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BSI Standards Publication

Chimneys — Accessories

Part 3: Draught regulators, standstill opening devices and combined secondary air devices — Requirements and test methods

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National foreword

This British Standard is the UK implementation of EN 16475-3:2016.

The UK participation in its preparation was entrusted to Technical Committee B/506/1, Chimneys general requirements.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Chimneys - Accessories - Part 3: Draught regulators, standstill opening devices and combined secondary air devices - Requirements and test methods

Conduits de fumée - Accessoires - Partie 3: Régulateurs de tirage, dispositifs d'ouverture pour période d'arrêt et dispositifs combinés d'air secondaire - Exigences et méthodes d'essai

Abgasanlagen - Zubehörteile - Teil 3: Selbsttätig arbeitende, zwangsgesteuerte und kombinierte Nebenluftvorrichtungen - Anforderungen und Prüfmethoden

This European Standard was approved by CEN on 27 November 2015.

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European foreword

This document (EN 16475-3:2016) 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of an identical text or by endorsement, at the latest by October 2016, and conflicting national standards shall be withdrawn at the latest by January 2018.

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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 Regulation, 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

This standard forms a part of the series of standards for chimney accessories:

— *Part 1: Silencers*

— *Part 2: Chimney fans*

— *Part 3: Draught regulators, standstill opening devices and combined secondary air devices (this part)*

— *Part 4: Flue dampers*

— *Part 5: Explosion/implosion relief devices*

— *Part 6: Access components*

— *Part 7: Rain caps*

Independent draught regulators are for the purpose of reducing negative pressure that is too large in the chimney, which can result through the use of commercially available cross-section dimensions, despite being designed e.g. according to EN 13384-1:2015, *Calculation method for chimneys serving single appliance*. They serve to increase the flue gas speed and the ventilation of the chimney, for the purpose of drying out (see explanations).

Standstill opening devices interlocked with the combustion system are exclusively for the purpose of ventilating the chimney during standby.

1 Scope

This European Standard specifies the requirements and test methods for draught regulators, standstill opening devices and combined secondary air devices that are used as components, carrying flue gases, in order to limit the draught in chimneys and provide secondary air to the chimney.

Draught regulators, standstill opening devices and combined secondary air devices for positive pressure chimneys are not covered by this standard.

It also specifies the requirements for marking, manufacturers' instruction, product information and attestation and verification of constancy of performance (AVCP).

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

EN 10346, *Continuously hot-dip coated steel flat products for cold forming — Technical delivery conditions*

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

EN 60730-2-14, *Automatic electrical controls for household and similar use — Part 2-14: Particular requirements for electric actuators (IEC 60730-2-14)*

EN 61058-1, *Switches for appliances — Part 1: General requirements (IEC 61058-1)*

3 Terms and definitions

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

3.1
draught regulator
device with a hinged flap in a flue opening to allow entry of secondary air into the flue to regulate the draught

3.2
standstill opening device
device which is opened motorised to allow air to enter the flue during the standstill period of the heating appliance

3.3
combined secondary air device
combination of a draught regulator and standstill opening device

3.4
sootfire safe accessory (As)
accessory that may not perform its intended function during and after a sootfire but does not prevent the safe operation or change the designation "G" of the chimney or connecting flue pipe

Note 1 to entry: "As" can only be used for accessories and not for chimneys, flue liners and connecting flue pipes.

Note 2 to entry: Measures to be taken after the event of a sootfire are to be found in the relevant product standard.

4 Product characteristics

4.1 General

The draught regulator, and if appropriate the standstill opening device, housing and flap in contact with combustion products shall have a material with 0,6 mm minimum thickness, and a specification for steel according to EN 10088-1 of 1.4301, and 1.4404, and 1.0306 according to EN 10346 for any corrosion class for dry applications, and for wet applications, only for corrosion class 1 and 2, a steel according to EN 10088-1 of 1.4404 or higher.

The draught regulator and standstill opening devices shall fulfil the following requirements, if appropriate. The combined secondary air devices shall fulfil the requirements of both, if appropriate.

4.2 Dimensions and tolerances

The manufacturer is free to choose dimensions and tolerances for the manufacture of draught regulators and if appropriate standstill opening devices.

4.3 Mechanical resistance and stability

The draught regulator, and standstill opening device, shall be able to move freely before and after the thermal tests except for a product designated As after a soot fire test.

4.4 Thermal performance

4.4.1 Reaction to fire

As the fire reaction is not relevant for draught regulators and/or standstill opening devices, no declaration is necessary.

4.4.2 Fire resistance (internal to external)

4.4.2.1 General

The manufacturer shall declare the minimum distance of the draught regulator, and if appropriate standstill opening device, to combustible material and the requirement of 4.4.2.2 and if appropriate 4.4.2.3 shall be met at the distance declared by the manufacturer.

For a temperature designation up to T450, a declaration of at least 400 mm for the distance to combustible material is deemed to satisfy this requirement without testing.

4.4.2.2 Heat stress

The draught regulator, and if appropriate standstill opening device, shall be tested in accordance with 5.1.3.2 and the requirements of 4.3 and 4.5.1 shall be met, and one of the flow rates of the group determination of 4.6.1, at the lowest declared setting, is within 10 % of the original value determined before thermal exposure.

4.4.2.3 Sootfire

The draught regulator, and if appropriate the standstill opening device, designated sootfire resistant shall be tested in accordance with 5.1.3.3 and the requirements of 4.3 and 4.5.1 shall be met, and one of the flow rates of the group determination of 4.6.1, at the lowest declared setting, is within 10 % of the original value determined before thermal exposure.

If the product satisfies all criteria it may be designated G. If it only satisfies the criteria of 4.5.1 it may be designated As. Otherwise it may only be designated O.

4.5 Hygiene, health and environment

4.5.1 Gas tightness

When a draught regulator, and if appropriate standstill opening device, is tested according to the test methods described in 5.1, the individual values of leakage rate shall not be vary by more than 10 % of the average of the three samples tested for each size of draught regulator, and the average leakage rate shall not be greater than 0,06 m^3/h per cm^2 of free opening area, based on a pressure differential of (10 ± 1) Pa.

The draught regulator and/or the standstill opening device tested for thermal performance shall meet this requirement both before and after the thermal performance tests (heat stress test and if appropriate soot fire test).

The draught regulator and/or the standstill opening device designated As, shall have a leakage rate not greater than 0,18 $m^3/h/cm^2$ of free opening area, based on a pressure differential of (10 ± 1) Pa after the sootfire test.

4.5.2 Condensate resistance

When tested in accordance with the condensate test of EN 13216-1 no condensate shall appear on the outer surface of the draught regulator/standstill opening device.

The draught regulator shall be installed in accordance with the manufacturer's instructions in the thermal test assembly of Figure 2, attaching the spray assembly to the top of the test chimney, and providing a drain for the condensate at the bottom.

4.5.3 Corrosion resistance

Draught regulators shall be designated a corrosion class as defined in EN 1443 in accordance with 4.1.

4.5.4 Dangerous substances

National regulations on dangerous substances may require verification and declaration on release, and sometimes content, when construction products covered by this standard are placed on those markets. In the absence of European harmonized test methods, verification and declaration on release/content should be done taking into account national provisions in the place of use.

NOTE An informative database covering European and national provisions on dangerous substances is available at the Construction website on EUROPA accessed through: *http://ec.europa.eu/enterprise/construction/cpd-ds/* .

4.6 Additional criteria for chimney operation

4.6.1 Determination of the draught regulator group

When tested in accordance with 5.3.2 the draught regulator shall be assigned a group according to Figure 1.

