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**Solid mineral fuels — Determination of ash  
content**

*Combustibles minéraux solides — Détermination du taux de cendres*



## Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 1171 was prepared by Technical Committee ISO/TC 27, *Solid mineral fuels*, Sub-Committee SC 5, *Methods of analysis*.

This third edition cancels and replaces the second edition (ISO 1171:1981), which has been technically revised.

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## Introduction

The ash remaining after coal or coke has been incinerated in air is derived from inorganic complexes present in the original coal substance and from associated mineral matter. The amount of sulphur retained in the ash is in part dependent on the conditions of ashing and, in order to obtain values for the ash content on a comparable basis, it is necessary to adhere strictly to the conditions specified.



## Solid mineral fuels — Determination of ash content

### 1 Scope

This International Standard specifies a method for the determination of the ash content of all solid mineral fuels.

### 2 Principle

The test portion is heated in air at a specified rate up to a temperature of  $815\text{ }^{\circ}\text{C} \pm 10^{\circ}\text{C}$  and maintained at this temperature until constant in mass.

The ash content is calculated from the mass of the residue after incineration.

### 3 Apparatus

**3.1 Balance**, capable of weighing to the nearest 0,1 mg.

**3.2 Furnace**, capable of giving a zone of substantially uniform temperature at the levels required by the procedure and reaching these levels in the specified times. The ventilation through the furnace shall be such as to give five to ten air changes per minute.

#### NOTES

1 The number of air changes per minute can be assessed by the measurement of the air flow in the furnace flue with a pitot-static tube and a suitable manometer.

2 Alternatively, two furnaces may be used, one capable of achieving an adequate zone at a uniform temperature of approximately  $500\text{ }^{\circ}\text{C}$  and the second capable of maintaining a temperature of  $815\text{ }^{\circ}\text{C} \pm 10^{\circ}\text{C}$ .

**3.3 Dish**, of silica, porcelain or platinum, 8 mm to 15 mm deep, of such a size that the sample loading does not exceed  $0,15\text{ g/cm}^2$  for coal and  $0,10\text{ g/cm}^2$  for coke.

**3.4 Plate**, for use with coke samples, made from silica or heat-resistant steel, 6 mm thick and of such a size as to be an easy sliding fit into the furnace (3.2).

**3.5 Desiccator or other closed container**