

**National technical  
approval /  
General construction  
technique permit**

**Zulassungsstelle für Bauprodukte und Bauarten  
Bautechnisches Prüfamt**

Eine vom Bund und den Ländern  
gemeinsam getragene Anstalt des öffentlichen Rechts

Mitglied der EOTA, der UEAtc und der WFTAO

Date:

3 Jul 2019

Reference:

III 51-1.7.1-34/18

**Number:**

**Z-7.1-3048**

**Applicant:**

**Skoberne Schornsteinsysteme GmbH**  
Ostendstraße 1  
64319 Pfungstadt, Germany

**Validity**

from: **3 July 2019**

to: **3 July 2024**

**Subject of decision:**

**System chimney  
T400 N1 D 3 G50 LA90**

The subject named above is herewith granted a national technical approval general / construction technique permit.

This decision contains six pages and ten annexes.

**Translation authorised by DIBt**

DIBt

## I GENERAL PROVISIONS

- 1 This decision confirms the fitness for use and application of the subject concerned in accordance with the Building Codes of the federal states (*Landesbauordnungen*).
- 2 This decision does not replace the permits, approvals and certificates required by law for carrying out construction projects.
- 3 This decision is granted without prejudice to the rights of third parties, in particular private property rights.
- 4 Notwithstanding further provisions in the 'Special Provisions', copies of this decision shall be made available to the user and installer of the subject concerned. The user and installer of the subject concerned shall also be made aware that this decision must be made available at the place of use or place of application. Upon request, copies of the decision shall be provided to the authorities involved.
- 5 This decision shall be reproduced in full only. Partial publication requires the consent of DIBt. Texts and drawings in promotional material shall not contradict this decision. In the event of a discrepancy between the German original and this authorised translation, the German version shall prevail.
- 6 This decision may be revoked. The provisions contained herein may subsequently be supplemented and amended, in particular if this is required by new technical findings.
- 7 This decision is based on the information and documents provided by the applicant. Alterations to this basis are not covered by this decision and shall be notified to DIBt without delay.
- 8 The general construction technique permit included in this decision also serves as a national technical approval for the construction technique.

## II SPECIAL PROVISIONS

### 1 Subject concerned and field of use and application

The subject concerned is rectangular outer walls (ducts) for chimneys with the designation "Skoberne UNIFIX" made of non-combustible autoclaved aerated concrete formed bricks and designed for accommodating flue liners with round cross-sections. The outer walls (ducts) are prefabricated from autoclaved aerated concrete formed bricks at the applicant's manufacturing plant.

The outer walls may be used for chimneys with round flue liners carrying flue gas in accordance with DIN EN 1856-1<sup>1</sup> or DIN EN 1856-2<sup>2</sup>.

The outer walls (ducts) are intended for use in custom-built chimneys (triple-walled) in accordance with Section 8.1.1.3 of DIN V 18160-1<sup>3</sup>, for chimneys with the product classification T400 N1 D 3 G50 LA90<sup>4</sup>.

The custom-built chimneys are manufactured in accordance with the application rules of DIN V 18160-1<sup>3</sup>.

Table 1: Duct designs in combination with the flue liner carrying the flue gas

Wall thickness of outer walls	Ventilated annular gap	Insulation of flue liner	Classification
At least 45 mm ± 3 mm		≥ 25 mm	LA90

### 2 Provisions for the construction product

#### 2.1 Properties and composition

The ducts mainly consist of the duct elements (autoclaved aerated concrete formed bricks) including jointing materials and shall meet the specifications given in Annex 1.

The gas tightness of the chimney at a static (positive) pressure of 100 Pa on its inner surface compared to the outer surface, shall not exceed 3 l/(s · m<sup>2</sup>) in relation to the inner surface.

##### 2.1.1 Duct elements

The outer walls (ducts) made of steam-cured autoclaved aerated concrete masonry units in accordance with DIN EN 771-4<sup>5</sup> shall correspond to strength classes 2 or 4 and density class 0.50 in accordance with DIN V 20000-404<sup>6</sup> and to declarations of performance no. 49000921, 49000922 or 49000102.

The wall thickness of the outer walls (ducts) shall be at least 45 mm ± 3 mm.

<sup>1</sup> DIN EN 1856-1:2009-09 Chimneys – Requirements for metal chimneys – Part 1: System chimney products  
<sup>2</sup> DIN EN 1856-2:2009-09 Chimneys – Requirements for metal chimneys – Part 2: Metal flue liners and connecting flue pipes  
<sup>3</sup> DIN V 18160-1:2006-01 Chimneys – Part 1: Design and performance  
<sup>4</sup> LA90 Marking of the fire resistance of chimneys in accordance with DIN V 18160-60:2014-02 Chimneys – Part 60: Assessment of fire resistance for chimneys and components of chimneys – Definitions, requirements and test methods  
<sup>5</sup> DIN EN 771-4: 2011-07 Specification for masonry units – Part 4: Autoclaved aerated concrete masonry units  
<sup>6</sup> DIN V 20000-404:2015-12 Application of building products in structures – Part 404: Rules for the application of autoclaved aerated concrete masonry units according to DIN EN 771-4:2005-05

### 2.1.2 Jointing material

The individual duct elements shall be jointed using mortars of group III or thin-layer mortars in accordance with DIN EN 998-2<sup>7</sup> and declaration of performance no. 110201-04-EN998-2-T.

### 2.1.3 Thermal insulation layer

For the thermal insulation layer, only insulation products in accordance with DIN EN 14303<sup>8</sup> shall be used for which the soot fire resistance has been verified and the upper application limit temperature in accordance with the above-mentioned standard is larger or equal to the required temperature class of the chimney. The soot fire resistance may be verified through a test in the system in accordance with DIN EN 1856-1<sup>1</sup> supplemented by a declaration from the manufacturer on the insulation product used or by means of technical documentation following Section D 3 of the Model Administrative Regulation – Technical Building Rules (MVV TB), 2017/1.