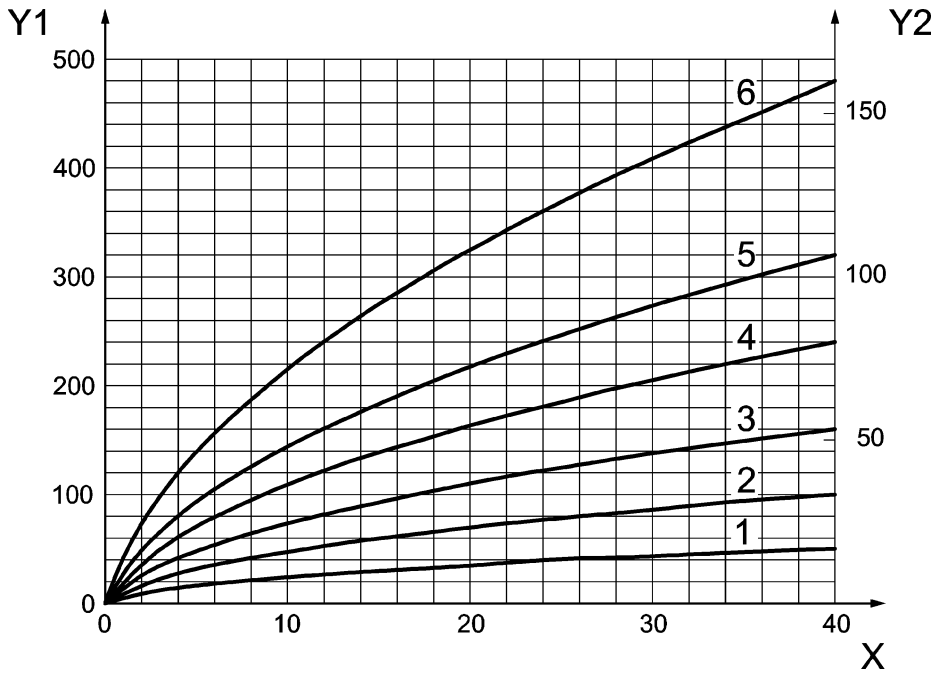
The curves are determined from the following formula.

$$X = a_1 \cdot \cdot \frac{Y2}{1000} + a_2 \cdot \left(\frac{Y2}{1000} \right)^2 \text{ in Pa} \quad (1)$$

where a_1 and a_2 are factors obtained from Table 1.

Table 1 — Characteristic values for draught regulators

draught regulator group	a_1 Pa·s/kg	a_2 Pa·(s/kg)^2
1	400	120 000
2	200	30 000
3	140	11 400
4	97	5 000
5	74	2 800
6	48	1 260



Key

Numbers 1 to 6	group number assigned to draught regulators
X	deviation from the setting point in Pa
Y1	secondary air volume flow in m^3/h
Y2	secondary air mass flow in g/s

Figure 1 — Limit curves of the determination for draught regulator group

4.6.2 Adjustability and function of the draught regulator

When tested in accordance with 5.3.1 the adjustability of the settings shall be in maximum 5 Pa steps.

When tested in accordance with 5.3.1 the second value of the volume flow may be a maximum of 80 % above the first value.

4.6.3 Durability of the standstill opening device

When tested in accordance with 5.1.4 the standstill opening devices shall continue to open and close after at least 50 000 switching operations.

4.7 Electrical requirements

4.7.1 Motor

The motor of the standstill opening device shall be in accordance with EN 60730-2-14.

4.7.2 Limit switches

Limit switches shall be in accordance with EN 61058-1.

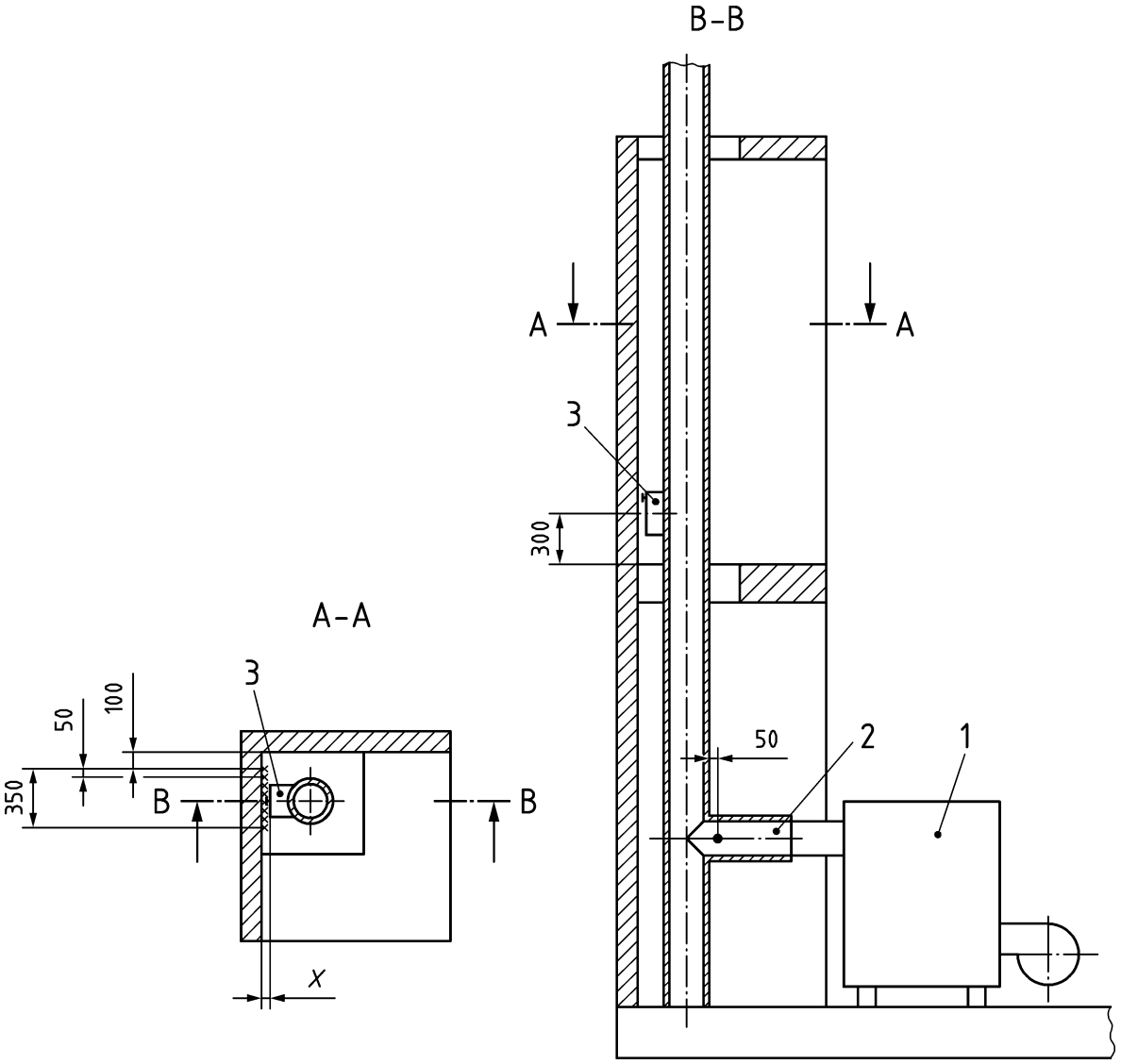
5 Testing, assessment and sampling methods

5.1 Thermal performance

5.1.1 General

For thermally testing the draught regulator for integrity under sootfire conditions assemble the draught regulator according to Figure 2.

Dimensions in millimetres



Key

1 hot gas generator

2 hot gas connecting pipe

3 draught regulator

Figure 2 — Test arrangement for the measurement of distance to combustible material

5.1.2 Test Assembly

5.1.2.1 General

The test assembly shall be in accordance with EN 13216-1.

