

**Chimneys - Elastomeric seals and elastomeric sealants -
Material requirements and test methods - Part 1: Seals
in flue liners**

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EESTI STANDARDI EESSÕNA

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ICS 83.140.50, 91.060.40

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English Version

Chimneys - Elastomeric seals and elastomeric sealants - Material requirements and test methods - Part 1: Seals in flue liners

Conduit de fumée - Garnitures et matériaux d'étanchéité en
élastomère - Exigences de matériaux et méthodes d'essai -
Partie 1: Garnitures d'étanchéité dans les conduits
intérieurs

Abgasanlagen - Werkstoffanforderungen und Prüfungen für
elastomere Dichtungen und Dichtwerkstoffe - Teil 1:
Dichtungen für den Einsatz in Innenrohren

This European Standard was approved by CEN on 30 June 2013.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 14241-1:2013) has been prepared by Technical Committee CEN/TC 166 “Chimneys”, the secretariat of which is held by ASI.

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of an identical text or by endorsement, at the latest by February 2014, and conflicting national standards shall be withdrawn at the latest by February 2014.

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

This document supersedes EN 14241-1:2005.

The main modifications compared to EN 14241-1:2005 are the following:

- a) Normative References were updated;
- b) terms were added;
- c) 4.4 (Corrosion resistance classes) was revised;
- d) Clause 5 (Requirements) was completely revised.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The objective of this European Standard is to evaluate the material behaviour of prefabricated elastomeric seals for application in flue liners.

The testing conditions are representative of normal use, yet severe enough to yield meaningful results in a relatively short period of time.

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1 Scope

This European Standard specifies the material requirements and test methods for prefabricated elastomeric seals for use in flue liners. It also specifies the requirements for evaluation of conformity.

These seals are components in flue liners of different materials such as metal, plastic, clay, concrete.

Performance requirements of elastomeric seals in flue liners are covered by the relevant product standards.

In the product standards, chimney products, including seals, are tested under operational conditions (e.g. temperature, pressure, mechanical load, flue gas, condensate) to relevant properties such as leakage and deformation.

This European Standard covers seals intended for use in both dry and wet conditions. Therefore all seals are tested for functioning under wet conditions.

This European Standard does not contain all the requirements necessary for chimneys with the following classification:

- corrosion resistance class 2 concerning natural wood¹⁾,
- corrosion resistance class 3.

This European Standard is also applicable for sealants, in case nothing else is defined. The specimens are made from the sealants, which have been brought into a practical form, cured under manufacturers' instructions. The cured sealants will fulfil the same requirements as seals.

NOTE Cured sealants are operationally seals in application.

2 Normative references

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

EN 1443, *Chimneys — General requirements*

EN ISO 11358, *Plastics — Thermogravimetry (TG) of polymers — General principles (ISO 11358)*

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025)*

ISO 37, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

ISO 48, *Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD)*

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 815-1, *Rubber, vulcanized or thermoplastic — Determination of compression set — Part 1: At ambient or elevated temperatures*

1) There is not sufficient knowledge or data for flue gas condensate from appliances fired with natural wood.

ISO 815-2, *Rubber, vulcanized or thermoplastic — Determination of compression set — Part 2: At low temperatures*

ISO 1431-1, *Rubber, vulcanized or thermoplastic — Resistance to ozone cracking — Part 1: Static and dynamic strain testing*

ISO 1817, *Rubber, vulcanized or thermoplastic — Determination of the effect of liquids*

ISO 2781, *Rubber, vulcanized or thermoplastic — Determination of density*

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 3384 (all parts), *Rubber, vulcanized or thermoplastic — Determination of stress relaxation in compression*

ISO 7619-1, *Rubber, vulcanized or thermoplastic — Determination of indentation hardness — Part 1: Durometer method (Shore hardness)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1443 and the following apply.

3.1 characterisation ²⁾

identification of the material by determining a combination of properties covering the thermal, mechanical and physicochemical behaviour

3.2 material ³⁾

material composition of which an individual component is made, being the result of a manufacturing process in which the raw material(s) is transformed by extrusion, moulding, welding etc. into its intended shape

3.3 material test ⁴⁾

test in which specific properties of a material as defined in 3.2 are tested

3.4 external installation

part of a chimney which is located outside the building

Note 1 to entry: Flue liners installed within an enclosure or cladding are considered as internal installations.

3.5 internal installation

part of a chimney which is located inside a building

2) A fingerprint of the material.

3) Changing the manufacturing process may change the properties of the material.

4) The material test does not include the effects of the performance of the chimney system resulting in stress etc. on the individual components.