
**Determination of the resistance to jet
fires of passive fire protection
materials —**

**Part 1:
General requirements**

*Détermination de la résistance aux feux propulsés des matériaux de
protection passive contre l'incendie —*

Partie 1: Exigences générales



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 22899-1 was prepared by Technical Committee ISO/TC 92, *Fire safety*, Subcommittee SC 2, *Fire containment*.

ISO 22899 consists of the following parts, under the general title *Determination of the resistance to jet fires of passive fire protection materials*:

— *Part 1: General requirements*

Further parts of ISO 22899 are planned for future publication.

Introduction

The test described in the procedure described in this part of ISO 22899 is one in which some of the properties of passive fire protection materials can be determined. This test is designed to give an indication of how passive fire protection materials will perform in a jet fire. The dimensions of the test specimen may be smaller than typical items of structure and plant and the release of gas may be substantially less than that which might occur in a credible event. However, individual thermal and mechanical loads imparted to the passive fire protection material, from the jet fire defined in the procedure described in this part of ISO 22899, have been shown to be similar to those by large-scale jet fires resulting from high-pressure releases of natural gas.

NOTE 1 Guidance on the applicability of the test will be covered in a future part of ISO 22899.

Although the method specified has been designed to simulate some of the conditions that occur in an actual jet fire, it cannot reproduce them all exactly and the thermal and mechanical loads do not necessarily coincide. The results of this test do not guarantee safety but may be used as elements of a fire risk assessment for structures or plant. This should also take into account all the other factors that are pertinent to an assessment of the fire hazard for a particular end use. The test is not intended to replace the hydrocarbon fire resistance test (ISO/TR 834-3/EN 1363-2^[2]) but is seen as a complementary test.

NOTE 2 Users of this part of ISO 22899 are advised to consider the desirability of third-party certification/inspection/testing of product conformity with this part of ISO 22899.

Determination of the resistance to jet fires of passive fire protection materials —

Part 1: General requirements

CAUTION — the attention of all persons concerned with managing and carrying out this fire resistance test is drawn to the fact that fire testing may be hazardous and that there is a possibility that toxic and/or harmful smoke and gases may be evolved during the test. Mechanical and operational hazards may also arise during the construction of the test elements or structures, their testing and disposal of test residues.

An assessment of all potential hazards and risks to health shall be made and safety precautions shall be identified and provided. Appropriate training shall be given to relevant personnel.

1 Scope

This part of ISO 22899 describes a method of determining the resistance to jet fires of passive fire protection materials and systems. It gives an indication of how passive fire protection materials behave in a jet fire and provides performance data under the specified conditions.

It does not include an assessment of other properties of the passive fire protection material such as weathering, ageing, shock resistance, impact or explosion resistance, or smoke production.

2 Normative references

ISO 630:1995, *Structural steels — Plates, wide flats, bars, sections and profiles*

ISO/TR 834-3, *Fire-resistance tests — Elements of building construction — Part 3: Commentary on test method and test data application*

ISO 13702, *Petroleum and natural gas industries — Control and mitigation of fires and explosions on offshore production installations — Requirements and guidelines*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

assembly

unit or structure composed of a combination of materials or products, or both

3.2

cellulosic fire

fire involving combustible material such as wood, paper, furniture, etc.