### 2.1.4 Cleaning openings in the outer wall

The cleaning doors which may be required for installations inside the ducts shall comply with a national technical test certificate for chimney cleaning doors in terms of properties and composition, manufacture, marking as well as the confirmation of conformity. They shall bear the national conformity mark and be used in addition to the cleaning doors of the flue liner.

### 2.1.5 Pipes and fittings for the flue liner

The pipes and fittings made of stainless steel shall comply with DIN EN 1856-1<sup>1</sup> or DIN EN 1856-2<sup>2</sup> in terms of properties and composition, manufacture and marking as well as conformity. They shall also be marked with the classification T400 N1 D 3 G (xxx), after verification of the resistance to condensate in accordance with DIN V 18160-1, Supplementary Sheet 1<sup>9</sup>.

## 2.2 Manufacture and marking

### 2.2.1 Manufacture

The outer walls (ducts) shall be prefabricated in the manufacturing plant of the applicant.

### 2.2.2 Marking

The delivery note of the formed bricks shall be marked by the manufacturer with the national conformity mark (*Ü-Zeichen*), specifying the product classification T400 LA90 G50 in accordance with the Conformity Marking Ordinances (*Übereinstimmungszeichen-Verordnungen*) of the federal states.

The mark shall only be applied if the provisions set out in Section 2.3 'Confirmation of conformity' are met. The formed bricks shall be marked by the manufacturer in a clearly legible and permanent manner with the specification of the manufacturer and plant or plant code.

## 2.3 Confirmation of conformity

### 2.3.1 General

The manufacturer shall confirm for each manufacturing plant that the construction product complies with the provisions of the national technical approval included in this decision by way of a confirmation of conformity based on factory production control and a certificate of

7	DIN EN 998-2:2017-02	Specification for mortar for masonry – Part 2: Masonry mortar, German version EN 998-2:2016
8	DIN EN 14303:2016-08	Thermal insulation products for building equipment and industrial installations – Factory made mineral wool (MW) products – Specification; German version EN 14303:2015
9	DIN V 18160-1 Suppl. Sheet 1:2006-01	Chimneys - Part 1: Design and performance; National supplement for metal chimneys according to DIN EN 1856-1, flues and connecting flues according to DIN EN 1856-2, Supplement for allowed materials and the usage of corrosion resistance classes

conformity issued by a certification body recognised for these purposes as well as on regular external surveillance carried out by a recognised inspection body in accordance with the following provisions.

To issue the certificate of conformity and for external surveillance including the associated product testing, the manufacturer of the construction product shall use a certification body and an inspection body recognised for these purposes.

The declaration of conformity shall be submitted by the manufacturer through marking of the construction product with the national conformity mark including statement of the intended use.

The certification body shall send a copy of the certificate of conformity issued by it to DIBt.

**2.3.2 Factory production control**

A factory production control system shall be set up and implemented in the manufacturing plant. Factory production control shall be understood to be continuous surveillance of production by the manufacturer to ensure that the manufactured construction products satisfy the provisions of the national technical approval included in this decision. Factory production control shall at least include the tests listed in Table 2.

Table 2

Section	Component	Property	Frequency	Basis
2.1.1	Duct element	composition dimensions	with each delivery	DIN EN 771-4 Annex 1
2.1.2	Jointing material	delivery specifications	with each delivery	DIN 998-2

The results of factory production control shall be recorded and evaluated. The records shall include at least the following information:

- designation of the construction product or the starting material and the components
- type of check or test
- date of manufacture and testing of the construction product and the components
- results of the checks and tests as well as, if applicable, comparison with the requirements
- signature of the person responsible for factory production control.

The records shall be kept for at least five years and submitted to the inspection body used for external surveillance. They shall be presented to DIBt and the competent supreme building authority upon request. If the test result is unsatisfactory, the manufacturer shall immediately take the necessary measures to resolve the defect. Construction products which do not meet the requirements shall be handled in such a way that they cannot be confused with compliant products. After the defect has been remedied, the relevant test shall be repeated immediately – where technically feasible and necessary to show that the defect has been eliminated.

**2.3.3 External surveillance**

The factory production control system at the manufacturing plant shall be inspected regularly, i.e. at least twice a year, by means of external surveillance. Initial type-testing of the construction product shall be carried out within the scope of external surveillance. In addition, samples shall be taken for random testing. The tests listed in Table 3 shall be carried out on at least five samples.

Table 3

Section	Component	Property	Frequency	Basis
2.1.1	Duct element	composition dimensions	twice a year	DIN EN 771-4 <sup>5</sup> Annexes 1 to 6
2.1.2	Jointing material	delivery specifications		DIN 998-2 <sup>7</sup>

Sampling and testing shall be the responsibility of the recognised inspection body. The results of certification and external surveillance shall be kept for at least five years. They shall be presented by the certification or inspection body to DIBt and the competent supreme building authority upon request.

### 3 Provisions for planning, design and execution

#### 3.1 Planning

The provisions of DIN V 18160-1<sup>3</sup> shall apply for the planning of the outer walls (ducts) for chimneys accommodating the flue liners.

#### 3.2 Design

The provisions of DIN V 18160-1<sup>3</sup>. Clause 13 shall apply to stability verification.

The design failure load shall be 2.0 kN/mm<sup>2</sup>.

#### 3.3 Execution

The manufacturer's jointing and assembly instructions in conjunction with the provisions of DIN V 18160-1<sup>3</sup> shall apply. The outer walls (ducts) shall only be jointed by trained personnel.

The outer walls (ducts) for chimneys executed in accordance with this general construction technique permit require confirmation of conformity with the specifications of this general construction technique permit.

The contractor executing the chimney shall issue a written declaration of conformity to the client which confirms that this general construction technique permit has been adhered to during the execution of the chimney. The contractor shall verify the chimney marking in light of the specific construction elements used. The form provided in Annex 10 may be used for this purpose.