The test sample is the draught regulator, and if appropriate the standstill opening device, fitted into the test chimney having a thermal resistance of at least 0,22 m^2·K/W with its centre line (300 ± 5) mm above the floor of Zone B, and shall be installed according to the manufacturer's instructions without closing the floor penetrations (see Figure 2).

5.1.2.2 Measuring parameters

For measuring the surface temperature at the draught regulator and if appropriate standstill opening device, use a device with an accuracy of ± 1 °C, positioned 300 mm above the floor of the first floor penetration located on both walls, one row of eight thermocouples spaced at a regular distance of (50 ± 2,0) mm beginning (100 ± 2,0) mm from the corner (see Figure 2).

5.1.3 Test procedure

5.1.3.1 General

Erect the test sample according to the manufacturer's instructions. Mount the test sample of a size according to Annex A with the centre line (300 ± 5) mm above the floor in Zone B at the distance x declared by the manufacturer away from the test structure orientated towards the wall of the test structure (see Figure 2). Fix the draught regulator in a closed position.

5.1.3.2 Test procedure for heat stress test

Generate hot gas with a velocity and a test temperature specified in Table 2 appropriate to the hot gas velocity for negative pressure chimneys, product designation and diameter.

Regulate the rate of rise of the hot gas temperature to achieve the test temperature defined in Table 2, with an average increase of 50 K per min.

Table 2 — Hot gas velocity as a function of test temperature T and diameter of the test chimney

		Hot gas velocity at test temperature in m/s											
		Temperature class											
		T080	T100	T120	T140	T160	T200	T250	T300	T400	T450	T600	Soot fire
		Test temperature **in °C**											
Pressure class	*D* in mm	100	120	150	170	190	250	300	350	500	550	700	1000
Negative pressure	100	1,67	1,76	1,90	2,00	2,08	2,36	2,60	2,84	3,56	3,81	4,55	5,09
	120	1,68	1,77	1,91	2,00	2,10	2,38	2,62	2,86	3,59	3,83	4,58	5,58
	160	1,71	1,80	1,94	2,04	2,13	2,42	2,66	2,91	3,65	3,90	4,66	5,56
	200	1,74	1,84	1,99	2,08	2,18	2,48	2,72	2,97	3,73	3,98	4,76	5,41
NOTE The table refers to a maximum diameter of 200 mm. Hot gas velocities for other sizes are possible by calculating according to EN 13384–1.													

Maintain the hot gas temperature at $^{+5}_{0}$ % of the test temperature, and the flow rate at $^{+10}_{0}$ % of the value but not less than 0,2 m/s given in Table 2, until equilibrium or 6 h. Equilibrium is deemed to exist when the rate of rise of the temperature at the hottest point on the test assembly or structure does not exceed 1 K per 30 min up to hot gas temperatures of 250 °C and 2 K per 30 min for higher hot gas temperatures. During the test phase, the ambient temperature shall not vary by more than 5 K.

Record the temperatures after firing the test assembly until the temperatures have reached their maximum.

Check the free movement of the draught regulator flap.

5.1.3.3 Test procedure for sootfire test

With the test assembly temperatures within 10 °C of the test room ambient conditions, generate hot gas with the volume flow and test temperature specified in Table 2 appropriate to the diameter. Regulate the rate of rise of the hot gas temperature to achieve 1 000 °C in (10 ± 1) min. The ambient air temperature may vary during test more than 5 °C.

Maintain the hot gas temperature at 1 000 °C $^{+50,0}_{-20,0}$ °C for a period of 30 min, then turn off the hot gas generator.

Continue to record the temperatures on the test assembly until the temperatures have reached their maximum.

Check the free movement of the draught regulator flap.

5.1.3.4 Test results

Where the distance to combustible material is to be measured, record all temperature values as specified in 5.1.2.2. Record any instance where the maximum temperature exceeds the allowed values.

5.1.4 Standstill opening device durability test

5.1.4.1 Test assembly

The testing of operating properties is carried out in the testing facility according to Figure 2.

5.1.4.2 Test procedure

With the testing, the standstill opening device is opened and closed in a constant alternation, using a time switch, independently from the heating, whereby the respective closed position shall be at least 20 s. Initially, at least 2 500 switching operations shall be carried out with nominal temperature. Subsequently, 45 000 switching operations will take place with room temperature. After this, another 2 500 switching operations will take place with nominal temperature.

5.1.4.3 Test results

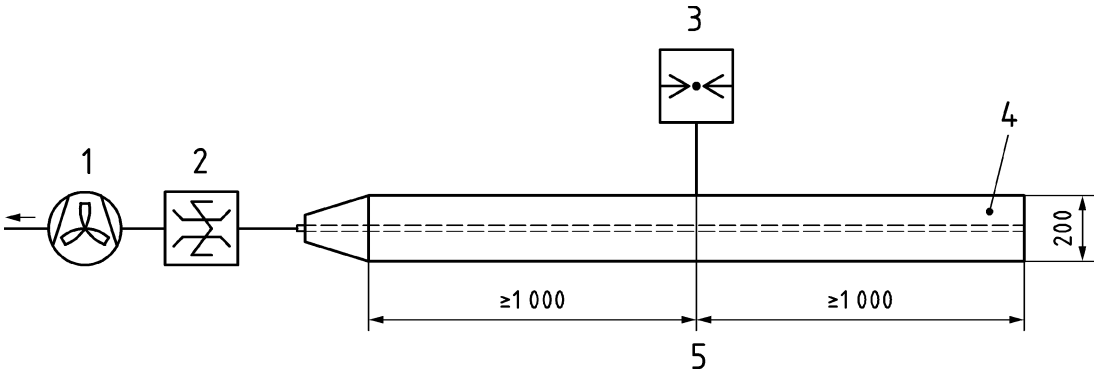
It has to be visual inspected whether fault-free functioning is ensured and whether the materials stand up to the thermal and mechanical requirements.

5.2 Gas tightness

5.2.1 Test assembly

Construct a test assembly in accordance with Figure 3, with a connecting piece or adaptor to which the draught regulator is attached to one end, and a fan and volume flow meter to the other end. The pressure in the tube is measured by a meter connected to the middle of the measurement section.

Dimensions in millimetres



Key

1 fan

2 flow volume meter

3 pressure gauge

4 draught regulator attachment (possibly adaptor)

5 measurement section

Figure 3 — Example of a measurement facility for the determination of air volume flow rate and for gas tightness

5.2.2 Test Procedure

Mount the draught regulator in the test assembly of Figure 3 according to the manufacturer's instructions. Fix the draught regulator in the closed position.

Draw air from the tube until there is an underpressure of (10 ± 1) Pa. Record the flow rate.

Measure the underpressure to an accuracy of ± 1 Pa. Measure the volume flow to an accuracy of 5 %.

Repeat for two other samples of the draught regulator of this size.

Repeat for each size of draught regulator.

5.2.3 Test results

Record the volume flow for each test.

Calculate the average volume flow for each size of draught regulator.

5.3 Additional criteria for chimney operation

5.3.1 Adjustability of the draught regulator

5.3.1.1 Test Assembly

Use the test assembly of 5.2.1.

5.3.1.2 Test procedure

Adjust the draught regulator to the lowest declared setting. Draw air from the tube until the draught in the tube causes the draught regulator to open. Record the difference in the draught from the setting.

Repeat this procedure for draught settings on the draught regulator of 5 Pa steps.

5.3.1.3 Test results

Check that the value of draught when the draught regulator opens is with ± 4 Pa of the set point.

5.3.2 Draught regulator group test

5.3.2.1 Test assembly

Use the test assembly of 5.2.1.

5.3.2.2 Test Procedure

Mount the draught regulator in the test assembly of Figure 3 according to the manufacturer's instructions.

