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# International Standard



# 5069/2

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## **Brown coals and lignites — Principles of sampling — Part 2 : Sample preparation for determination of moisture content and for general analysis**

*Charbons bruns et lignites — Principes d'échantillonnage — Partie 2 : Préparation des échantillons pour la détermination de l'humidité et pour l'analyse générale*

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## Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5069/2 was developed by Technical Committee ISO/TC 27, *Solid mineral fuels*, and was circulated to the member bodies in March 1982.

It has been approved by the member bodies of the following countries:

Australia	Egypt, Arab Rep. of	Poland
Austria	Germany, F. R.	Romania
Belgium	Hungary	Spain
Canada	India	Turkey
China	Korea, Rep. of	USSR

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Czechoslovakia  
Japan

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# Brown coals and lignites — Principles of sampling — Part 2 : Sample preparation for determination of moisture content and for general analysis

## 1 Scope and field of application

This part of ISO 5069 specifies methods of preparation of laboratory and analysis samples of brown coals and lignites for the determination of moisture content and for general analysis.

This document should be read in conjunction with ISO 5069/1.

## 2 References

ISO 1213/2, *Solid mineral fuels — Vocabulary — Part 2 : Terms relating to coal sampling and analysis*.<sup>1)</sup>

ISO 1988, *Hard coal — Sampling*.

ISO 5069/1, *Brown coals and lignites — Principles of sampling — Part 1 : Sampling for determination of moisture content and for general analysis*.

## 3 Sample

Usually a common sample (see ISO 1213/2) for both determination of moisture content and general analysis shall be taken. The moisture content sample shall be extracted from the common sample and the remainder used for general analysis. In particular cases, a special moisture content sample shall be taken. The types of samples are shown in figure 1.

## 4 General principles

The process of sample preparation consists of several operations three of which are fundamental :

- a) particle size reduction by crushing or grinding and milling;
- b) mixing;
- c) decrease of sample mass by dividing the sample (sample division). In most cases, the drying process of the sample is also necessary. Sample preparation may be carried out as a one-stage or a two-stage procedure. Sample preparation for total moisture content determination may

require that both of these procedures be employed, the one-stage procedure being considered preferable. Sample preparation for general analysis requires that the two-stage procedure be used. Methods and theory of checking sample preparation errors are detailed in ISO 1988.

## 5 Location

The area designated for sample preparation shall be enclosed, roofed, free from draughts, direct sunlight, and other atmospheric influences. A heating of the area is admissible only during the winter period to a temperature not exceeding 15 °C and the heating devices shall be isolated.

Samples shall be treated immediately after delivery, and stored in such a manner as to prevent contamination and loss of moisture.

## 6 Equipment

### 6.1 General principles

Sample preparation equipment (crushers, mills, cutting dividers and dividers) shall ensure

- a) grinding the gross sample to produce a laboratory sample of 10 mm and 3,15 mm grain size as required, and dividing these samples into the quantities required;
- b) milling the laboratory samples down to the analysis sample with a grain size of 1 mm and 0,212 mm and dividing into the quantities required.

### 6.2 Crushers, mills

These shall be of the high-speed type.

### 6.3 Dividers

Two types are used :

- a) Riffle dividers. The slope of the device shall be inclined at not less than 30° to the vertical.

1) At present at the stage of draft. (Revision of ISO/R 1213/2.)