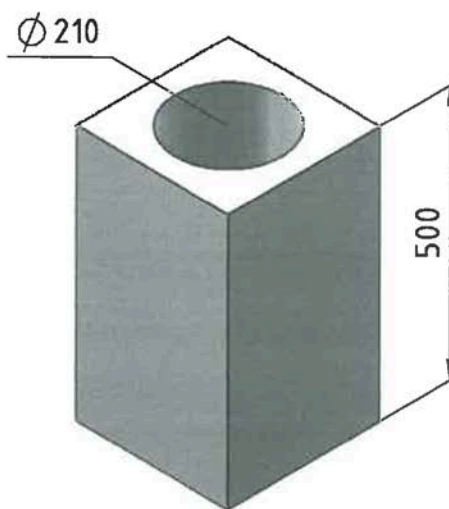
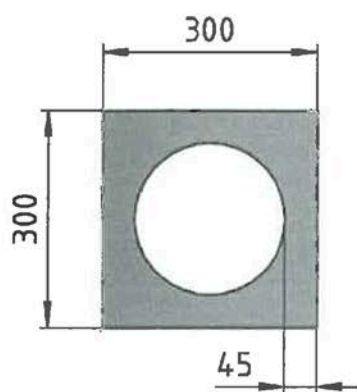
### 4 Provisions for use, maintenance and repair

The ducts shall be constructed from formed bricks by the same manufacturer. For the execution of the chimneys, the requirements of DIN V 18160-1<sup>3</sup> shall apply.

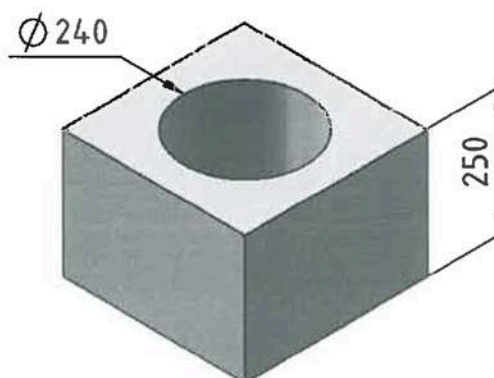
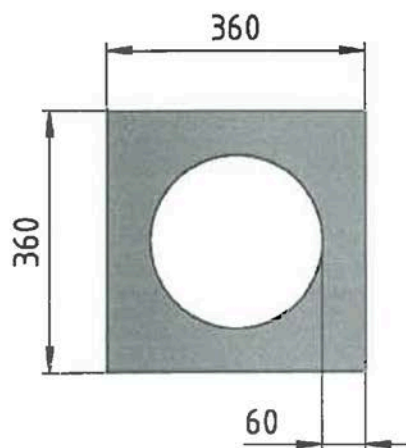
For the connection of the heating appliances as well as the cleaning openings, only specific formed bricks shall be used. The required openings may also be cut out to size from the formed bricks on site. Plugs for connections which are not used temporarily shall be supplied and shall meet the requirements for the formed bricks.

Rudolf Kersten  
Head of Section

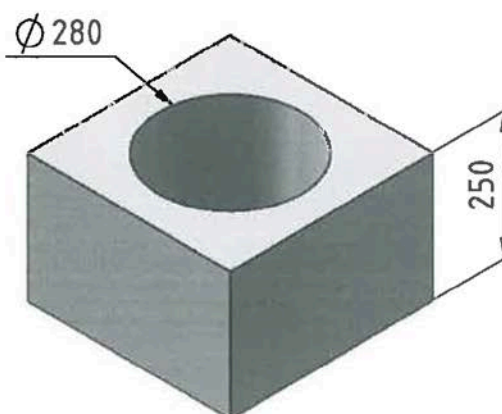
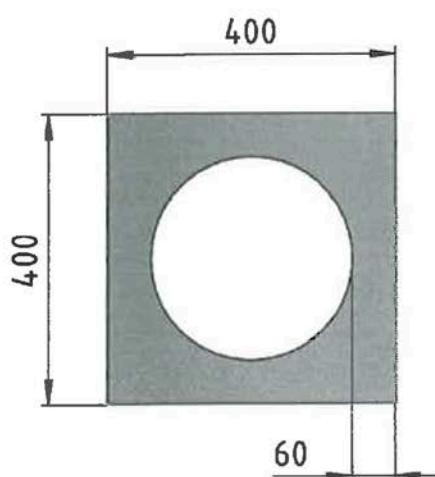
Drawn up by  
Marek Hajdel