Adjust the draught regulator to its lowest settings declared by the manufacturer. Slowly increase drawing air from the tube until there is a draught of 5 Pa ± 10 % above the lowest declared setting. Record the flow rate when it is stable.

Repeat for a draught of 10 Pa, 20 Pa, 30 Pa, and 40 Pa, with a tolerance of ± 10 %, above the manufacturer's declared lowest setting (without adjusting the manufacturer's lowest setting on the regulator). Draw air from the tube until there is the required draught. Record the flow rate for each condition.

Repeat this procedure using the highest settings declared by the manufacturer. Record the additional flow rates.

5.3.2.3 Test results

Compare the six values with the curves of Figure 1. The draught regulator is allocated to the group, at which all values lie above the next lower limiting curve according to Figure 1.

Check the difference between the flow rates for the 10 to 20 Pa draught values. Check that the draught for the second value is not more than 80 % above the first value.

Repeat for the 20 to 30 Pa and the 30 to 40 Pa draught values.

6 Assessment and verification of constancy of performance (AVCP)

6.1 General

The compliance of a draught regulator, and if appropriate, the standstill opening device or the combined secondary air device, with the requirements of this standard and with the stated values (including groups) shall be demonstrated by:

— determination of the product type;

— factory production control by the manufacturer, including product assessment.

The manufacturer shall always retain the overall control and shall have the necessary means to take responsibility for the conformity of the product with its declared performance(s).

6.2 Type testing

6.2.1 General

All performances related to characteristics included in this standard shall be determined when the manufacturer intends to declare the respective performances unless the standard gives provisions for declaring them without performing tests. (e.g. use of previously existing data, CWFT and conventionally accepted performance).

Assessment previously performed in accordance with the provisions of this standard, may be taken into account provided that they were made to the same or a more rigorous test method, under the same AVCP system on the same product or products of similar design, construction and functionality, such that the results are applicable to the product in question.

NOTE 1 Same AVCP system means testing by an independent third party *[only for products covered by system 1+, 1 and 3]*, under the responsibility of a notified product certification body *[only for products covered by system 1+ and 1]*.

For the purposes of assessment, the manufacturer's products may be grouped into families, where it is considered that the results for one or more characteristics from any one product within the family are representative for that same characteristics for all products within that same family.

NOTE 2 Products may be grouped in different families for different characteristics.

Reference to the assessment method standards should be made to allow the selection of a suitable representative sample.

In addition, the determination of the product type shall be performed for all characteristics included in the standard for which the manufacturer declares the performance:

— at the beginning of the production of a new or modified draught regulator, standstill opening device or combined secondary air device (unless a member of the same product range), or

— at the beginning of a new or modified method of production (where this may affect the stated properties); or

they shall be repeated for the appropriate characteristic(s), whenever a change occurs in the draught regulator, standstill opening device or combined secondary air device design, in the raw material or in the supplier of the components, or in the method of production (subject to the definition of a family), which would affect significantly one or more of the characteristics.

Where components are used whose characteristics have already been determined, by the component manufacturer, on the basis of assessment methods of other product standards, these characteristics need not be re-assessed. The specifications of these components shall be documented.

Products bearing regulatory marking in accordance with appropriate harmonized European specifications may be presumed to have the performances declared in the DoP, although this does not replace the responsibility on draught regulator, standstill opening device or combined secondary air device manufacturer to ensure that the draught regulator, standstill opening device or combined secondary air device as a whole is correctly manufactured and its component products have the declared performance values.

6.2.2 Test samples, testing and compliance criteria

6.2.2.1 General

The number of samples of draught regulator, standstill opening device or combined secondary air device to be tested/assessed shall be in accordance with Table 3.

Table 3 — Number of samples to be tested and compliance criteria

Characteristic	Requirement	Assessment method	No. of samples	Compliance criteria
Resistance to fire	4.4.2	5.1	1	4.4.2
Thermal shock resistance	4.4.2.2 4.4.2.3	5.1.3.2 5.1.3.3	1	5.1.3.2 5.1.3.3
Durability against corrosion	4.5.3	4.5.3	1	4.5.3
Condensate resistance	4.5.2	4.5.2	1	4.5.2
Dangerous substances	4.5.4	4.5.4	1	4.5.4

6.2.2.2 Sampling for type testing

The size of products to be tested shall be according to Annex A.

The number of products to be tested for any one size shall be in accordance with the requirements of Clause 4.

The results of all type tests shall be recorded and held by the manufacturer, until superseded.

6.2.2.3 Further type testing

Whenever a change occurs in the product design, the raw material or supplier of the components, or the production process, which would change the tolerances or requirements of Clauses 4 and 5 for one or more of the characteristics, the type tests shall be repeated for the appropriate characteristic(s).

6.2.3 Test reports

The results of the determination of the product type shall be documented in test reports. All test reports shall be retained by the manufacturer for at least 10 years after the last date of production of draught regulator, standstill opening device or combined secondary air to which they relate.

6.2.4 Shared other party results

A manufacturer may use the results of the product type determination obtained by someone else (e.g. by another manufacturer, as a common service to manufacturers, or by a product developer), to justify his own declaration of performance regarding a product that is manufactured according to the same design (e.g. dimensions) and with raw materials, constituents and manufacturing methods of the same kind, provided that:

— the results are known to be valid for products with the same essential characteristics relevant for the product performance;

— in addition to any information essential for confirming that the product has such same performances related to specific essential characteristics, the other party who has carried out the determination of the product type concerned or has had it carried out, has expressly accepted[1)] to transmit to the manufacturer the results and the test report to be used for the latter's product type

1) The formulation of such an agreement can be done by licence, contract, or any other type of written consent.

determination, as well as information regarding production facilities and the production control process that can be taken into account for FPC;

— the manufacturer using other party results accepts to remain responsible for the product having the declared performances and he also:

  — ensures that the product has the same characteristics relevant for performance as the one that has been subjected to the determination of the product type, and that there are no significant differences with regard to production facilities and the production control process compared to that used for the product that was subjected to the determination of the product type; and

  — keeps available a copy of the determination of the product type report that also contains the information needed for verifying that the product is manufactured according to the same design and with raw materials, constituents and manufacturing methods of the same kind.

6.2.5 Cascading determination of the product type results

For some construction products, there are companies (often called "system houses") which supply or ensure the supply of, on the basis of an agreement,[2)] some or all of the components (e.g. in case of windows: profiles, gaskets, weather strips)[3)] to an assembler who then manufactures the finished product (referred to below as the "assembler") in his factory.

Provided that the activities for which such a system house is legally established include manufacturing/assembling of products as the assembled one, the system house may take the responsibility for the determination of the product type regarding one or several essential characteristics of an end product which is subsequently manufactured and/or assembled by other firms in their own factory.

When doing so, the system house shall submit an "assembled product" using components manufactured by it or by others, to the determination of the product type and then make the determination of the product type report available to the assemblers, i.e. the actual manufacturer of the product placed on the market.

To take into account such a situation, the concept of cascading determination of the product type might be taken into consideration in the technical specification, provided that this concerns characteristics for which either a notified product certification body or a notified test laboratory intervene, as presented below.

The determination of the product type report that the system house has obtained with regard to tests carried out by a notified body, and which is supplied to the assemblers, may be used for the regulatory marking purposes without the assembler having to involve again a notified body to undertake the determination of the product type of the essential characteristic(s) that were already tested, provided that:

— the assembler manufactures a product which uses the same combination of components (components with the same characteristics), and in the same way, as that for which the system house has obtained the determination of the product type report. If this report is based on a combination of components not representing the final product as to be placed on the market, and/or is not assembled in accordance with the system house's instruction for assembling the

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2) This can be, for instance, a contract, license or whatever kind of written agreement, which should also contain clear provisions with regard to responsibility and liability of the component producer (system house, on the one hand, and the assembler of the finished product, on the other hand.

