



**SLOVENSKI STANDARD**  
**kSIST prEN 1859:2009**

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**Dimniki - Kovinski dimniki - Preskusne metode**

Chimneys - Metal chimneys - Test methods

Abgasanlagen - Metall-Abgasanlagen - Prüfverfahren

Conduits de fumée - Conduits de fumée métalliques - Méthodes d'essais

**Ta slovenski standard je istoveten z: prEN 1859**

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English Version

## Chimneys - Metal chimneys - Test methods

Conduits de fumée - Conduits de fumée métalliques -  
Méthodes d'essais

Abgasanlagen - Metall-Abgasanlagen - Prüfverfahren

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## Foreword

This document (prEN 1859:2008) has been prepared by Technical Committee CEN/TC 166 “Chimneys”, the secretariat of which is held by UNI.

This document is currently submitted to the second Unique Acceptance Procedure.

This document will supersede EN 1859:2000

## 1 Scope

This European Standard describes test methods for metal chimney products.

## 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 1443:2003, *Chimneys - General requirements*

EN 1856-1:2003, *Chimneys - Requirements for metal chimneys - Part 1: System chimney products*

EN 60068-2-59, *Environmental testing - Part 2 - Test methods - Test Fe: Vibration, Sine beat method (IEC 60068-2-59:1990)*

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

ISO 3966, *Measurement of fluid flow in closed conduits. Velocity area method using Pitot static tubes*

## 3 Definitions

For the purposes of this standard, the definitions given in EN 1443:2003 and EN 1856-1:2003 apply.

## 4 Test methods for metal chimney products

### 4.1 Compressive strength

#### 4.1.1 Sections and Fittings

##### 4.1.1.1 Test assembly

Assemble the fitting according to the manufacturer's installation instructions between two adaptors including one chimney section (see Figure 1a). The adaptors shall be supplied by the chimney manufacturer and shall transfer the test load in the usual way to the load bearing wall of the test components as it is done in the installation. The test load shall be transferred to the test components by means of a pivoted plate.

##### 4.1.1.2 Procedure and results

Increase the test load on the components without shock up to 4 times the design load where the flue liner is load bearing or 3 times the design load where the flue liner is non load bearing. The load shall be measured to an accuracy of 2 % of the design load. Record the result.

Where the design load is unknown, increase the test load uniformly and record the results to allow the point of failure to be detected. Failure is deemed to have occurred when the fitting cannot sustain a further increase in load.

Use the minimum value from three failure loads to determine the design load.

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### 4.1.2 Chimney support

#### 4.1.2.1 Test assembly

Install the chimney support according to the manufacturer's installation instructions. Apply the test load to the chimney support through a chimney section and an adaptor (see Figure 1b). The adaptor shall be supplied by the chimney manufacturer and shall transfer the test load in the usual way to the load bearing wall of the chimney sections. The test load shall be transferred to the test component by means of a pivoted plate.

#### 4.1.2.2 Procedure and results

Increase the test load up to the design load without shock. Record the maximum displacement of the chimney. Measure the displacement to an accuracy of 0,1 mm.

Further increase the load up to 3 times the design load. Record the results.

Measure the load to an accuracy of 2 % of the design load.

Where the design load is unknown, increase the load uniformly and record the results to allow the point of failure to be detected. Failure is deemed to have occurred when the support cannot sustain a further increase in load.

Record the displacement during the load increase. Use the minimum value from three failure loads to determine the design load.

### 4.2 Tensile strength

#### 4.2.1 Test assembly

Install the chimney sections according to the manufacturer's installation instructions. Apply the test load through an adaptor (see Figure 1c). The adaptor shall be supplied by the chimney manufacturer and shall transfer the test load in the usual way to the load bearing wall of the chimney sections.

#### 4.2.2 Test procedure and results

Increase the test load on the components without shock up to 1,5 times the design load. The load shall be measured to an accuracy of 2 % of the design load. Record the result.

Where the design load is unknown, increase the test load uniformly and record the results to allow the point of failure to be detected. Failure is deemed to have occurred when the fitting cannot sustain a further increase in load.

Use the minimum value from three failure loads to determine the design load.

### 4.3 Lateral strength

#### 4.3.1 Fittings in non-vertical orientation

##### 4.3.1.1 Test assembly

Install the chimney fittings and supports at the maximum angle from vertical according to the manufacturer's installation instructions using additional vertical supports to install the sections without deflection (see Figure 2).