

ISO

transformation

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 1018

DETERMINATION OF THE MOISTURE-HOLDING CAPACITY
OF HARD COALS

1st EDITION

March 1969

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BRIEF HISTORY

The ISO Recommendation R 1018, *Determination of the moisture-holding capacity of hard coals*, was drawn up by Technical Committee ISO/TC 27, *Solid mineral fuels*, the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question led to the adoption of a Draft ISO Recommendation.

In August 1967, this Draft ISO Recommendation (No. 1285) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Italy	Sweden
Austria	Korea, Rep. of	Switzerland
Belgium	Netherlands	Turkey
Czechoslovakia	New Zealand	U.A.R.
Denmark	Poland	United Kingdom
France	Portugal	U.S.S.R.
Germany	Romania	Yugoslavia
India	South Africa, Rep. of	
Iran	Spain	

Three Member Bodies opposed the approval of the Draft :

Canada
Japan
U.S.A.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in March 1969, to accept it as an ISO RECOMMENDATION.

DETERMINATION OF THE MOISTURE-HOLDING CAPACITY OF HARD COALS

1. SCOPE

This ISO Recommendation describes a method of determining the moisture-holding capacity of hard coals.

2. FIELD OF APPLICATION

The moisture-holding capacity indicates the rank of hard coals and is used in coal classification for correcting the calorific value of the sample to the moist mineral matter free basis. The full moisture-holding capacity is that of the coal in equilibrium with an atmosphere saturated with water vapour. Since there are insuperable experimental difficulties in working with such an atmosphere, the determination is carried out at 96 % relative humidity.

3. PRINCIPLE

The coal is brought to equilibrium with an atmosphere of 96 % relative humidity at 30 °C and then dried to constant mass at 105 to 110 °C. The conditioning of the coal may be carried out either at atmospheric pressure or under reduced pressure. The moisture-holding capacity is reported as a percentage, by mass, of the conditioned moist coal.

4. REAGENT

Potassium sulphate pulp. Add sufficient potassium sulphate to water to form a pulp.

5. APPARATUS

5.1 Atmospheric pressure method

- 5.1.1 *Conditioning vessel* (see Fig. 1). A double-walled vessel, manufactured of copper sheet, with a double-walled lid made in two pieces. The lid and vessel are covered by a foam-rubber insulation jacket. Each half of the lid is secured by three equally spaced clamps, or by the addition of a 2 kg weight.
- 5.1.2 *Electric motor*, capable of driving the two-blade propeller at approximately 1500 rev/min.
- 5.1.3 *Pump*, for circulating water through the conditioning vessel to maintain it at a temperature of 30 ± 0.1 °C.
- 5.1.4 *Dishes*. Glass or corrosion-resistant metal dishes, approximately 50 mm diameter by 10 mm deep, with well-fitting lids.