3) These companies may produce components but they are not required to do so.

components, the assembler needs to submit his finished product to the determination of the product type;

— the system house has notified to the manufacturer the instructions for manufacturing/assembling the product and installation guidance;

— the assembler (manufacturer) assumes the responsibility for the correct assembly of the product in accordance with the instructions for manufacturing/assembling the product and installation guidance notified to him by the system house;

— the instructions for manufacturing/assembling the product and installation guidance notified to the assembler (manufacturer) by the system house are an integral part of the assembler's Factory Production Control system and are referred to in the determination of the product type report;

— the assembler is able to provide documented evidence that the combination of components he is using, and his way of manufacturing, correspond to the one for which the system house has obtained the determination of the product type report (he needs to keep a copy of the system house's determination of the product type report);

— regardless the possibility of referring, on the basis of the agreement signed with the system house, to the latter's responsibility and liability under private law, the assembler remains responsible for the product being in compliance with the declared performances, including both the design and the manufacture of the product, which is given when he affixes the regulatory marking on his product.

6.3 Factory production control (FPC)

6.3.1 General

The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market comply with the declared performance of the essential characteristics.

The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.

All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures.

This factory production control system documentation shall ensure a common understanding of the evaluation of the constancy of performance and enable the achievement of the required product performances and the effective operation of the production control system to be checked. Factory production control therefore brings together operational techniques and all measures allowing maintenance and control of the compliance of the product with the declared performances of the essential characteristics.

In case the manufacturer has used shared or cascading product type results, the FPC shall also include the appropriate documentation as foreseen in 6.2.4 and 6.2.5.

For details regarding sampling for FPC see Annexes B and C.

6.3.2 Requirements

6.3.2.1 General

The manufacturer is responsible for organizing the effective implementation of the FPC system in line with the content of this product standard. Tasks and responsibilities in the production control organization shall be documented and this documentation shall be kept up-to-date.

The responsibility, authority and the relationship between personnel that manages, performs or verifies work affecting product constancy, shall be defined. This applies in particular to personnel that need to initiate actions preventing product non-constancies from occurring, actions in case of non-constancies and to identify and register product constancy problems.

Personnel performing work affecting the constancy of performance of the product shall be competent on the basis of appropriate education, training, skills and experience for which records shall be maintained.

In each factory the manufacturer may delegate the action to a person having the necessary authority to:

— identify procedures to demonstrate constancy of performance of the product at appropriate stages;

— identify and record any instance of non-constancy;

— identify procedures to correct instances of non-constancy.

The manufacturer shall draw up and keep up-to-date documents defining the factory production control. The manufacturer's documentation and procedures should be appropriate to the product and manufacturing process. The FPC system should achieve an appropriate level of confidence in the constancy of performance of the product. This involves

a) the preparation of documented procedures and instructions relating to factory production control operations, in accordance with the requirements of the technical specification to which reference is made;

b) the effective implementation of these procedures and instructions;

c) the recording of these operations and their results;

d) the use of these results to correct any deviations, repair the effects of such deviations, treat any resulting instances of non-conformity and, if necessary, revise the FPC to rectify the cause of non-constancy of performance.

Where subcontracting takes place, the manufacturer shall retain the overall control of the product and ensure that he receives all the information that is necessary to fulfill his responsibilities according to this European standard.

If the manufacturer has part of the product designed, manufactured, assembled, packed, processed and/or labelled by subcontracting, the FPC of the subcontractor may be taken into account, where appropriate for the product in question.

The manufacturer who subcontracts all of his activities may in no circumstances pass the above responsibilities on to a subcontractor.

NOTE Manufacturers having an FPC system, which complies with EN ISO 9001 standard and which addresses the provisions of the present European standard are considered as satisfying the FPC requirements of the Regulation (EU) No 305/2011.

6.3.2.2 Equipment

6.3.2.2.1 Testing

All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.

6.3.2.2.2 Manufacturing

All equipment used in the manufacturing process shall be regularly inspected and maintained to ensure use, wear or failure does not cause inconsistency in the manufacturing process. Inspections and maintenance shall be carried out and recorded in accordance with the manufacturer's written procedures and the records retained for the period defined in the manufacturer's FPC procedures.

6.3.2.3 Raw materials and components

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their compliance. In case supplied kit components are used, the constancy of performance system of the component shall be that given in the appropriate harmonized technical specification for that component. For materials see also Annex C.

6.3.2.4 Traceability and marking

Individual products shall be identifiable and traceable with regard to their production origin. The manufacturer shall have written procedures ensuring that processes related to affixing traceability codes and/or markings are inspected regularly.

6.3.2.5 Controls during manufacturing process

The manufacturer shall plan and carry out production under controlled conditions.

6.3.2.6 Product testing and evaluation

The manufacturer shall establish procedures to ensure that the stated values of the characteristics he declares are maintained. The characteristics, and the means of control, are:

— resistance to fire: shall be subject to the tests indicated in 5.1, at least once per year;

— thermal shock: shall be subject to the tests indicated in 5.1, at least once per year.

6.3.2.7 Non-complying products

The manufacturer shall have written procedures which specify how non-complying products shall be dealt with. Any such events shall be recorded as they occur and these records shall be kept for the period defined in the manufacturer's written procedures.

Where the product fails to satisfy the acceptance criteria, the provisions for non-complying products shall apply, the necessary corrective action(s) shall immediately be taken and the products or batches not complying shall be isolated and properly identified.

Once the fault has been corrected, the test or verification in question shall be repeated.

The results of controls and tests shall be properly recorded. The product description, date of manufacture, test method adopted, test results and acceptance criteria shall be entered in the records under the signature of the person responsible for the control/test.

With regard to any control result not meeting the requirements of this European standard, the corrective measures taken to rectify the situation (e.g. a further test carried out, modification of manufacturing process, throwing away or putting right of product) shall be indicated in the records.

6.3.2.8 Corrective action

The manufacturer shall have documented procedures that instigate action to eliminate the cause of non-conformities in order to prevent recurrence.

6.3.2.9 Handling, storage and packaging

The manufacturer shall have procedures providing methods of product handling and shall provide suitable storage areas preventing damage or deterioration.

6.3.3 Product specific requirements

The FPC system shall address this European Standard and ensure that the products placed on the market comply with the declaration of performance.

The FPC system shall include a product specific FPC, which identifies procedures to demonstrate compliance of the product at appropriate stages, i.e.:

a) the controls and tests to be carried out prior to and/or during manufacture according to a frequency laid down in the FPC test plan,

and/or

b) the verifications and tests to be carried out on finished products according to a frequency laid down in the FPC test plan

If the manufacturer uses only finished products, the operations under b) shall lead to an equivalent level of compliance of the product as if FPC had been carried out during the production.

If the manufacturer carries out parts of the production himself, the operations under b) may be reduced and partly replaced by operations under a). Generally, the more parts of the production that are carried out by the manufacturer, the more operations under b) may be replaced by operations under a).

In any case the operation shall lead to an equivalent level of compliance of the product as if FPC had been carried out during the production.

NOTE: Depending on the specific case, it can be necessary to carry out the operations referred to under a) and b), only the operations under a) or only those under b).

The operations under a) refer to the intermediate states of the product as on manufacturing machines and their adjustment, and measuring equipment etc. These controls and tests and their frequency shall be chosen based on product type and composition, the manufacturing process and its complexity, the sensitivity of product features to variations in manufacturing parameters etc.

The manufacturer shall establish and maintain records that provide evidence that the production has been sampled and tested. These records shall show clearly whether the production has satisfied the defined acceptance criteria and shall be available for at least three years.

