



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 1806:2006

ICS 91.060.40
91.100.25

**CHIMNEYS - CLAY/CERAMIC FLUE BLOCKS
FOR SINGLE WALL CHIMNEYS -
REQUIREMENTS AND TEST METHODS**

National Standards
Authority of Ireland
Glasnevin, Dublin 9
Ireland

Tel: +353 1 807 3800
Fax: +353 1 807 3838
<http://www.nsai.ie>

Sales
<http://www.standards.ie>

*This Irish Standard was
published under the
authority of the National
Standards Authority of
Ireland and comes into
effect on:
4 October 2006*

**NO COPYING WITHOUT NSAI
PERMISSION EXCEPT AS
PERMITTED BY COPYRIGHT
LAW**

© NSAI 2006

Price Code R

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

EN 1806

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2006

ICS 91.060.40; 91.100.25

Supersedes EN 1806:2000

English Version

Chimneys - Clay/ceramic flue blocks for single wall chimneys - Requirements and test methods

Conduits de fumée - Boisseaux en terre cuite/céramique
pour conduits de fumée simple paroi - Exigences et
méthodes d'essai

Abgasanlagen - Keramik - Formblöcke für einschalige
Abgasanlagen - Anforderungen und Prüfmethode

This European Standard was approved by CEN on 19 June 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Page

Foreword.....	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 Types of flue blocks	10
5 Materials	11
5.1 Flue blocks	11
5.2 Insulation	11
5.2.1 General.....	11
5.2.2 Shape	12
5.2.3 Thermal conductivity of insulation	12
5.2.4 Resistance to heat	12
6 Tolerances on dimensions	12
6.1 Internal transverse dimensions.....	12
6.2 Height.....	12
6.3 Angles	12
6.4 Straightness	12
6.5 Squareness of ends.....	12
6.6 Squareness of angles and flatness of walls	12
6.7 Joints	12
6.8 Bonding extension.....	13
6.9 Tolerance on insulation thickness.....	13
7 Proof load	13
7.1 Straight flue blocks.....	13
7.2 Angle flue blocks	13
7.3 Minimum load for inspection opening sections	13
7.4 Adhesion between outer wall and insulation.....	14
8 Gas tightness and thermal shock resistance	14
8.1 Straight flues blocks	14
8.1.1 General.....	14
8.1.2 Initial gas tightness	14
8.1.3 Thermal shock resistance.....	14
8.1.4 Final gas tightness after thermal shock testing	14
8.2 Angle flue blocks	14
9 Condensate resistance	15
10 Corrosion resistance	15
11 Water absorption and bulk density	15
11.1 General.....	15
11.2 Water absorption	15
11.3 Bulk density.....	15
12 Abrasion resistance	16
13 Flow resistance	16
14 Thermal resistance	16
15 Resistance to fire	16

15.1	Internal to external	16
15.1.1	Testing at normal operating conditions	16
15.1.2	Soot fire test	16
15.2	External to external	16
16	Resistance to freeze/thaw	16
17	Evaluation of conformity	17
17.1	General	17
17.2	Initial type testing	17
17.3	Further tests	17
17.4	Factory production control	17
18	Test methods	18
18.1	Internal transverse dimensions	18
18.2	Height	18
18.3	Angles	18
18.4	Straightness	18
18.5	Squareness of ends	19
18.5.1	Gauge test	19
18.5.2	Direct measurement test	20
18.6	Squareness of angles and flatness of walls	21
18.7	Proof load	22
18.7.1	Test sample	22
18.7.2	Testing equipment	22
18.7.3	Procedure	22
18.8	Thermal performance tests	23
18.8.1	Test equipment	23
18.8.2	Test flue	24
18.8.3	Procedure	25
18.8.4	Measurement of permeability rate	29
18.9	Corrosion resistance test	30
18.9.1	Test specimens	30
18.9.2	Test equipment	30
18.9.3	Procedure	30
18.9.4	Expression of results	31
18.10	Water absorption	31
18.10.1	Test specimen	31
18.10.2	Test equipment	31
18.10.3	Procedure	31
18.10.4	Expression of results	31
18.11	Bulk density	32
18.11.1	Test specimen	32
18.11.2	Test equipment	32
18.11.3	Procedure	32
18.11.4	Expression of results	32
18.12	Abrasion resistance	32
18.12.1	Test flue	32
18.12.2	Test equipment	33
18.12.3	Procedure	33
18.13	Condensate resistance test	35
18.13.1	Test section	35
18.13.2	Test apparatus	35
18.13.3	Procedure	35
18.13.4	Expression of results	35
18.14	Adhesion test for insulation attached to outer wall of flue blocks	36
18.14.1	Test specimen	36
18.14.2	Testing procedure	36
18.14.3	Loading	36
19	Designation	37

