
Reaction-to-fire tests — Small room test for pipe insulation products or systems

*Essais de réaction au feu — Essai en chambre de petite taille de
produits ou systèmes de calorifugeage de tuyauterie*



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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.

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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 20632 was prepared by Technical Committee ISO/TC 92, *Fire safety*, Subcommittee SC 1, *Fire initiation and growth*.

Introduction

The test method described in this document is intended to assess the fire performance of a pipe insulation product, supported on a steel pipe, under controlled conditions.

The method can be used as part of a fire hazard assessment that takes into account all of the factors that are pertinent to a particular end use of a pipe insulation product.

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Caution — So that suitable precautions can be taken to safeguard health, the attention of all concerned in fire tests is drawn to the possibility that toxic or harmful gases can be evolved during combustion of the test specimen.

The test procedures involve high temperatures and combustion processes from ignition to a fully developed room fire. Therefore, hazards can exist for burns, ignition of extraneous objects or clothing. The operators should use protective clothing, helmet, face-shield and equipment for avoiding exposure to toxic gases.

1 Scope

This International Standard specifies a test method for determining the reaction to fire performance of pipe insulation products and some pipe insulation systems installed in a small room.

The scenario is valid for fires in a room where pipe insulation products are installed within building applications, e.g. pipe and duct rooms in public buildings, apartment blocks, hospitals and ships.

This method is suitable for products that cannot be tested in a small-scale test, or for correlation of small-scale test data. The method can also serve as a reference scenario for pipe insulation products or for systems fitted in a room within a building or a ship.

The method is not suitable for pipe insulation in concealed spaces, such as a horizontal or a vertical shaft. This method is not intended for evaluating the fire resistance of pipe insulation systems.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 9705:1993, *Fire tests — Full-scale room test for surface products*

ISO 13943, *Fire safety — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13943 and the following apply.

3.1

pipe insulation product

thermally-insulating material or product that covers a pipe

NOTE One layer is an insulating material, such as mineral or glass wool or cellular plastics. Facings on one or both sides can protect this insulating layer. Facings can be selected from a variety of materials, such as aluminium foil or glass fibre reinforced resin. The insulating material can be preformed, sprayed or wrapped around the pipe.