6.3.4 Initial inspection of factory and of FPC

Initial inspection of factory and of FPC shall be carried out when the production process has been finalized and in operation. The factory and FPC documentation shall be assessed to verify that the requirements of 6.3.2 and 6.3.3 are fulfilled.

During the inspection it shall be verified:

a) that all resources necessary for the achievement of the product characteristics included in this European Standard are in place and correctly implemented,

and

b) that the FPC-procedures in accordance with the FPC documentation are followed in practice,

and

c) that the product complies with the product type samples, for which compliance of the product performance to the DoP has been verified.

All locations where final assembly or at least final testing of the relevant product is performed, shall be assessed to verify that the above conditions a) to c) are in place and implemented. If the FPC system covers more than one product, production line or production process, and it is verified that the general requirements are fulfilled when assessing one product, production line or production process, then the assessment of the general requirements does not need to be repeated when assessing the FPC for another product, production line or production process.

All assessments and their results shall be documented in the initial inspection report.

6.3.5 Continuous surveillance of FPC

Surveillance of the FPC shall be undertaken annually every 12 months. The surveillance of the FPC shall include a review of the FPC test plan(s) and production processes(s) for each product to determine if any changes have been made since the last assessment or surveillance. The significance of any changes shall be assessed.

Checks shall be made to ensure that the test plans are still correctly implemented and that the production equipment is still correctly maintained and calibrated at appropriate time intervals.

The records of tests and measurement made during the production process and to finished products shall be reviewed to ensure that the values obtained still correspond with those values for the samples submitted to the determination of the product type and that the correct actions have been taken for non-compliant products.

6.3.6 Procedure for modifications

If modifications are made to the product, production process or FPC system that could affect any of the product characteristics declared according to this standard, then all the characteristics for which the manufacturer declares performance, which may be affected by the modification, shall be subject to the determination of the product type, as described in 6.2.1.

Where relevant, a re-assessment of the factory and of the FPC system shall be performed for those aspects, which may be affected by the modification.

All assessments and their results shall be documented in a report.

7 Manufacturer's declaration for type test

The manufacturer shall provide the relevant information in 4.5.4 and, in addition, shall declare, for the draught regulator and standstill opening device if appropriate:

a) drawings including declared nominal dimensions, e.g. internal diameter of the connection to the flue;

b) material types for body, flap and hinge, and their minimum thicknesses;

c) draught regulator group and if appropriate whether it is also a standstill opening device;

d) wiring diagram if required;

e) weight of product;

f) method of fixing.

8 Product information

8.1 Manufacturer's instructions

The manufacturer’s instructions shall be available in the language of the country of destination.

8.2 Minimum information to be included in the manufacturer's instructions

— manufacturer identification;

— product designation with explanation e.g. distance to combustible material;

— nominal dimensions;

— weight;

— typical installation drawing;

— information required on the chimney plate – at least the product designation;

— that the product shall be installed in accordance with local rules in force, e.g. requirements for lightning protection, combustible roof material;

— storage instructions;

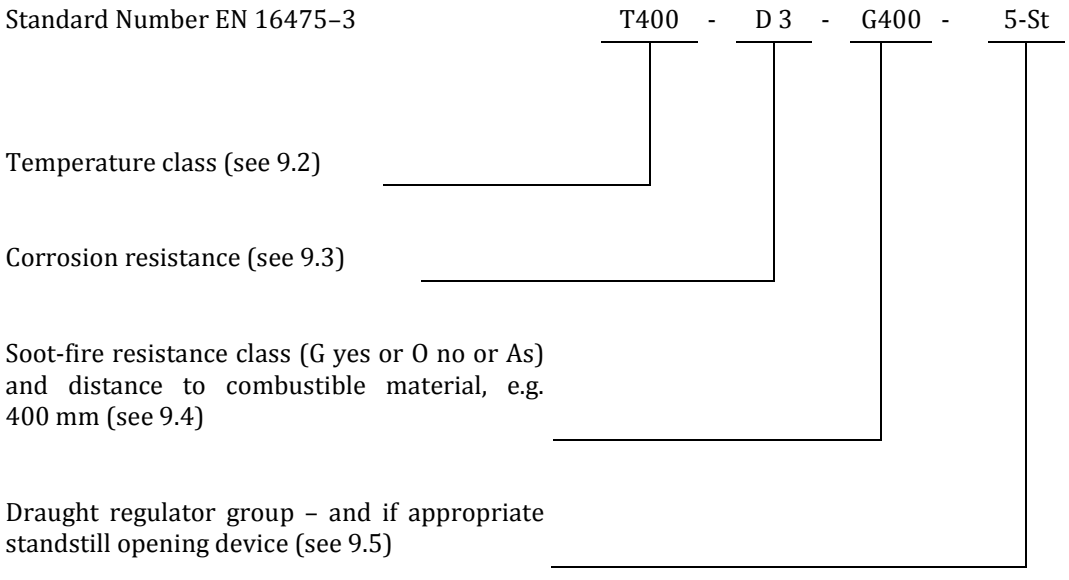
— specific methods or tools for cleaning.

9 Classification and designation

9.1 General

The draught regulator, and if appropriate the standstill opening device shall be designated in accordance with the following designation system:

Example for draught regulator, and if appropriate the standstill opening device:



9.2 Temperature classes and test temperature

Table 4 identifies the temperature class for the draught regulator, and if appropriate the standstill opening device, working temperature, and gives the test temperature for the temperature level.

Table 4 — Temperature classes and test temperatures

Temperature class	Nominal working Temperature (T) °C	Flue gas test Temperature °C
T 080	≤ 80	100
T 100	≤ 100	120
T 120	≤ 120	150
T 140	≤ 140	170
T 160	≤ 160	190
T 200	≤ 200	250
T 250	≤ 250	300
T 300	≤ 300	350
T 400	≤ 400	500
T 450	≤ 450	550
T 600	≤ 600	700

9.3 Corrosion resistance

The corrosion resistance class of the draught regulator, and if appropriate the standstill opening device, for dry applications is 3, and for wet applications is 2, for the material specifications of 4.1.

9.4 Soot fire resistance and distance to combustible material

The draught regulator, and if appropriate the standstill opening device, shall be designated O if it is non-sootfire resistant, or G if it is sootfire resistant, or As if it is a sootfire safe accessory. The designation shall be followed by the distance to combustible material xx.

9.5 Draught regulator groups and whether it is a standstill opening device

The draught regulator shall be designated with the appropriate group (see 5.3.2). If the draught regulator is also used as a standstill opening device e.g. by the addition of a motor, it shall also be designated St.

10 Marking, labelling and packaging

NOTE For CE marking and CE labelling purposes the provisions of Annex ZA apply.

10.1 Draught regulator and standstill opening device

The draught regulator, and if appropriate the standstill opening device shall be marked with the following information, where possible on the product otherwise on label/packaging:

a) product designation in accordance with Clause 9;

b) name or trade mark of the manufacturer;

c) manufacturing batch or product reference of manufacturer.

10.2 Packaging

Each package within a consignment shall be legibly marked with the following information:

a) product designation in accordance with Clause 9;

b) name or trade mark of the manufacturer;

c) nominal dimensions.

Annex A
(normative)

Choice of sizes for type test and sampling

A.1 Thermal testing

Largest size of draught regulator which can be installed in a chimney up to and including 200 mm diameter. All diameters within a range of products of the same design and designation shall be deemed to meet the requirements met by the tested samples.

A.2 Gas tightness

All dimensions – 3 samples per dimension

A.3 Condensate resistance

On thermally tested sample see B.1

A.4 Determination of the group

All dimensions.

A.5 Adjustability

All dimensions.

