

Fire test procedure for vertical and horizontal divisions according to IMO-Regulations

International Maritime Organization (IMO) 2010 FTP Code Part 3

On board of ships horizontal and vertical divisions like ceilings, walls, windows and doors must be fire-resisting.

The fire tests on divisions of types A, B and F are conducted according to the „International Code for Application of Fire Test Procedures (FTPC)“:

- IMO 2010 FTP Code Part 3, IMO-Resolution MSC.307(88)

Testing procedure

For the fire resistance test the standard time-temperature curve according to ISO 834-1 is reproduced within a special furnace.

The testing duration is generally between 30 and 60 minutes.

The divisions must withstand the fire without any flaming on the unexposed surface. Further the temperature rise on unexposed surface of ceilings, walls, floors and doors must not exceed 140°C up to 225°C depending on classification criterion.

During the „cotton-wool pad test“ the integrity of a construction (e.g. fire damper) is given if there is no ignition, i.e. flaming or glowing, of the cotton-wool pad.

Classification

This test serves to assess whether the tested divisions meet the specified criteria within the test duration.

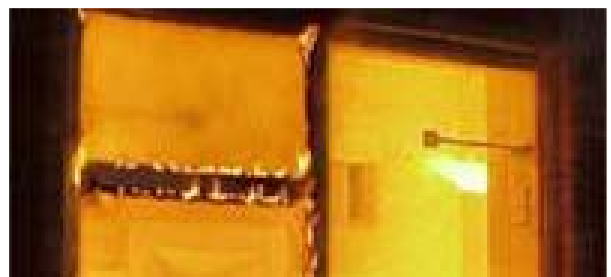
Horizontal furnace – exterior view



Vertical furnace 4 x 4 m – Downsizing to 2.44 x 2.5 m (W x H)



Fire test at the vertical furnace



The criteria to be satisfied are:

**“A” class divisions
(test duration 60 minutes)**

Class	Average temperature rise $\leq 140^{\circ}\text{C}$ for	Max. temperature rise $\leq 180^{\circ}\text{C}$ for	Integrity kept for
A-60	60 minutes	60 minutes	60 minutes
A-30	30 minutes	30 minutes	60 minutes
A-0	Not applicable	Not applicable	60 minutes

**“B” and “F” class divisions
(test duration 30 minutes)**

Classes	Average temperature rise $\leq 140^{\circ}\text{C}$ for	Max. temperature rise $\leq 225^{\circ}\text{C}$ for	Integrity kept for
B-30	30 minutes	30 minutes	30 minutes
B-15	15 minutes	15 minutes	30 minutes
B-0	Not applicable	Not applicable	30 minutes
F-30	30 minutes	30 minutes	30 minutes
F-15	15 minutes	15 minutes	30 minutes
F-0	Not applicable	Not applicable	30 minutes

Specimens

Only set-ups which correspond in construction, materials and manner of assembling with the final use on board are eligible as specimen.

For special constructions it can be mandatory that a testing engineer of DMT is attending the erecting phase.

Further the following should be noticed:

- Production of sample construction without coating compounds.
- All materials have to be delivered latest 3 days prior to the testing (free delivery).
- The mounting of the specimen within testing frame is conducted by the sponsor or by a qualified company by order of the sponsor.
- The adjoining bulkhead is supplied and installed by the sponsor.
- Removal and disposal of the specimen can be carried out by DMT.
- Representatives of the classification societies have to be invited by the client in due time.

Required documents

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

- Written order including invoice address
- Testing reports and EC-type examination certificates of materials used
- Detailed design drawings of the specimen (elevations, sections, details) in .dwg and .pdf format, latest 2 weeks prior to the fire test
- Detailed description of the specimen in .doc format or similar

Do you require further information?

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

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