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Fire containment — Elements of building construction —

Part 1: Ventilation ducts

Endiguement du feu — Éléments de construction —

Partie 1: Conduits de ventilation

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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 6944-1 was prepared by Technical Committee ISO/TC 92, *Fire safety*, Subcommittee SC 2, *Fire containment*.

This first edition of ISO 6944-1, cancels and replaces ISO 6944:1985, which has been technically revised.

ISO 6944 consists of the following parts, under the general title *Fire containment — Elements of building construction*:

— *Part 1: Ventilation ducts*

A Part 2, dealing with kitchen extract ducts, is under development.

Introduction

The purpose of this test is to measure the ability of a representative duct or duct assembly that is part of an air-distribution system to resist the spread of fire from one fire compartment to another, with fire attack from inside or outside the duct. It is applicable to vertical and horizontal ducts, with or without branches, taking into account joints and exhaust openings, as well as suspension devices and penetration points.

This part of ISO 6944 is very similar to EN 1366-1, but includes an alternative arrangement for testing elbows.

The test measures the length of time during which ducts of specified dimensions, suspended as they normally are in practice, satisfy defined criteria when exposed to fire from either inside or outside the duct.

All ducts inside the furnace are fully restrained in all directions. Outside the furnace, ducts exposed to fire from the outside are tested unrestrained, while ducts exposed to fire from the inside (horizontal only) are tested restrained.

The test takes into account the effect of fire exposure from the outside, where a 300 Pa underpressure is maintained in the duct, as well as the effect of fire entering the ducts under conditions where forced air movement might or might not be present, by maintaining an air velocity of 3 m/s.

Ducts exposed to fire from the inside are supplied with air in a manner that is representative of the “fan off” and “fan on” situations that can arise in practice.