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

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

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

Conduits de fumée - Système de conduits de fumée avec conduits intérieurs en plastique - Prescriptions et méthodes d'essai

Abgasanlagen - Systemabgasanlagen mit Kunststoffinnenrohen - Anforderungen und Prüfungen

This European Standard was approved by CEN on 14 September 2013.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 14471:2013) 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of an identical text or by endorsement, at the latest by May 2014, and conflicting national standards shall be withdrawn at the latest by May 2014.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 14471:2005.

The main modifications compared to EN 14471:2005 are the following:

— the Normative References were updated;

— additions were made in Clause 3 (Terms and definitions);

— Clause 4 was revised;

— the requirements in Clause 5 were completely revised;

— all annexes were revised and some annexes were added.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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 behaviour of system chimneys with plastic flue liners.

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 or with outer wall. 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 outer wall). The system chimney is defined by the manufacturer, whereas the requirements for the installation are defined by the national regulations of the member states.

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 wood[1)];

— 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 European Standard does not cover the requirements for horizontal terminals (as defined for C1 installation types in CEN/TR 1749) regarding aerodynamic behaviour, rainwater ingress and icing behaviour.

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 1443:2003, *Chimneys — General requirements*

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

EN 13384-1:2002+A2:2008, *Chimneys — Thermal and fluid dynamic calculation methods — Part 1: Chimneys serving one appliance*

EN 13501-1:2007+A1:2009, *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*

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

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

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

EN ISO 178, *Plastics — Determination of flexural properties (ISO 178)*

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

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

EN ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles (ISO 527-1)*

EN ISO 527-2, *Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2)*

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

EN ISO 1133-1, *Plastics — Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics — Part 1: Standard method (ISO 1133-1)*

EN ISO 1133-2, *Plastics — Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics — Part 2: Method for materials sensitive to time-temperature history and/or moisture (ISO 1133-2)*

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

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

EN ISO 9969, *Thermoplastics pipes — Determination of ring stiffness (ISO 9969)*

EN ISO 11925-2, *Reaction to fire tests — Ignitability of products subjected to direct impingement of flame — Part 2: Single-flame source test (ISO 11925-2)*

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

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

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