

Aerospace series - Burning behaviour of non metallic materials under the influence of radiating heat and flames - Determination of gas components in the smoke

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Aerospace series - Burning behaviour of non metallic materials
under the influence of radiating heat and flames - Determination
of gas components in the smoke

Série aéronautique - Comportement au feu des matériaux
non métalliques sous l'action de chaleur rayonnante et de
flammes - Détermination des composants de gaz de fumée

Luft- und Raumfahrt - Brandverhalten nicht metallischer
Werkstoffe unter Einwirkung von strahlender Wärme und
Flammen - Bestimmung von Rauchgaskomponenten

This European Standard was approved by CEN on 17 December 2010.

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Foreword

This document (EN 2826:2011) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2011, and conflicting national standards shall be withdrawn at the latest by August 2011.

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1 Scope

This European Standard defines a test method to determine the concentration of certain gas components due to pyrolytic decomposition of solid materials and composite materials under the influence of radiant heat only or with simultaneous flame application.

NOTE 1 The gas components in the smoke are determined according to the specific environmental and test conditions defined in EN 2824 and this standard. No studies have been made up to now to determine whether the results can be transferred to different conditions, particularly to actual fire conditions. The inhalatory toxicological risk and irritancy effect cannot be assessed by merely measuring the concentration of individual gas components in the smoke.

NOTE 2 The burning behaviour and consequently the gas components in the smoke of aerospace materials are not only influenced by the type of material but also to a large extent by the configuration, the specific surface and mass, the combination with other materials, the means of joining as well as the processing technique.

NOTE 3 These influences shall be taken into account in the preparation of tests, the selection of test specimens and the interpretation of test results.

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.

EN 2824, *Aerospace series — Burning behaviour of non-metallic materials under the influence of radiating heat and flames — Determination of smoke density and gas components in the smoke of materials — Test equipment apparatus and media*¹⁾

EN 2825, *Aerospace series — Burning behaviour of non-metallic materials under the influence of radiating heat and flames — Determination of smoke density*

EN ISO 13943:2008, *Fire safety — Vocabulary (ISO 13943:2008)*

3 Short description of the test method

3.1 General

The specimens are vertically arranged in a closed test chamber according to EN 2824 and subjected to decomposition by radiant heat with or without flame application. During the test, gas samples are taken at specified intervals from the generated decomposition products to determine the concentration of selected components.

The methods described in 3.2 and 3.4 are used to determine the gas components in the smoke.

3.2 The hydrogen chloride (HCl) taken from the test chamber can be indicated directly during the test using colorimetric tubes or analyzed by wet analysis.

3.3 Hydrogen fluoride (HF) is measured by wet analysis.

3.4 For determination of other gases, the fumes are collected in a plastic bag with a high gas-isolation value; they can be measured consecutively using colorimetric tubes.

1) Published as ASD-STAN Prestandard at the date of publication of this standard by Aerospace and Defence Industries Association of Europe-Standardization (ASD-STAN), (www.asd-stan.org).