
**Coal — Methods for evaluating
flocclulants for use in coal
preparation —**

**Part 1:
Basic parameters**

*Charbon — Méthodes d'évaluation des flocclulants utilisés dans la
préparation des charbons —*

Partie 1: Paramètres de base

IT
(<https://standards.iteh.ai>)
Document Preview

ISO 10086-1:2019

<https://standards.iteh.ai/catalog/standards/iso/1ea5ad29-6865-4cd7-836b-e324f1f4621e/iso-10086-1-2019>



iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 10086-1:2019](https://standards.iteh.ai/catalog/standards/iso/1ea5ad29-6865-4cd7-836b-e324f1f4621e/iso-10086-1-2019)

<https://standards.iteh.ai/catalog/standards/iso/1ea5ad29-6865-4cd7-836b-e324f1f4621e/iso-10086-1-2019>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Apparatus	1
6 Materials	3
6.1 Slurry.....	3
6.2 Water.....	3
7 Sampling	3
8 Preparation of flocculant solutions	3
8.1 Powder flocculants.....	3
8.2 7.2 Liquid flocculants.....	4
9 Procedure	4
9.1 Preparation of test sample.....	4
9.2 Determination of settling rate.....	4
9.2.1 Free settling rate.....	4
9.2.2 Full settling curve.....	5
9.3 Determination of sediment height and supernatant clarity.....	5
10 Calculation of results	5
10.1 Flocculant dosage rate.....	5
11 Recording of results	6
12 Repeatability	6
13 Test report	6
Annex A (informative) Worked example	8
Annex B (informative) Data recording sheets	11

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 27, *Solid mineral fuels*, Subcommittee SC 1, *Coal preparation: Terminology and performance*.

This second edition cancels and replaces the first edition (ISO 10086-1:2000), of which it constitutes a minor revision.

A list of all parts in the ISO 10086 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Coal — Methods for evaluating flocculants for use in coal preparation —

Part 1: Basic parameters

1 Scope

This document specifies a method for the comparative evaluation of the performances of flocculants for clarification, thickening and sedimentation applications on a given slurry. This performance can be evaluated by

- a) the settling velocity in the initial period,
- b) the sediment volume after compaction and consolidation, and
- c) the clarity of the supernatant liquid.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 1171, *Solid mineral fuels — Determination of ash*

ISO 1953, *Hard coal — Size analysis by sieving*

<https://standards.iteh.ai/catalog/standards/iso/1ea5ad29-6865-4cd7-836b-e324f1f4621e/iso-10086-1-2019>

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 Principle

The performance of different flocculants on a given slurry is determined by measuring the relative settling rates.

A flocculant solution is added to an aliquot of the slurry in a measuring cylinder and the formation of an interface between the supernatant liquid and the suspension is observed. An initial settling rate is calculated and is plotted against flocculant dosage to evaluate the performance of the flocculant.

5 Apparatus

Usual laboratory apparatus, and

5.1 **Stirrers**, two variable-speed motorized stirrers capable of 1 000 r/min (one for flocculant preparation and one for sample homogenization).

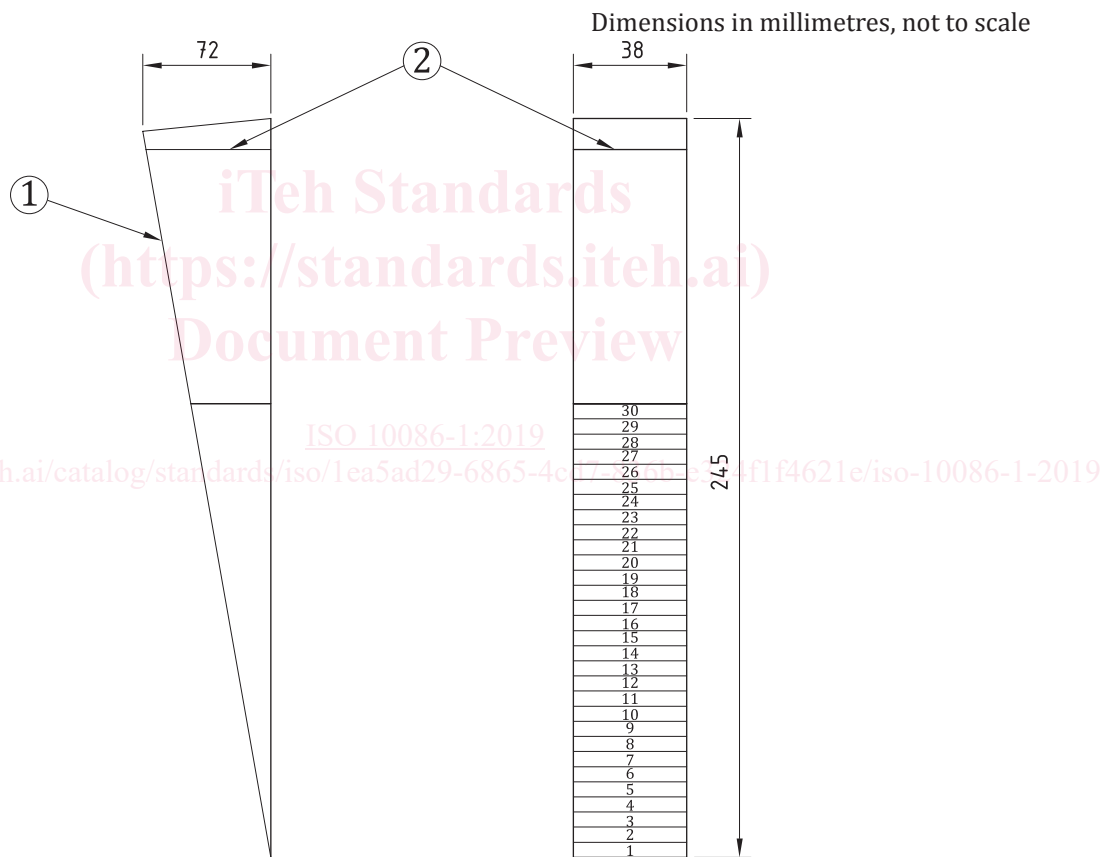
5.2 **Plastic moulded cylinders**, of capacity 500 ml, graduated in 5 ml scale divisions and having rubber stoppers. Where these are not available, glass cylinders, of capacity 500 ml ± 2 ml, graduated in 5 ml scale divisions and having ground-glass stoppers, may be a satisfactory alternative. However, differences in settling rates may result, because of differences in the graduated height.

A vertical scale may be attached to or mounted beside the cylinder, with the zero point coinciding with the 5 ml mark of the cylinder.

5.3 **Syringes**, having nominal capacities of 1 ml, 2 ml, 5 ml, 10 ml and 50 ml.

5.4 **Timer**, capable of reading 0,1 s to a total of 10 000 s.

5.5 **Clarity wedge**, as shown in [Figure 1](#), having a scale in black numbers on a white background (or vice versa) printed inside the back.



Key

- 1 transparent plastic sides and front wall thickness: 4 mm
- 2 suspension level

Figure 1 — Clarity wedge