A.6 Durability of standstill opening device

One dimension, for each device with a comparable design of components of the standstill opening device, e.g. actuator and mountings.

A.7 Samples

The number of components to be supplied is determined by the units required for each applicable test.

A.8 Factory production control system

The factory production control system shall verify that normal production units are identical to the samples used for type testing.

A.9 Further type testing

Nature of changes requiring further type tests:

a) material or method of construction changes;

b) changes which affect designation parameters as appropriate.

Annex B
(informative)

Sampling for factory productions control

B.1 Sampling plans

B.1.1 General

Sampling plans will be selected from the tables published in ISO 2859-1.

B.1.2 Acceptable quality level (AQL)

The AQL should be decided in relation to the nature of the inspection feature being controlled. For defects classed as major, the sampling plan should be based on an AQL of 4,0. The classification of defects should be the responsibility of the manufacturer.

B.1.3 The inspection level

The inspection level defines the relationship between the batch size and the sample size, all incoming goods should be subjected to inspection level II.

B.1.4 Normal, tightened or reduce inspection

Normal inspection should be used initially on all incoming materials, after which, the following rules apply:

a) When 10 successive batches have been accepted on original there can be a switch to reduced inspection. This should remain in operation until one batch is rejected, at which point revert back to normal inspection.

b) When two out of any five successive batches have been rejected on original inspection, there can be a switch to tightened inspection. This should remain in operation until five successive batches have been accepted, at which point revert back to normal inspection.

B.1.5 Single, double, multiple or sequential sampling

Unless otherwise specified, all incoming material should be subjected to single sampling plans.

B.1.6 Batch quantity

Once the first four variables have been decided, the sampling plan tables should indicate the amount of samples to be inspected for any given batch quantity.

All information regarding levels of inspection should be indicated where appropriate on the inspection records.

B.2 Inspection levels and procedures

B.2.1 Incoming material

Sample inspected to ISO 2859-1 using an AQL = 2,5, general inspection level II, single sampling plan for normal inspection incorporating the switching rules to tightened or reduced inspection if necessary. All mill certification is checked against the relevant technical specification.

B.2.2 In-process inspection

The following inspections shall be done:

All dimensional aspects shall be inspected:

An inspection of the product shall be carried out following any change in manufacturing procedure. A first inspection is implemented and verified by either the setter or supervisor at each machine operation and from then on the operators will carry out each required dimensional check at a rate of four per batch – unrecorded, using go-no go gauges.

B.2.3 Finished goods checks

The following checks shall be done:

a) End of manufacturing process - Prior to packaging, each unit is visually inspected for damage. When boxed, the carton is stamped with the date of manufacture.

b) Warehouse – Once a week four samples from a particular product range should be randomly selected, and subject each item to full dimensional checks including joint leakage test and weight checks. This is also carried out to a formalized programme.

Annex C
(normative)

Factory production control

C.1 Introduction

The following components and the criteria shall be included in the factory production control scheme.

C.2 Materials, including coatings

The following information shall be given:

a) Type – composition.

b) Thickness.

c) Finish.

Supplier's declaration for material type and properties is allowed, provided that the supplier has an appropriate quality assurance system.

C.3 Seals and sealants

The following information shall be given:

a) Type – Including identification or composition, when the conformity certificate is not available.

b) Dimensions.

Supplier's declaration for material type and properties is allowed, provided that the supplier has an appropriate quality assurance system.

C.4 Manufacturing checks

C.4.1 Dimensions

Dimensions of critical parts shall be confirmed during the manufacturing and/or on completion:

a) material thickness;

b) size

c) construction characteristic (e.g. rivets).

C.4.2 Other checks

These checks are to be carried out during the manufacturing process:

Free area of completed draught regulator, and if appropriate the standstill opening device, (e.g. taking account of support dimensions).

Annex D
(informative)

Recommended range of application

D.1 Tables for the selection of the draught regulator group Height against diameter

Table D.1 — Thermal resistance of the chimney up to 0,22 m² K/W

H/D_H	< 80	< 130	< 150	< 160	< 180	< 200	< 225	< 250	< 300	< 350	< 400	< 450	< 500	< 550	< 600	< 650	< 700	< 750
40	6	6	6															
35	6	6	6	6	6													
30	6	6	6	6	6	6												
25	6	6	6	6	6	6	6	6										
20	6	6	6	6	6	6	6	6	6									
15	5	5	5	5	6	6	6	6	6	6								
10	3	3	3	4	4	5	5	6	6	6	6							
8	3	3	3	3	3	4	4	5	5	6	6	6	6					
6	2	3	3	3	3	3	3	4	4	5	5	6	6	6				
5	1	2	2	3	3	3	3	3	4	4	4	5	5	6	6	6		
4	1	1	2	2	3	3	3	3	3	4	4	4	5	5	6	6	6	

H height of the chimney
D_H hydraulic diameter of the chimney

Table D.2 — Thermal resistance of the chimney up to 0,12 m² K/W

H/D_H	< 80	< 130	< 150	< 160	< 180	< 200	< 225	< 250	< 300	< 350	< 400	< 450	< 500	< 550	< 600	< 650	< 700	< 750
40	6	6	6	6	6	6												
35	6	6	6	6	6	6	6											
30	6	6	6	6	6	6	6	6	6									
25	6	6	6	6	6	6	6	6	6	6								
20	5	5	5	5	5	6	6	6	6	6	6							
15	3	3	3	3	4	4	5	5	6	6	6	6						
10	3	3	3	3	3	3	4	4	5	5	6	6	6	6				
8	3	3	3	3	3	3	3	3	4	4	5	5	6	6	6			
6	2	3	3	3	3	3	3	3	3	4	4	4	5	5	6	6	6	
5	1	2	2	3	3	3	3	3	3	3	4	4	4	5	5	6	6	
4	1	1	2	2	3	3	3	3	3	3	3	4	4	4	5	5	5	6

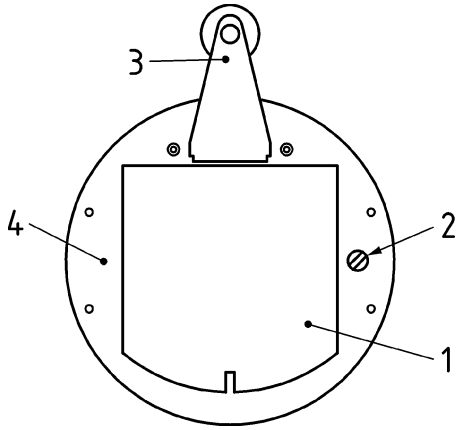
H height of the chimney

D_H hydraulic diameter of the chimney

Annex E
(informative)

Examples of products

E.1 Without standstill opening device



Key

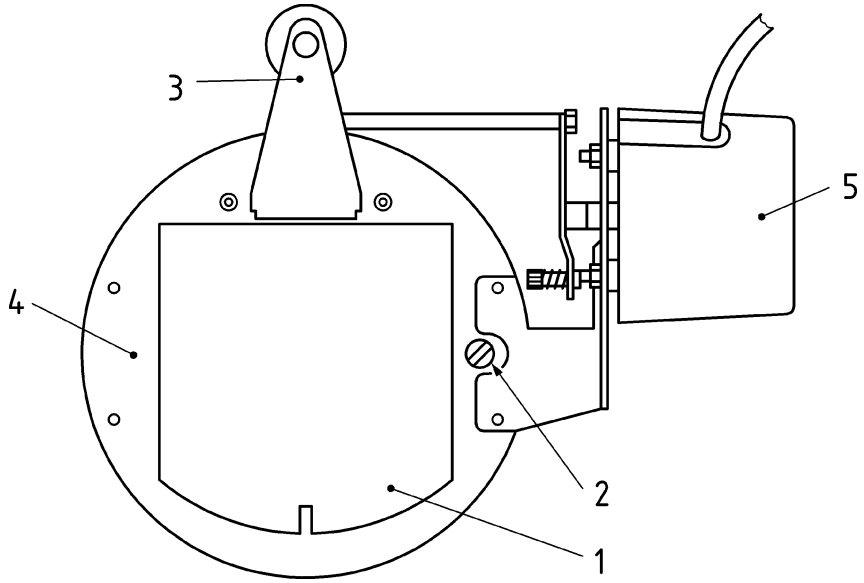
1 hinged flap

2 locking screw

3 adjustable balance weight

4 housing

Figure E.1 — Example of draught regulator without standstill opening device



Key

1 hinged flap

2 locking screw

3 adjustable balance weight

4 housing

5 actuating motor for standstill opening device

Figure E.2 — Example of draught regulator with standstill opening device

Annex ZA
(informative)