UNIFIX 210  
 300x300x500  
 Drill hole Ø210  
 Length 500



UNIFIX 240  
 360x360x250  
 Drill hole Ø240  
 Length 250

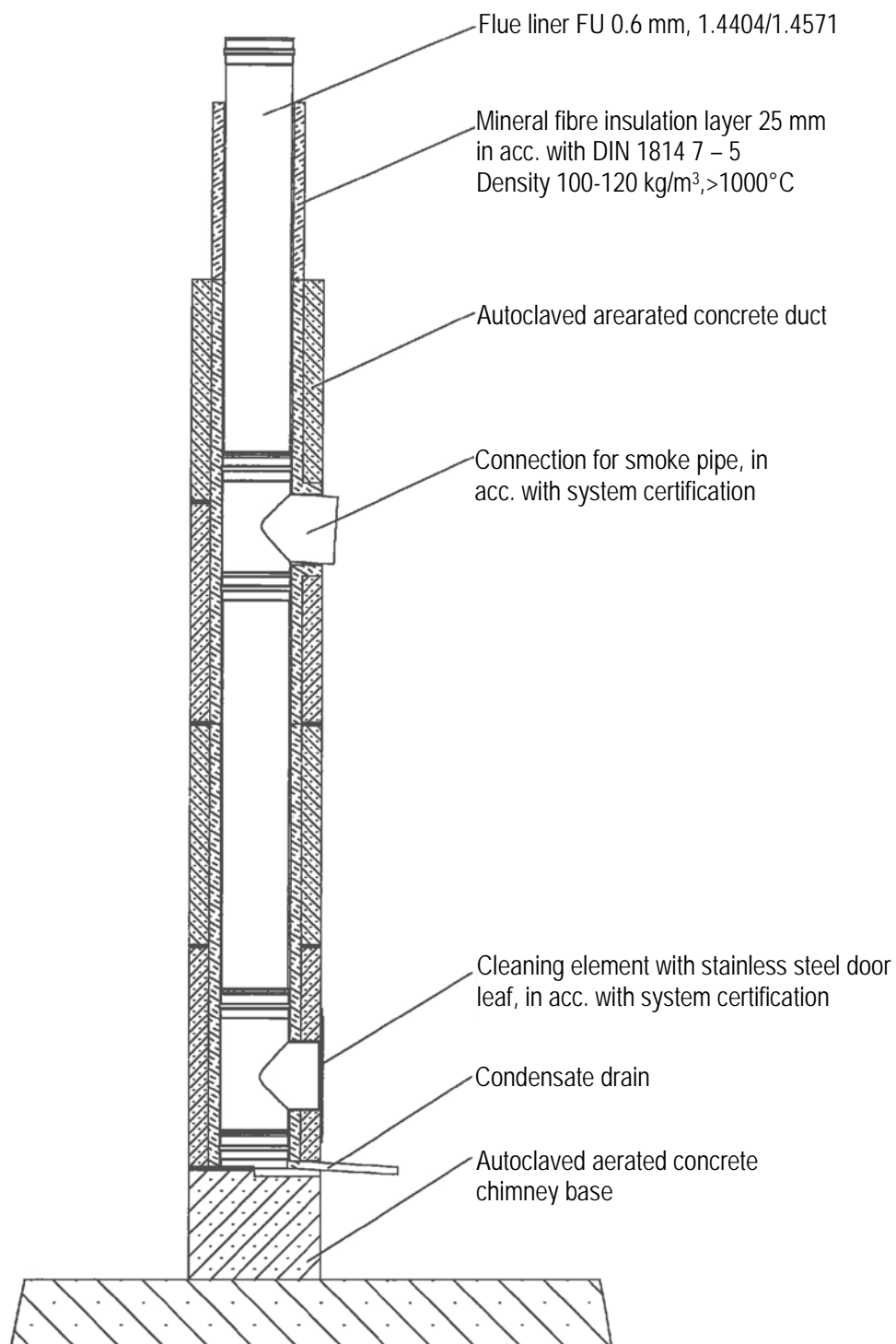


UNIFIX 280  
 400x400x250  
 Drill hole Ø280  
 Length 250

System chimney  
 T400 N1 D 3 G50 LA90

Autoclaved aerated concrete formed bricks for ducts UNIFIX 210, UNIFIX 240 und UNIFIX 280

