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## F29 Non-sparking fans

(1973)  
(Rev. 1  
1978)  
(Rev. 2  
1979)  
Rev. 3  
1980)  
(Rev. 4  
1983)  
(Rev. 5  
1994)  
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### F29.1 Introduction

A fan is considered as non-sparking if in either normal or abnormal conditions it is unlikely to produce sparks.

### F29.2 Design criteria

F29.2.1 The air gap between the impeller and the casing shall be not less than 0,1 of the shaft diameter in way of the impeller bearing but not less than 2 mm. It need not be more than 13 mm.

F29.2.2 Protection screens of not more than 13 mm square mesh are to be fitted in the inlet and outlet ventilation openings on the open deck to prevent the entrance of objects into the fan housing.

### F29.3 Materials

F29.3.1 The impeller and the housing in way of the impeller are to be made of alloys which are recognised as being spark proof by appropriate test.

F29.3.2 Electrostatic charges both in the rotating body and the casing are to be prevented by the use of antistatic materials. Furthermore, the installation on board of the ventilation units is to be such as to ensure the safe bonding to the hull of the units themselves.

F29.3.3 Tests may not be required for fans having the following combinations:

- (i) impellers and/or housings of nonmetallic material, due regard being paid to the elimination of static electricity,
- (ii) impellers and housings of non-ferrous materials,
- (iii) Impellers of aluminium alloys or magnesium alloys and a ferrous (including austenitic stainless steel) housing on which a ring of suitable thickness on non-ferrous materials is fitted in way of the impeller,
- (iv) any combination of ferrous (including austenitic stainless steel)impellers and housings with not less than 13 mm tip design clearance.

F29.3.4 The following impellers and housings are considered as sparking and are not permitted:

- (i) impellers of an aluminium alloy or magnesium alloy and a ferrous housing, regardless of tip clearance,
- (ii) housing made of an aluminium alloy or a magnesium alloy and a ferrous impeller, regardless of tip clearance,
- (iii) any combination of ferrous impeller and housing with less than 13 mm design tip clearance.

F29.3.5 Type tests on the finished product are to be carried out in accordance with the requirements of the Classification Society or an equivalent national or international standard.

