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FIRE REGULATION IN SHIPS

WORLD OVERVIEW

IMO methods (based on SOLAS agreement) concerning the reaction to fire properties of surface lining materials consist of 11 test methods (see table below).

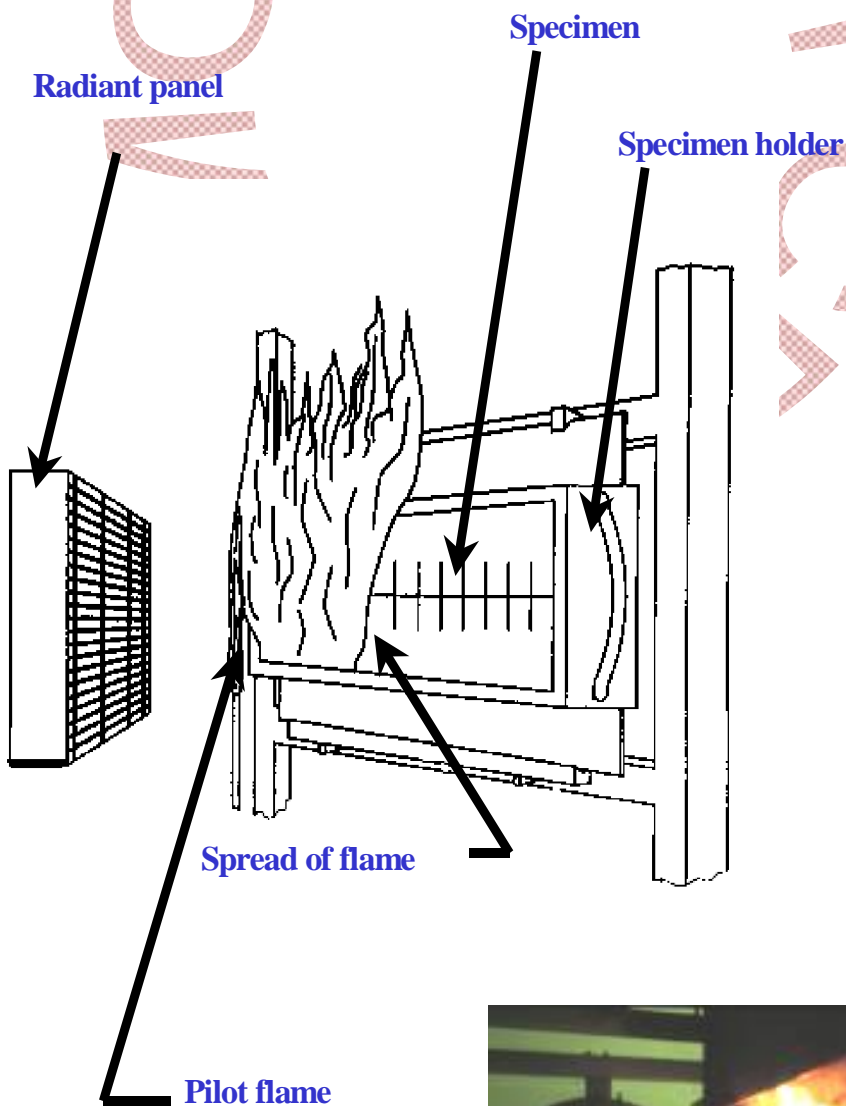


Table 1: International code for application of fire test procedures according to Resolution MSC 307(88)

Parts	Test description	Test
1	Non-combustibility test	ISO 1182
2	Smoke and toxicity	ISO 5659-2 / ISO 19702
3	A,B and F class divisions	ISO 834-1
4	Fire door control systems	ISO 834-1
5	Surface flammability	ISO 5658-2
6		
7	Vertically supported textiles	
8	Upholstered furniture	
9	Bedding components	
10	Fire restricting materials for high speed craft	ISO 5660
11	Fire resisting divisions for high speed craft	

For part 5, this standard specifies a procedure for qualifying smoke generation and toxic potency of **materials used on board ships**. Smoke generation tests should be conducted, in general, in accordance with the ISO 5659-2. When making toxicity measurements, the sampling fumes should be made during the testing of the second or the third specimen at each test condition, from the geometrical centre of the chamber within 3 min of the time when the maximum optical density of smoke is reached. The concentration of each toxic gas is determined as ppm in the chamber volume. The following gases are measured: CO, CO₂, HCl, HBr, HF, HCN, NO_x, SO₂, acrolein and formaldehyde and shall no exceed the specified limits (see table below).