Annex 1

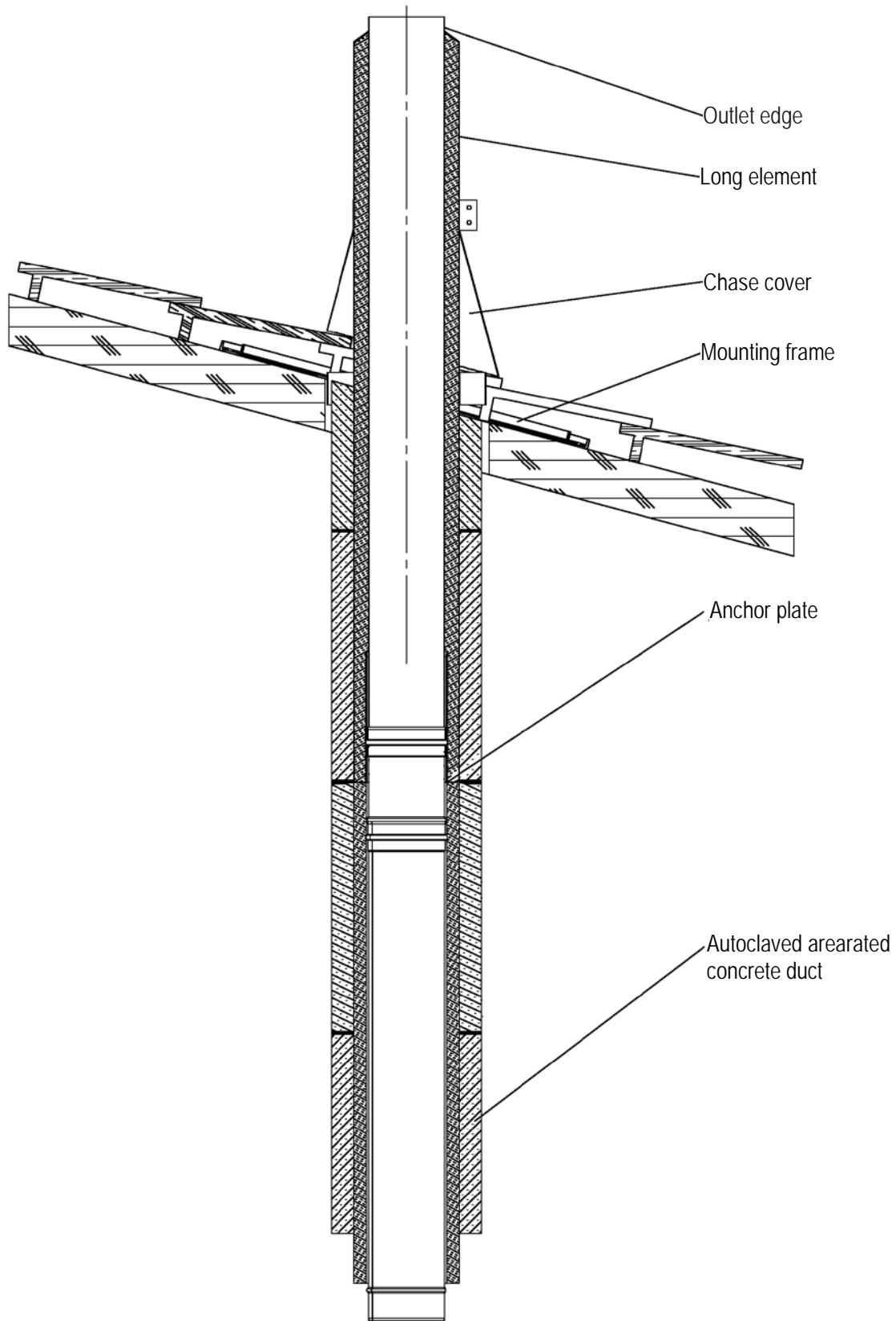


System chimney  
 T400 N1 D 3 G50 LA90

Assembly and connection in fire chamber

Annex 2

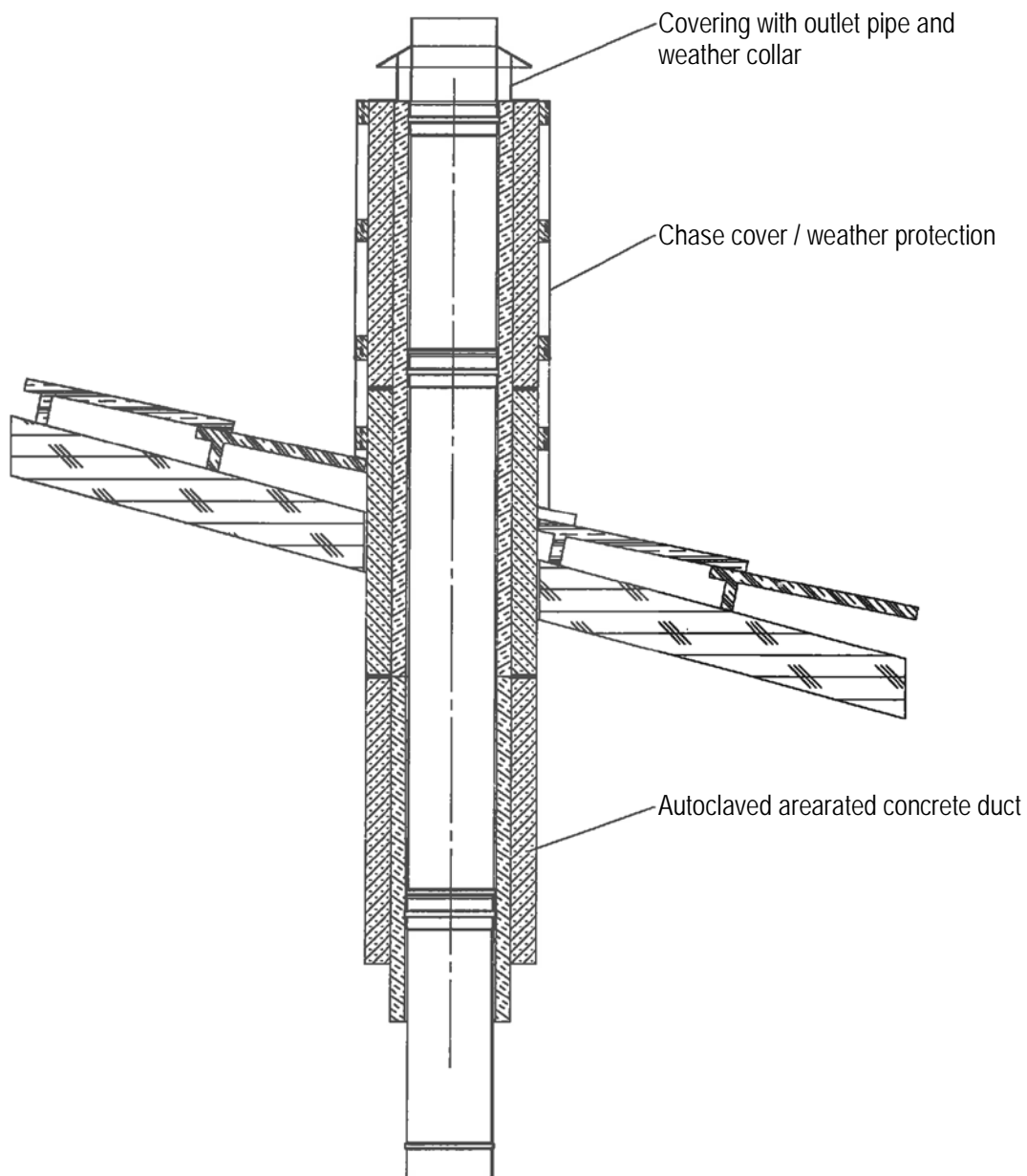




System chimney  
T400 N1 D 3 G50 LA90

Stainless steel variant with anchor plate and mounting frame

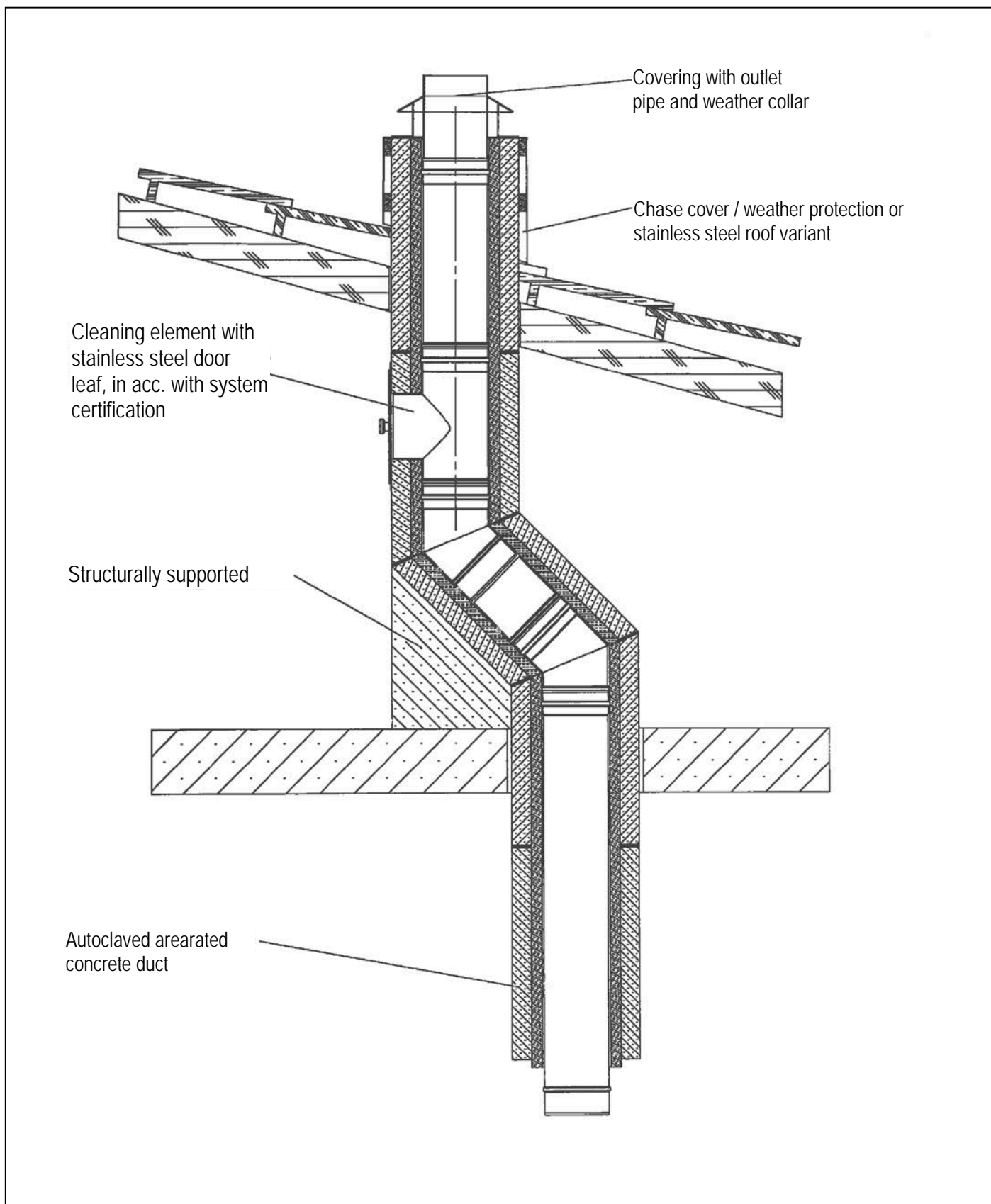
Annex 3



System chimney  
T400 N1 D 3 G50 LA90

Detailing of roof with chase cover and covering

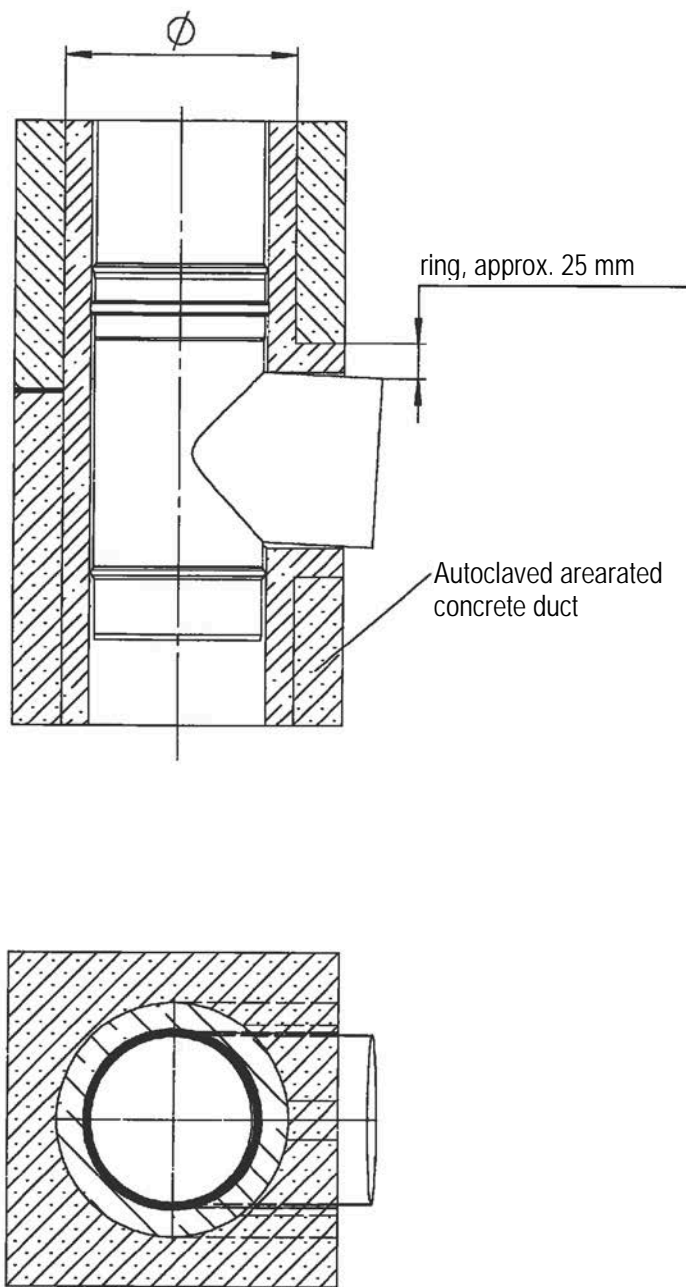
Annex 4



System chimney  
 T400 N1 D 3 G50 LA90

Redirection of duct up to 45°, structurally supported

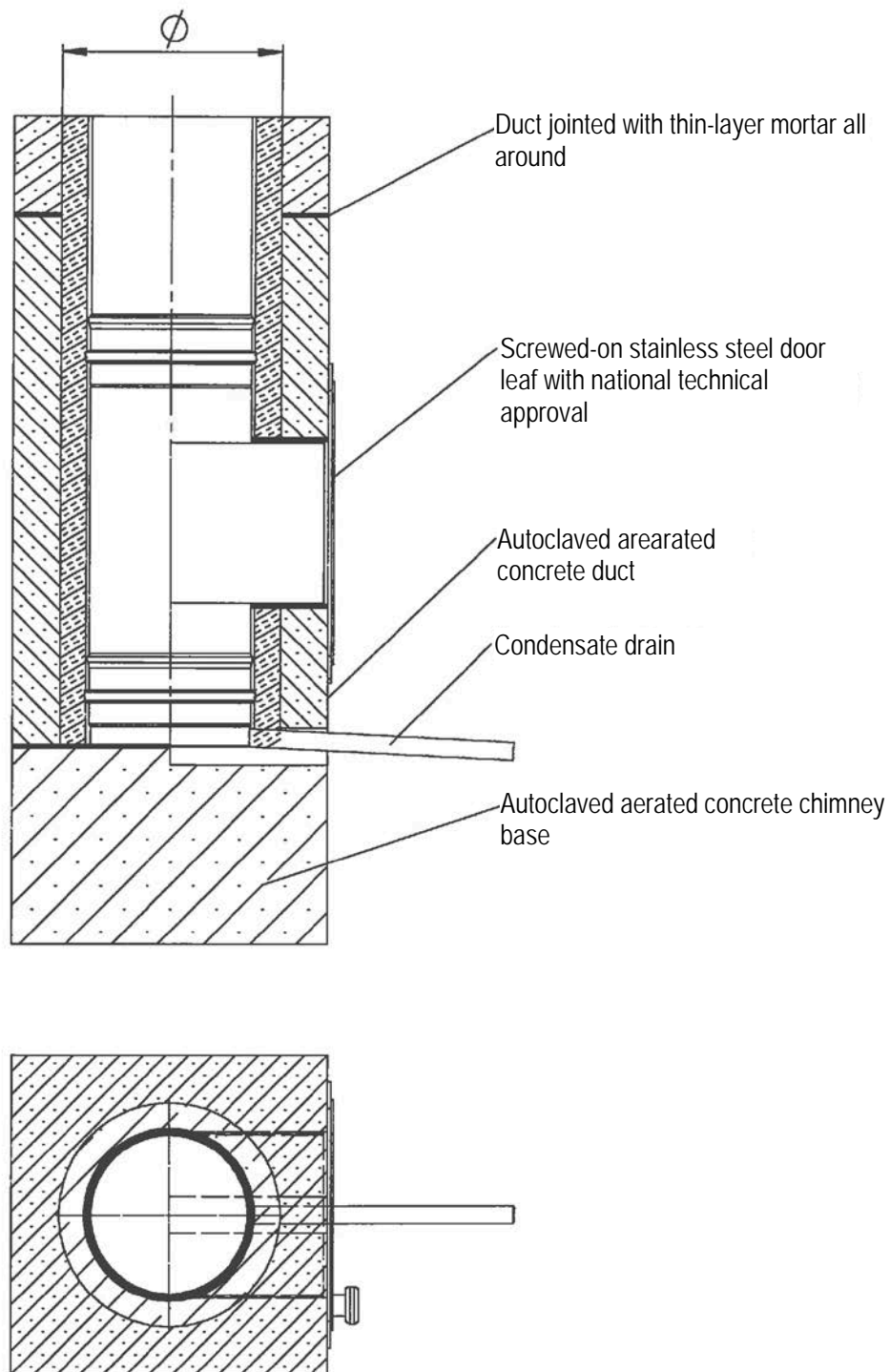
Annex 5



System chimney  
T400 N1 D 3 G50 LA90

Smoke pipe connection

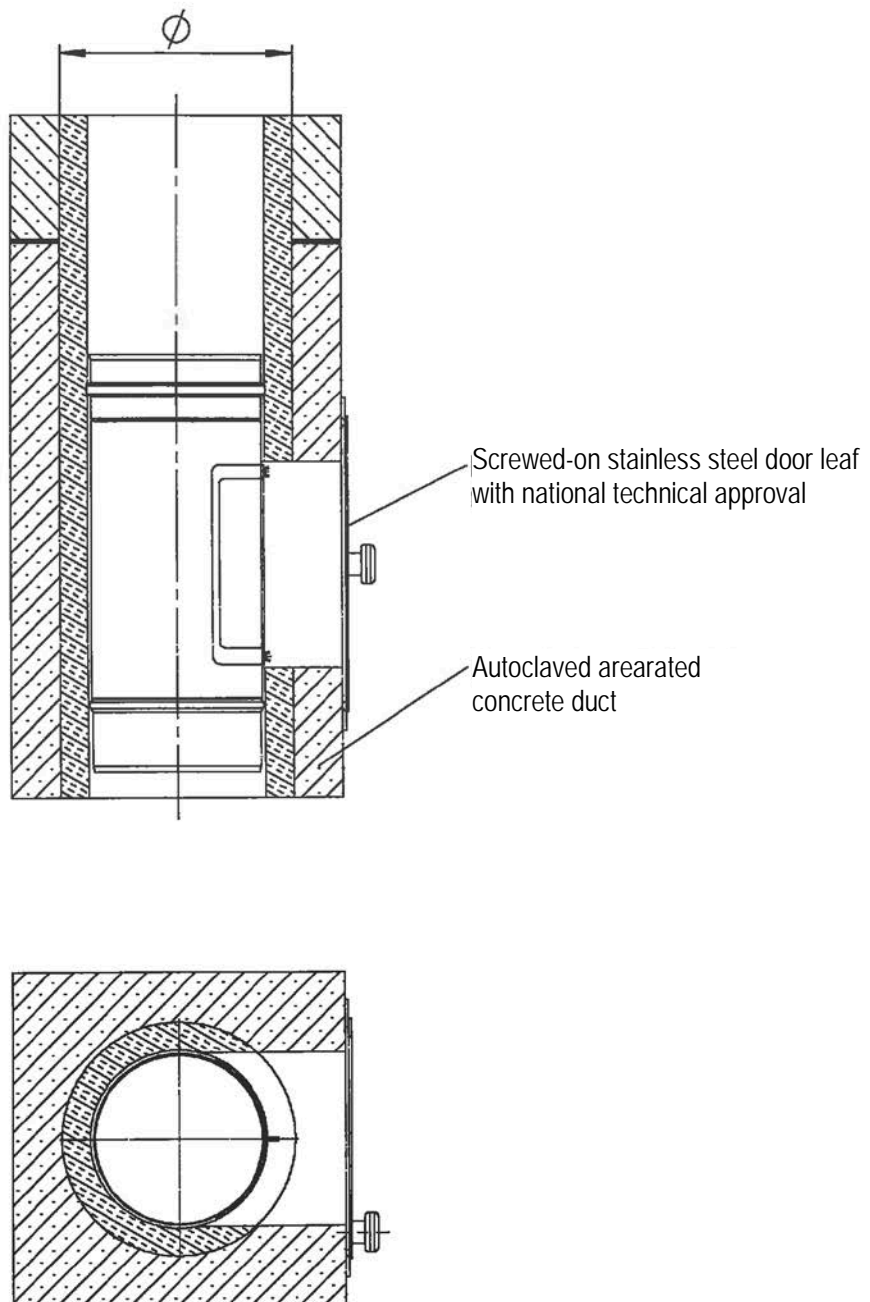
Annex 6



