

Fire test procedures for heat release, smoke production and mass loss rate for materials

International Maritime Organization (IMO) 2010 FTP Code Part 10, Appendix 2

Materials used for furniture and other components on board of high speed vessels shall be fire-restricting material. The test procedure and the classification of the tested material is conducted according to the „International Code for Application of Fire Test Procedures (FTPC)“:

- IMO 2010 FTP Code Part 10, Appendix 2
IMO-Resolution MSC.307(88)

Test procedure

The specimens are exposed to controlled levels of irradiance in horizontal orientation. The heat release rate is determined by measurement of the oxygen consumption. In addition the time to ignition and the smoke production rate are recorded.

Classification

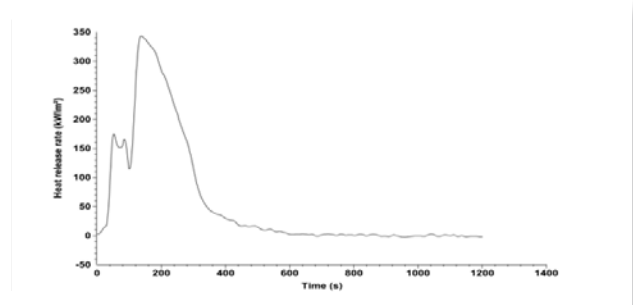
Materials used for furniture and other components are qualified as „fire-restricting material“ if the following four criteria are fulfilled:

- The time to ignition (TIG) is greater than 20 seconds,
- The maximum 30-second sliding average heat release rate (HRR_{30,max}) does not exceed 60 kW/m²,
- The total heat release (THR) does not exceed 20 MJ/m² and
- The time average smoke production rate (SPR_{avg}) does not exceed 0.005 m²/s.

Execution of a fire test



Chart of the determined heat release rate



Sampling

Specimens must be representative for the product to be tested. For this reason sample material is taken from current manufacturing or from stock.

The sampling must be recorded in a sampling protocol to ensure the traceability of the sample material. The protocol must give information on name and function of sampler (QM), date, place and type of sampling etc.

Alternatively the sampling can be conducted by an expert of the Test Laboratory for Fire Protection of DMT GmbH & Co. KG.

Specimens

The specimens have to fulfill the requirements by the IMO 2010 FTP Code Part 10, Appendix 2. Suitable specimens shall have an essentially flat exposed surface. When an exposed surface does not meet these requirements, the product shall be tested in a modified form complying as nearly as possible with the requirements given by the IMO 2010 FTP Code Part 10, Appendix 2. Please feel free to contact us - we are very pleased to support you to choose the right form of your specimens.

For fire tests according to IMO 2010 FTP Code Part 10, Appendix 2, specimens with the following dimensions are required:

- 3 x specimens of 100 mm x 100 mm at nominal thickness, for each exposed surface

Required documents

The following documentation is required prior to the commencement of testing:

- Written order including invoice address
- Specimens
- Technical specifications data sheet (incl. bulk density, mass per unit area, material thickness, manufacturer, trade name etc.)
- Material safety data sheet
- Detailed description of product and composition of material
- Sampling protocol (except for exploratory testing) and coating protocol
- Delivery note incl. specification of type of testing and exact denotation of sample

Do you require further information?

Our team is eager to offer you advice and support. Contact us!

DMT GmbH & Co. KG

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