Figure 1: ISO 5658 radiant panel

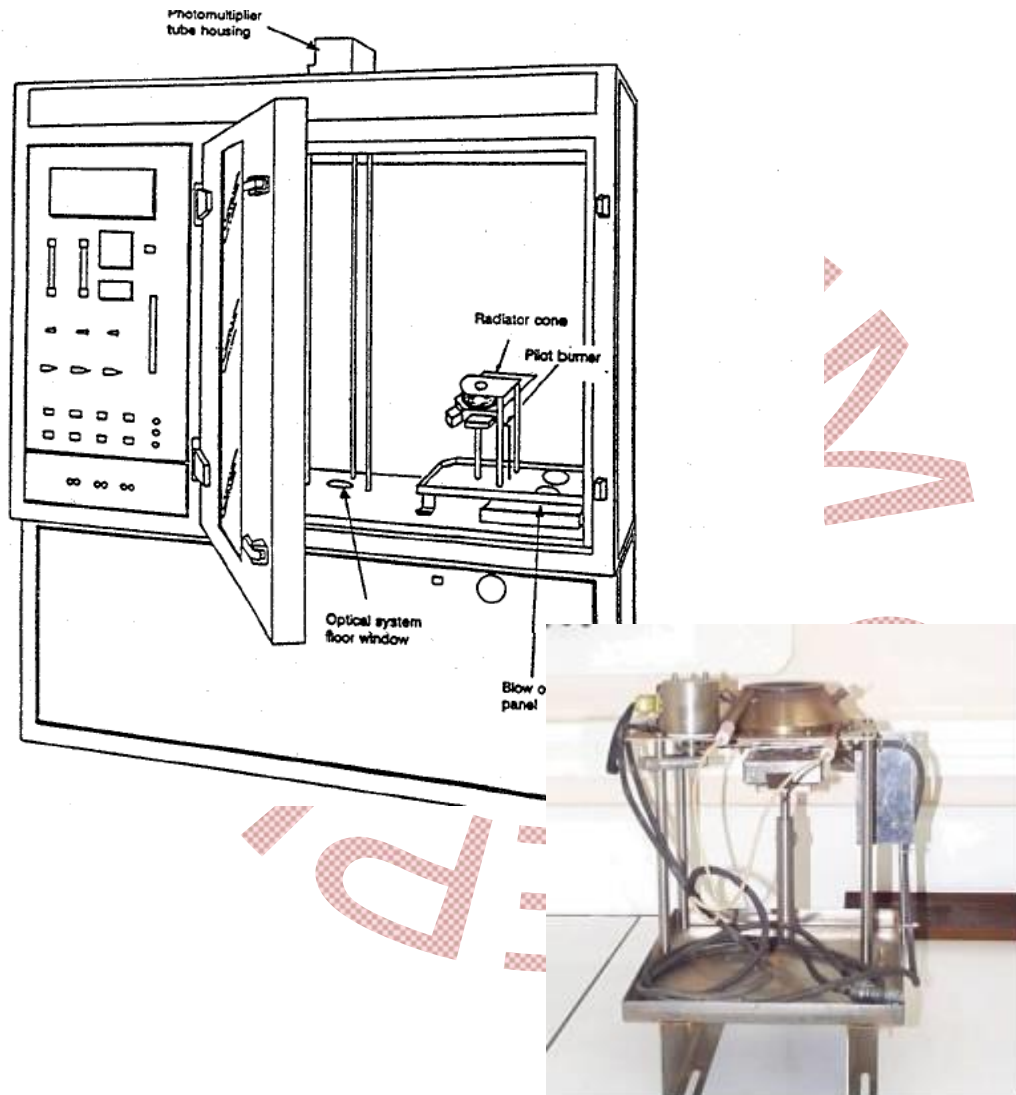


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For part 2, the concentration of smoke opacity and toxicity is measured according to ISO 5659-2 standard

Figure 2: ISO 5659-2 smoke box



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