System chimney  
 T400 N1 D 3 G50 LA90

Cleaning element with fitting and condensate tray

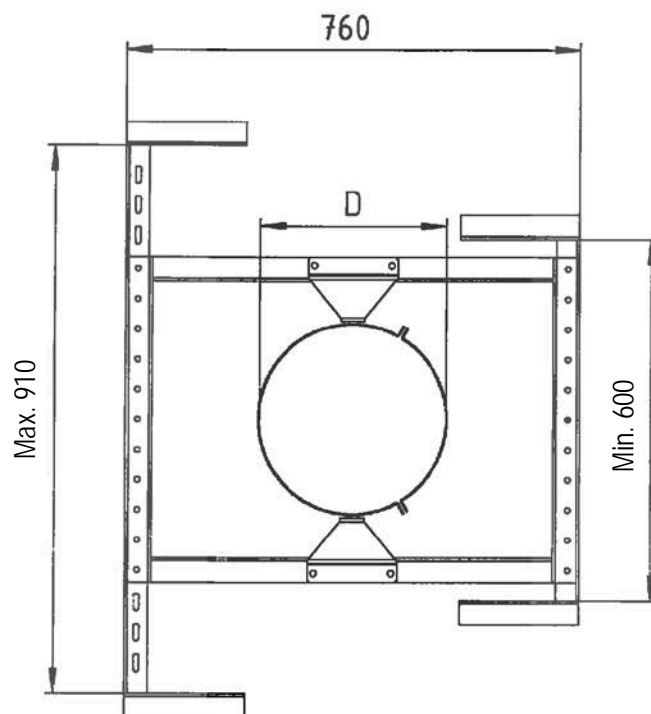
Annex 7



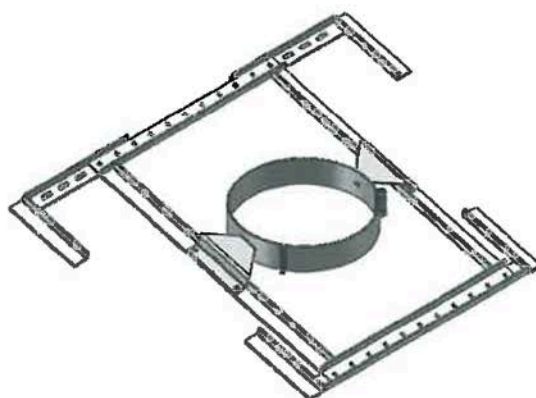
System chimney  
T400 N1 D 3 G50 LA90

Cleaning element with stainless steel door leaf

Annex 8



D=Ø125-Ø280  
Clamp VA, 2 mm thick



System chimney  
T400 N1 D 3 G50 LA90

Mounting frame for stainless steel roof variant

Annex 9

## Information for the owner

### Declaration of the executing company on the installation of the chimney

This declaration shall be completed by the executing company/specialised company after completion of the chimney and submitted to the building owner (client). Technical data sheets (accompanying leaflets) for the components used may be included for further information.

