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Standards

Standard Recommendation  
S.R. CEN/TS 15883:2009

# Residential solid fuel burning appliances - Emission test methods

## S.R. CEN/TS 15883:2009

*Incorporating amendments/corrigenda issued since publication:*

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English Version

## **Residential solid fuel burning appliances - Emission test methods**

Appareils résidentiels à combustibles solides - Méthodes  
d'essai des émissions

Häusliche Feuerstätten für feste Brennstoffe -  
Emissionsprüfverfahren

This Technical Specification (CEN/TS) was approved by CEN on 28 March 2009 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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## **Foreword**

This document (CEN/TS 15883:2009) 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 European Technical Specification (TS) deals with methods for the measurements of NO<sub>x</sub>, and OGC/total hydrocarbons emissions and particulate and dust produced by the above mentioned heating and cooking appliances.

For the nitrogen oxides this European Technical Specification describes the 'Chemiluminescence method' and the 'Non-dispersive infrared (NDIR) method'. Besides these two techniques, there are also the 'Non-dispersive ultraviolet (NDUV) method' and the 'Non-extractive (in situ) method' which are described in detail in ISO 10849:1996.

For the total hydrocarbon contents the method is described but the TS does not give any information regarding separate constituents due to the measurements being expressed as equivalents of a reference substance. In this method the measurement is continuous.

Finally, for the measurements of particulate and dust, this European Technical Specification reports, in the Annex, three official methods that coincide respectively with the combined Austrian and German method, the Norwegian method and the UK method currently in force in these countries.

## 1 Scope

This European Technical Specification is applicable to residential heating and cooking appliances burning solid fuels and details methods for the measurements of NO<sub>x</sub>, and OGC/total hydrocarbons emissions and particulate and dust produced by these appliances and is to be used in conjunction with the test methods given in the European Standards covering these appliances.

This European Technical Specification covers the NO<sub>x</sub>, and OGC/total hydrocarbons emission test methods, however it does not cover input data and detailed calculation procedures.

For the particulate and dust emissions test methods, the national documents of those countries that have a test method are reference methods which are summarised in Informative Annex A, whilst those countries that do not have a specific test method, could choose one of these methods listed in the annex.

## 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 12815:2001, *Residential cookers fired by solid fuel — Requirements and test methods*

EN 13229:2001, *Inset appliances including open fires fired by solid fuels — Requirements and test methods*

EN 13240:2001, *Roomheaters fired by solid fuel - Requirements and test methods*

ISO 10849:1996, *Stationary source emissions — Determination of the mass concentration of nitrogen oxides — Performance characteristics of automated measuring systems*

## 3 Terms and definitions

### 3.1 Definitions

For the purposes of this Technical Specification, the following definitions apply.

#### 3.1.1

##### **absorption**

incorporation of a substance into the body of a liquid or solid

#### 3.1.2

##### **calibration**

set of operations that establish the relationship between values of quantities indicated by a measuring instrument or measuring system, or values represented by a material measure or a reference material, and the corresponding values realized by standards

#### 3.1.3

##### **dew point**

temperature at, or below which, the condensation from the gas phase will occur

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