Relationship of this European Standard with Regulation (EU) No.305/2011

(When applying this standard as a harmonized standard under Regulation (EU) No. 305/2011, manufacturers and Member States are obliged by this regulation to use this Annex)

ZA.1 Scope and relevant characteristics

This European Standard has been prepared under standardization request M/105 'Chimneys, flues and specific products', the horizontal Mandate M/117 and its subsequent revisions given to CEN and CENELEC by the European Commission (EC) and the European Free Trade Association (EFTA).

When this European Standard is cited in the Official Journal of the European Union (OJEU), under Regulation (EU) No 305/2011, it shall be possible to use it as a basis for the establishment of the Declaration of Performance (DoP) and the CE marking, from the date of the beginning of the co-existence period as specified in the OJEU.

Regulation (EU) No 305/2011, as amended, contains provisions for the DoP and the CE marking.

Table ZA.1.1 — Relevant clauses for draught regulators and intended use to limit the draught in chimneys and provide secondary air to the chimney

Product: Draught regulator Intended use: To limit the draught in chimneys and provide secondary air to the chimney.			
Essential Characteristics	**Clauses of this European Standard related to essential characteristics**	**Classes and/or threshold levels**	**Notes**
Fire resistance	4.4.2 Resistance to fire	– O or G or As	T class Pass/fail criteria Declared classes (O or G or As) determined by heat load according to designation
Flow resistance	–	–	–
Thermal shock resistance	4.4.2.2 Heat stress 4.4.2.3 Sootfire	– O or G or As	T class Pass/fail criteria Maintenance of flow resistance and shape Declared classes (O or G or As) determined by heat load according to designation
Durability against corrosion	4.5.2 Condensate resistance 4.5.3 Corrosion resistance	–	D or W Class according to EN 1443
Dangerous substances	4.5.4	–	Relevant national regulations

Table ZA.1.2 — Relevant clauses for standstill opening devices and intended use to provide maximum secondary air to the chimney when the heating appliance is off

Product: Standstill opening device Intended use: To provide maximum secondary air to the chimney when the heating appliance is off.			
Essential Characteristics	**Clauses of this European Standard related to essential characteristics**	**Classes and/or threshold levels**	**Notes**
Fire resistance	4.4.2 Resistance to fire	– O or G or As	T class Pass/fail criteria Declared classes (O or G or As) determined by heat load according to designation
Flow resistance	–	–	–
Thermal shock resistance	4.4.2.2 Heat stress 4.4.2.3 Sootfire	– O or G or As	T class Pass/fail criteria Maintenance of flow resistance and shape Declared classes (O or G or As) determined by heat load according to designation
Durability against corrosion	4.5.2 Condensate resistance 4.5.3 Corrosion resistance	–	D or W Class according to EN 1443
Dangerous substances	4.5.4	–	Relevant national regulations

ZA.2 System of Assessment and Verification of Constancy of Performance (AVCP)

The AVCP system of draught regulators and standstill opening devices indicated in Tables ZA.1.1 to ZA.1.2, can be found in the EC legal act(s) adopted by the EC: EU Decisions 95/467/EC as amended by 01/596/EC and 2010/679/EU of 8 November 2010 (published as C (2010) 7542 L 292/55.

Micro-enterprises are allowed to treat products under AVCP system 3 covered by this standard in accordance with AVCP system 4, applying this simplified procedure with its conditions, as foreseen in Article 37 of Regulation (EU) No.305/2011.

ZA.3 Assignment of AVCP tasks

The AVCP system of draught regulators and standstill opening devices as provided in Tables ZA.1.1 to ZA.1.2 is defined in Tables ZA.3.1 to ZA.3.2 resulting from application of the clauses of this or other European Standards indicated therein. The content of the tasks assigned to the notified body shall be limited to those essential characteristics, if any, as provided for in Annex III of the relevant standardization request and to those that the manufacturer intends to declare.

Taking into account the AVCP systems defined for the products and the intended uses the following tasks are to be undertaken by the manufacturer and the notified body respectively for the assessment and verification of the constancy of performance of the product.

Table ZA.3.1 — Assignment of AVCP tasks for draught regulators under system 2+

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	An assessment of the performance of the construction product carried out on the basis of testing (including sampling), calculation, tabulated values or descriptive documentation of the product	Fire resistance, flow resistance, thermal shock resistance, durability against corrosion, dangerous substances of Table ZA.1.1 relevant for the intended use which are declared	6.2
	Factory production control (FPC)	Parameters related to fire resistance, flow resistance, thermal shock resistance, durability against corrosion, dangerous substances of Table ZA.1.1 relevant for the intended use which are declared	6.3
	Testing of samples taken at factory according to the prescribed test plan	Fire resistance, flow resistance, thermal shock resistance, durability against corrosion, dangerous substances of Table ZA.1.1 relevant for the intended use which are declared	6.2.2
Tasks for the notified factory production control certification body	Initial inspection of the manufacturing plant and of FPC	Parameters related to fire resistance, flow resistance, thermal shock resistance, durability against corrosion, dangerous substances of Table ZA.1.1, relevant for the intended use which are declared, namely chimneys. Documentation of the FPC.	6.3
	Continuing surveillance, assessment and evaluation of FPC	Parameters related to fire resistance, flow resistance, thermal shock resistance, durability against corrosion, dangerous substances of Table ZA.1.1, relevant for the intended use which are declared, namely chimneys. Documentation of the FPC.	6.3

Table ZA.3.2 — Assignment of AVCP tasks for standstill opening devices under system 2+

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	An assessment of the performance of the construction product carried out on the basis of testing (including sampling), calculation, tabulated values or descriptive documentation of the product	Fire resistance, flow resistance, thermal shock resistance, durability against corrosion, dangerous substances of Table ZA.1.2 relevant for the intended use which are declared	6.2
	Factory production control (FPC)	Parameters related to fire resistance, flow resistance, thermal shock resistance, durability against corrosion, dangerous substances of Table ZA.1.2 relevant for the intended use which are declared	6.3
	Testing of samples taken at factory according to the prescribed test plan	Fire resistance, flow resistance, thermal shock resistance, durability against corrosion, dangerous substances of Table ZA.1.2 relevant for the intended use which are declared	6.2.2
Tasks for the notified factory production control certification body	Initial inspection of the manufacturing plant and of FPC	Parameters related to fire resistance, flow resistance, thermal shock resistance, durability against corrosion, dangerous substances of Table ZA.1.2, relevant for the intended use which are declared, namely chimneys. Documentation of the FPC.	6.3
	Continuing surveillance, assessment and evaluation of FPC	Parameters related to fire resistance, flow resistance, thermal shock resistance, durability against corrosion, dangerous substances of Table ZA.1.2, relevant for the intended use which are declared, namely chimneys. Documentation of the FPC.	6.3

Bibliography

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

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

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