame;
5. any test specimen that burns to the extremities of the specimen, viz. to either side or to the full thickness of the specimen, within the duration of the test.

Blankets:, quilts:, pillows and thin light mattresses

For the purpose of this test method, all the types of behaviour described below in .1 to .5 are considered to be flaming ignition;

1. the occurrence of any flames which are initiated by a smouldering ignition source;
2. any test specimen that continues to flame for more than 150 seconds after removal of the igniting flame;
3. any test specimen that displays escalating combustion behaviour, so that it is unsafe to continue the test and requires forcible extinction;
4. any test specimen that burns until more than 66 % consumed within 150 seconds after removal of the igniting flame;

5. any test specimen that burns to either side of the specimen within the duration of the test.

Classification

The bedding component is classified as not readily ignitable if it shows no progressive smouldering ignition or flaming ignition, as specified above.

Test report

The test report will be written in English. It will contain all necessary information about the test specimen, test results and classification.

For further information you are welcome to contact



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