

ICS 97.100.30

English Version

## Residential wood logs burning appliances - Overload test procedures

Appareils de chauffage domestiques à bûches de bois -  
Mode opératoire de l'essai de surcharge

Häusliche Feuerstätten für feste Brennstoffe -  
Prüfverfahren für Überlastprüfungen

This Technical Specification (CEN/TS) was approved by CEN on 16 June 2025 for provisional application.

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| <b>Contents</b>                |                                    | Page |
|--------------------------------|------------------------------------|------|
| <b>European foreword</b> ..... |                                    | 3    |
| <b>Introduction</b> .....      |                                    | 4    |
| <b>1</b>                       | <b>Scope</b> .....                 | 5    |
| <b>2</b>                       | <b>Normative references</b> .....  | 5    |
| <b>3</b>                       | <b>Terms and definitions</b> ..... | 5    |
| <b>4</b>                       | <b>Overload test</b> .....         | 5    |
| <b>4.1</b>                     | <b>General</b> .....               | 5    |
| <b>4.2</b>                     | <b>Procedure</b> .....             | 5    |
| <b>Bibliography</b> .....      |                                    | 6    |

## European foreword

This document (CEN/TS 18163:2025) has been prepared by Technical Committee CEN/TC 295 “Residential solid fuel burning appliances”, the secretariat of which is held by BSI.

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## Introduction

All the standards of CEN/TC 295 deal with the field of residential heating and cooking appliances burning solid fuels covering the standardization of appliance construction, safety and commissioning requirements and performance requirements (e.g. heat outputs, efficiency and emissions) together with supporting test methods.

This document deals with a test procedure for an additional overload test for appliances as described in EN 16510-2-1:2022 and EN 16510-2-2:2022.

During the formal vote of the standard series an important issue was discovered which is not covered by the standard and standardization request M/577.

The “Overload” test covers a test which reflects a foreseeable use of the appliance higher than nominal heat output in opposite to the safety test which considers an expected worse case operation.

Reasons for higher fuel loads might be that for the user it is difficult to know the right amount of wood without using a scale since wood logs sizes vary. Another reason is that more heat might be demanded for shorter periods during colder weather conditions.

## 1 Scope

The overload test ensures the stove's performance remains consistent even when the use deviates from the nominal test requirements, by assessing its ability to handle a higher load of fuel compared to the standard nominal fuel load which occurs during the use phase.

This document specifies a test method for an additional overload test for appliances as described in EN 16510-2-1:2022 and EN 16510-2-2:2022.

This test procedure covers testing in addition a higher heat output than nominal heat output as described in EN 16510-1:2022.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp/>
- IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1

#### overload test

heat output achieved during the test under overload conditions with higher fuel load than the nominal fuel load

## 4 Overload test

### 4.1 General

This test is required for all appliances, where an overload heat output is specified and there are no clear physical or visual restrictions that avoid filling of at least 150 % of the mass of the fuel load for the nominal heat output test. If appropriate, consider EN 16510-2-1:2022 and EN 16510-2-2:2022 for the specific type of appliance.

### 4.2 Procedure

The overload test is carried out the same way as the nominal heat output test (see EN 16510-1:2022, A.4.7) with the following modifications:

The overload heat output is specified and is at least 120 % of the nominal heat output.

One batch following either the nominal heat output test or the part load test.

The flue draught is set to  $p_{over}$  or the value for the overload test as specified with a minimum of 14 Pa (or at least 2 Pa over the draft in the nominal test)

The fuel mass for overload test is used as specified with a minimum of 150 % of the nominal test fuel load.

All adjustments and air controls are set to overload test setting as specified.