#### Building address:

Street / number:

Postcode / place:

#### Description of the installed/executed chimney

Approval number: Z-7.1-3048

Type/trade name/system:

Classification of chimney in accordance with DIN V 18160-1:2006-01:  
 (e.g. T400 N1 D 3 G50 LA 90)

Working principle: Solid fuel  Flue gas

#### Components used

Duct element: "Skoberne UNIFIX" in accordance with this general construction technique permit

Type: UNIFIX

Classification: T400 LA90 G50

Flue liner: \_\_\_\_\_ in accordance with standard:  
 (Type, material)  
 Classification:

Thermal insulation layer: \_\_\_\_\_ in accordance with standard:  
 (Type, material)  
 Classification:

Thermal insulation layer: \_\_\_\_\_ in accordance with approval no.:  
 Classification:

#### Flue sizing by

#### Verification of stability by/using

#### Address of executing company/specialised company:

Company name: \_\_\_\_\_ Street / number: \_\_\_\_\_

Postcode / place: \_\_\_\_\_ Country: \_\_\_\_\_

We hereby declare that we have installed the chimney in accordance with the provisions of the above-mentioned national technical approval / general construction technique permit and the installation instructions provided by the chimney manufacturer.

Place, date: \_\_\_\_\_ (Signature of responsible representative of the executing company)

System chimney  
 T400 N1 D 3 G50 LA90

Example of confirmation of conformity

Annex 10