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Third edition  
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# Iron ores for blast furnace feedstocks — Determination of low- temperature reduction-disintegration indices by static method —

## Part 1: Reduction with CO, CO<sub>2</sub>, H<sub>2</sub> and N<sub>2</sub>

*Minerais de fer pour charges de hauts fourneaux — Détermination  
des indices de désagrégation par réduction à basse température par  
méthode statique —*

*Partie 1: Réduction avec CO, CO<sub>2</sub>, H<sub>2</sub> et N<sub>2</sub>*



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## 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](http://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](http://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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#)

The committee responsible for this document is ISO/TC 102, *Iron ore and direct reduced iron*, Subcommittee SC 3, *Physical testing*.

This third edition cancels and replaces the second edition (ISO 4696-1:2007), which has been technically revised to address the care needed during hand sieving, to introduce the mechanical sieving and to exclude the reference to ISO 4701.

ISO 4696 consists of the following parts, under the general title *Iron ores for blast furnace feedstocks — Determination of low-temperature reduction-disintegration indices by static method*:

- Part 1: Reduction with CO, CO<sub>2</sub>, H<sub>2</sub> and N<sub>2</sub>
- Part 2: Reduction with CO and N<sub>2</sub>

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## Introduction

This part of ISO 4696 concerns one of a number of physical test methods that have been developed to measure various physical parameters and to evaluate the behaviour of iron ores, including reducibility, disintegration, crushing strength, apparent density, etc. This method was developed to provide a uniform procedure, validated by collaborative testing, to facilitate comparisons of tests made in different laboratories.

The results of this test have to be considered in conjunction with other tests used to evaluate the quality of iron ores as feedstocks for blast furnace processes.

This part of ISO 4696 can be used to provide test results as part of a production quality control system, as a basis of a contract, or as part of a research project.