

norm

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Schoorstenen - Systemschoorstenen
met kunststoffen binnenbuizen - Eisen en
beproevingsmethoden

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Chimneys - System chimneys with plastic flue liners - Requirements and
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Preview

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English Version

Chimneys - System chimneys with plastic flue liners - Requirements and test methods

Conduits de fumée - Systèmes de conduits de fumée avec
 parois intérieures en plastique - Exigences et méthodes
 d'essai

Abgasanlagen - Systemabgasanlagen mit
 Kunststoffinnenrohren - Anforderungen und Prüfungen

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Draft
 Preview

Foreword

This document (prEN 14471:2011) has been prepared by Technical Committee CEN/TC 166 "Chimneys", the secretariat of which is held by ASI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 14471:2005.

prEN 14471:2011
Preview

Introduction

The objective of this European Standard is to evaluate the behaviour of system chimneys with plastic flue liners.

Note: A system chimney with a plastic flue liner may be a single wall chimney (only the plastic flue liner) or may be a double wall chimney or a flue liner with enclosure. The system chimney according to this standard can consist of a plastic liner only (e.g. single wall) or a system with plastic inner liner (e.g. concentric or with enclosure). The system chimney is defined by the manufacturer, the requirements for the installation are defined by the national regulations of the member states.

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Preview

1 Scope

This European Standard specifies the performance requirements and test methods for system chimneys with plastic flue liners used to convey the products of combustion from appliances to the outside atmosphere under dry and wet conditions. It also specifies the requirements for marking, manufacturer's instructions and evaluation of conformity.

This European Standard describes chimney components from which system chimneys can be assembled.

This European Standard is not applicable to chimneys with sootfire resistance classification class G.

This European Standard is not applicable for chimneys with the following classification:

- corrosion resistance class 2 concerning natural wood¹⁾;
- corrosion resistance class 3;
- pressure class N2.

This European Standard is applicable to chimneys designed so that no condensate accumulation can occur e.g. with a minimum inclination of 3 ° to the horizontal.

This European Standard is not applicable:

- for system chimneys with plastic coated flue liners
- to structurally independent (free-standing or self-supporting) chimneys

Chimneys with components which need further processing during the installation to reach the final material properties are no system chimneys and therefore also not covered by this standard.

This standard does not cover the requirements for horizontal terminals (as defined for C1 installation types in CEN/TR 1749) regarding aerodynamic behaviour, rain water ingress and icing behaviour.

2 Normative references

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

EN 513, *Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors - Determination of the resistance to artificial weathering*

EN 1443:2003, *Chimneys - General requirements*

EN 1856-1, *Chimneys - Requirements for metal chimneys – Part 1 : System chimney products*

EN 13084-1, *Free-standing industrial chimneys - Part 1: General requirements*

EN 13216-1:2004, *Chimneys - Test methods for system chimneys - Part 1: General test methods*

EN 13384-1, *Chimneys - Thermal and fluid dynamic calculation methods - Part 1: Chimneys serving one appliance*

1) There is no sufficient knowledge on data for flue gas condensate from appliances fired with natural wood.

EN 13501-1:2002, *Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests*

EN 13501-2, *Fire classification of construction products and building elements - Part 2: Classification using data from fire resistance tests, excluding ventilation services*

EN 13823, *Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item*

EN 14241-1, *Chimneys - Elastomeric seals and elastomeric sealants - Material requirements and test methods - Part 1: Seals in flue liners*

EN 14297, *Chimneys - Freeze-thaw resistance test method for chimney products*

EN 14471, *Abgasanlagen - Systemabgasanlagen mit Kunststoffinnenrohren - Anforderungen und Prüfungen*

prEN 14989-1, *Chimneys and air supply duct systems for roomsealed appliances - Requirements and test methods - Part 1: Vertical terminals for C6-type appliances*

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

EN ISO 178, *Plastics - Determination of flexural properties (ISO 178:2001)*

EN ISO 179-1, *Plastics - Determination of Charpy impact properties - Part 1: Non-instrumented impact test (ISO 179-1:2000)*

EN ISO 306, *Plastics - Thermoplastic materials - Determination of Vicat softening temperature (VST) (ISO 306:2004)*

EN ISO 527-1, *Plastics - Determination of tensile properties - Part 1: General principles (ISO 527-1:1993 including Corr 1:1994)*

EN ISO 527-2, *Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2:1993 including Corr 1:1994)*

EN ISO 1043-1, *Plastics - Symbols and abbreviated terms - Part 1: Basic polymers and their special characteristics (ISO 1043-1:2001)*

EN ISO 1133, *Plastics - Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics (ISO 1133:1997)*

EN ISO 1183-1, *Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method (ISO 1183-1:2004)*

EN ISO 8256, *Plastics - Determination of tensile-impact strength (ISO 8256:2004)*

EN ISO 9969, *Thermoplastics pipes - Determination of ring stiffness (ISO 9969:1994)*

EN ISO 14021, *Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling) (ISO 14021:1999)*

ISO 75-1, *Plastics - Determination of temperature of deflection under load - Part 1: General test method*

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 11357-3, *Plastics - Differential scanning calorimetry (DSC) - Part 3: Determination of temperature and enthalpy of melting and crystallisation*

prEN 14471:2011 (E)

ISO 11925-2, Reaction to fire tests - Ignitability of products subjected to direct impingement of flame

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 1443:2003 and the following apply.

3.1 characterisation

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

3.2 material

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. in its intended shape

3.3 material test

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

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

3.4 flue

passage for conveying the products of combustion to the outside atmosphere [3.2 of EN 1443: 2003]

3.5 flue gas

gaseous portion of the products of combustion conveyed in a flue [3.3 of EN 1443: 2003]

3.6 products of combustion

products resulting from the combustion of fuel (gaseous, liquid and solid constituents) [3.4 of EN 1443: 2003]

3.7 flue liner

wall of a chimney consisting of components the surface of which is in contact with products of combustion [3.5 of EN 1443: 2003]

3.8 coated flue liner

flue liner where material is applied to the inner surface of the flue liner to change the surface properties

3.9 chimney

structure consisting of a wall or walls enclosing a flue or flues [3.6 of EN 1443: 2003]

3.10 chimney component

any part of a chimney [3.7 of EN 1443: 2003]

3.11 chimney fitting

chimney component conveying products of combustion except a chimney section [3.9 of EN 1443: 2003]

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