Indian Standard

DIRECT REDUCED IRON AND HOT BRIQUETTED IRON — SAMPLING AND SAMPLE PREPARATION

WARNING — This International Standard may involve hazardous materials, operations and equipment, and does not purport to address all of the safety issues associated with its use. It is the responsibility of the user of this standard to establish appropriate health and safety practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard gives

a) the underlying theory,

b) the basic principles for sampling and preparation of samples, and

c) the basic requirements for the design, installation and operation of sampling systems,

for mechanical sampling, manual sampling and preparation of samples taken from a lot under transfer, to determine the chemical composition, moisture content and physical properties of the lot.

The methods specified in this International Standard are applicable to both the loading and discharging of direct reduced iron (DRI) and hot briquetted iron (HBI), by means of belt conveyors and other ore handling equipment to which a mechanical sampler may be installed or where stopped-belt sampling may safely be conducted. In this International Standard, DRI includes both reduced pellets and reduced lump ores.

CAUTION — Direct reduced iron (DRI) and, in some cases, hot briquetted iron (HBI), for example, with low density or high fines content, may react with water and air to produce hydrogen and heat. The heat produced may cause ignition. Therefore, due consideration shall be given to the safety of operators by respecting applicable regulations or international codes.

2 Normative references

The following referenced documents are indispensable for the application 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 565:1990, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*

ISO 3084:1998, *Iron ores — Experimental methods for evaluation of quality variation*

ISO 3085:2002, *Iron ores — Experimental methods for checking the precision of sampling, sample preparation and mesasurement*

ISO 3086 :1998, *Iron ores — Experimental methods for checking the bias of sampling*

ISO 3087:1998, *Iron ores — Determination of moisture content of a lot*

ISO 3534-1 : 2006, *Statistics — Vocabulary and symbols — Part 1: General statistical terms and terms used in probability*

ISO 4701:1999, *Iron ores — Determination of size distribution by sieving*

ISO 11323:2002, *Iron ores and direct reduced iron — Vocabulary*