***भारतीय मानक***

***Indian Standard***

**Doc : PCD 07 (25211) F**

**IS XXXX : 2024**

**ISO 16967 : 2015**

***ठोस जैव ईंधन –– प्रमुख तत्वों का निर्धारण – अल, सीए, एफइ, एमजी, पी, के, एसआई, एनए और टीआई***

**Solid Biofuels — Determination of Major Elements — Al, Ca, Fe, Mg, P, K, Si, Na and Ti**

ICS 75.160.40

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**December 2024 Price Group X**

Solid Mineral Fuels and Solid Biofuels Sectional Committee, PCD 07

NATIONAL FOREWORD

This Indian Standard which is identical with ISO 16967 : 2015 ‘Solid biofuels — Determination of major elements –– Al, Ca, Fe, Mg, P, K, Si, Na and Ti’ issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on recommendation of the Solid Mineral Fuels and Solid Biofuels Sectional Committee and approval of the Petroleum, Coal and Related Products Division Council.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.

b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

|  |  |  |
| --- | --- | --- |
| *International Standard* | *Corresponding Indian Standard* | *Degree of Equivalence* |
| [ISO 11885](https://www.iso.org/obp/ui/en/#iso:std:iso:11885:en) Water quality — Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES) | IS 3025 (Part 2) : 2019 / ISO 11885 : 2007 Methods of sampling and test (physical and chemical) for water and wastewater Part 2 Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES) (*first revision*) | Identical |
| ISO 17294-2, Water quality — Application of inductively coupled plasma mass spectrometry (ICP-MS) — Part 2: Determination of selected elements including uranium isotopes | IS 3025 (Part 65) : 2022/ ISO 17294-2 : 2016 Methods of sampling and test (physical and chemical) for water and wastewater Part 65 Application of inductively coupled plasma mass spectrometry (ICP-MS) — Determination of selected elements including uranium isotopes (*first revision*) | Identical with ISO 17294-2 : 2016 |
| ISO 18122, Solid biofuels — Determination of ash content | IS 17653 : 2021/ISO 18122 : 2015 Solid biofuels –– Determination of ash content  | Identical with IS 17653 : 2021 |
| ISO 18134-3, Solid biofuels — Determination of moisture content — Oven dry method — Part 3: Moisture in general analysis sample | PCD 07 (25096)/ISO 18134-3:2023 Solid biofuels — Determination of moisture content — Oven dry method: Part 3 Moisture in general analysis sample  | Identical  |

The Technical Committee has reviewed the provisions of the following International Standards referred in this adopted standard and has decided that they are acceptable for use in conjunction with this standard:

|  |  |
| --- | --- |
| *International Standard* | *Title* |
| ISO 7980 | Water quality — Determination of calcium and magnesium — Atomic absorption spectrometric method |
| [ISO 9964-1](https://www.iso.org/obp/ui/en/#iso:std:iso:9964:-1:en) | Water quality — Determination of sodium and potassium — Part 1: Determination of sodium by atomic absorption spectrometry |
| [ISO 9964-2](https://www.iso.org/obp/ui/en/#iso:std:iso:9964:-2:en)  | Water quality — Determination of sodium and potassium — Part 2: Determination of potassium by atomic absorption spectrometry |
| [ISO 9964-3](https://www.iso.org/obp/ui/en/#iso:std:iso:9964:-3:en) | Water quality — Determination of sodium and potassium — Part 3: Determination of sodium and potassium by flame emission spectrometry  |
| [ISO 14780](https://www.iso.org/obp/ui/en/#iso:std:iso:14780:en) | Solid biofuels — Sample preparation |
| [ISO 16559](https://www.iso.org/obp/ui/en/#iso:std:iso:16559:en) | Solid biofuels — Vocabulary  |
| ISO 16993 | Solid biofuels — Conversion of analytical results from one basis to another |

For tropical countries like India, the standard temperature and the relative humidity shall be taken as (27 ± 2) °C and (65 ± 5) percent, respectively.

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second* *revision*)’.