
INTERNATIONAL STANDARD



923

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Coal cleaning tests — Expression and presentation of results

Essais d'épuration du charbon — Expression et représentation des résultats

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 27 has reviewed ISO Recommendation R 923 and found it technically suitable for transformation. International Standard ISO 923 therefore replaces ISO Recommendation R 923-1969 to which it is technically identical.

ISO Recommendation R 923 was approved by the Member Bodies of the following countries :

Australia	Greece	Spain
Austria	India	Switzerland
Belgium	Iran	Thailand
Bulgaria	Japan	Turkey
Canada	Korea, Rep. of	United Kingdom
Czechoslovakia	Netherlands	U.S.A.
Denmark	New Zealand	U.S.S.R.
Egypt, Arab Rep. of	Poland	Yugoslavia
France	Romania	
Germany	South Africa, Rep. of	

No Member Body expressed disapproval of the Recommendation.

The Member Bodies of the following countries disapproved the transformation of ISO/R 923 into an International Standard :

Czechoslovakia
Japan

Coal cleaning tests — Expression and presentation of results

0 INTRODUCTION

A number of formulae have been used in different countries for expressing the results of coal cleaning tests and for determining the efficiency of the separation processes (see annex A). Bearing in mind the different purposes for which such tests are carried out, it is considered that no one of these formulae, taken by itself, is adequate. It is, therefore, recommended that four formulae should be used in conjunction for expressing the basic data (see 4.2). In addition, recommendations are made for standard methods of presenting these data in tabular and graphical form (see annexes B and C).

The general adoption of these formulae, tables and graphs should simplify the exchange of information relating to the efficiency and performance of coal preparation plant, and the accumulation of data resulting from their use on a variety of coals treated in different types of machine in different parts of the world should enable them to be simplified at a later date.

1 SCOPE

This International Standard outlines the principles on which the expression of the efficiency of operation of coal cleaning plant should be based, states the criteria, coefficients and formulae to be used and also gives methods for tabulation and graphical presentation of the test data.

2 FIELD OF APPLICATION

Expressions of the efficiency of coal cleaning processes are required for

- a) the indication of the accuracy (or inaccuracy) of a given separating operation on a particular coal;
- b) the prediction of the probable results of treating different coals by a given separating operation;
- c) the comparison of different separating processes.

3 DEFINITIONS

The terms used in this International Standard are defined in ISO/R 1213, *Vocabulary of terms relating to solid mineral fuels — Part 1: Terms relating to coal preparation*.

4 STANDARD EXPRESSION OF EFFICIENCY

4.1 Many different formulae have been proposed to express the results of coal cleaning tests and the efficiency of the separation processes. Those commonly used are listed in annex A. For the purpose of meeting the requirements stated in clause 2, no one of these formulae, by itself, suffices.

4.2 For a standard expression of efficiency, the following formulae should be used in conjunction :

4.2.1 Separation density expressed as

- a) partition density, and/or
- b) equal errors cut-point (density).

4.2.2 **Total of correctly placed material** at the separation density, expressed as a percentage of the reconstituted feed, and, where required, the **misplaced material** in each product at the separation density, expressed as a percentage of the product.

4.2.3 *Ecart probable (moyen)* and **imperfection**.

4.2.4 **Ash error** or **organic efficiency**

5 TABULATION AND GRAPHICAL PRESENTATION OF TEST RESULTS

The formulae for the expression of efficiency are derived by standard methods of calculation from the basic test data; for convenience, the tables and graphs in which these data are presented should also follow a standard pattern.

Annexes B and C describe and exemplify recommended methods for the tabulation and graphical presentation of test results.

6 SIZE OF COAL

In expressing efficiency, it is essential to state the nominal size limits of the coal to which the calculations refer.

7 MULTIPLE-PRODUCT SEPARATION

In multiple-product separation, the criteria should be expressed at each separation density (see also annex B, clause B.2).