EN 1806:2006 (E)

20	Marking, labelling and packaging	38
Annex A (normative)	Measurement of the coefficient of friction of chimneys	39
Annex B (normative)	Thermal resistance	41
B.1	Method 1 : simplified calculation for flue blocks without cavities	41
B.2	Method 2 : thermal resistance of flue blocks with or without cavities.....	41
B.2.1	General.....	41
B.2.2	Data	42
B.2.3	Specific conditions for the cavities	43
B.2.4	Calculations.....	46
B.3	Method Approximate thermal resistance values.....	46
Annex C (normative)	Sampling procedures for an AQL of 10 % and Inspection Level S2	47
C.1	Acceptability determination.....	47
C.1.1	General.....	47
C.1.2	Single sampling	47
C.1.3	Double sampling	47
C.2	Normal inspection.....	47
C.3	Normal to reduced inspection	49
C.4	Reduced to normal inspection	49
C.5	Tightened inspection.....	49
C.6	Tightened to normal inspection	50
C.7	Discontinuation of inspection	50
Annex ZA (informative)	Clauses of this European Standard addressing the provisions of EU Construction Products Directives.....	51
ZA.1	Scope and relevant characteristics	51
ZA.2	Procedure of attestation of conformity of clay/ceramic flue blocks	54
ZA.2.1	System of attestation of conformity	54
ZA.2.2	EC certificate and declaration of conformity	54
ZA.3	CE Marking and labelling	55
Bibliography		59

Foreword

This document (EN 1806:2006) has been prepared by Technical Committee CEN/TC 166 "Chimneys", the secretariat of which is held by UNI.

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 January 2007, and conflicting national standards shall be withdrawn at the latest by January 2007.

This document supersedes EN 1806:2000.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

EN 1806:2006 (E)

1 Scope

This European Standard specifies the requirements for clay/ceramic flue blocks with solid walls or walls with vertical perforations including bonding and non-bonding blocks and their fittings. Non-bonding flue blocks which have insulation in the vertical perforations or attached to the outer walls are also covered by this standard. This standard specifies the performance requirements for factory-made flue blocks.

When they are installed, they will form a part of a multi-wall chimney or a complete chimney which will serve to convey products of combustion from fireplaces or heating appliances to the atmosphere.

This standard includes components used for domestic and industrial chimneys which are not structurally independent (free-standing). Testing, marking and inspection requirements are covered by this standard.

NOTE 1 Flue blocks covered by this standard are manufactured in three forms :

- a) single flue ;
- b) multi-flue ;
- c) flue/ventilation combination.

NOTE 2 Flue blocks may have flues which are either circular, square or rectangular. The joints may have a locating feature such as a rebate.

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 312, *Particleboards – Specifications*

EN 1443:2003, *Chimneys – General requirements*

EN 10088-1, *Stainless steels – Part 1: List of stainless steels*

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

EN 14297:2004, *Chimneys – Freeze-thaw resistance test method for chimney products*

EN ISO 6946, *Building components and building elements - Thermal resistance and thermal transmittance - Calculation method (ISO 6946:1996)*

EN ISO 7500-1, *Metallic materials - Verification of static uniaxial testing machines - Part 1: Tension/compression testing machines - Verification and calibration of the force-measuring system (ISO 7500-1:2004)*

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

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-