

SRI LANKA STANDARD 950 : 1992

UDC 662.741.3

**SPECIFICATION FOR
FOUNDRY COKE**

SRI LANKA STANDARDS INSTITUTION

Gr.4

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FOREWORD

This standard was authorized for adoption and publication as a Sri Lanka Standard by the Council of the Sri Lanka Standards Institution on 92-01-20, after the draft had been approved by the Sectoral Committee on Metal and Metal Products.

The grain size, moisture, sulphur, phosphorous ash and volatile matter contents are the important factors that affect the heat capacity of coke and requirements for these factors have been specified in this standard.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or an observation shall be rounded off in accordance with CS 102. The number of places to be retained in the rounded off value shall be the same as that of the specified value in this standard.

In the preparation of this standard, the assistance obtained from relevant publications of the International Organization for Standardization and Bureau of Indian Standards is gratefully acknowledged.

1 SCOPE

This standard specifies requirements and methods of test and sampling for foundry coke.

2 REFERENCES

ISO 334	Coal and coke - Determination of total sulphur
ISO 562	Hard coal and coke - Determination of volatile matter content
ISO 579	Coke - Determination of total moisture content
ISO 616	Coke - Determination of shatter indices
ISO 622	Solid mineral fuels - Determination of phosphorus content
ISO 1041	Essential oils - Determination of freezing point
ISO 1171	Solid mineral fuels - Determination of ash
ISO 2309	Coke - Sampling
CS 102	Presentation of numerical values
SLS 428	Random sampling methods

3 DEFINITIONS

For the purpose of this standard, the following definition shall apply:

coke : Coke is the solid, cellular infusible material remaining after the carbonization of coal, pitch petroleum residues and certain other carbonaceous material.

4 REQUIREMENTS

4.1 Ash content

The ash content of foundry coke shall be less than 12.0 per cent, when tested in accordance with 5.1.

4.2 Volatile matter content

The volatile matter content of foundry coke shall be less than 2.0 per cent, when tested in accordance with 5.2.

4.3 Moisture content

The moisture content of foundry coke shall be less than 3.0 per cent, when tested in accordance with 5.3.

4.4 Sulphur content

The sulphur content of foundry coke shall be less than 0.7 per cent, when tested in accordance with 5.4.

4.5 Phosphorus content

The phosphorous content of foundry coke shall be less than 0.15 per cent, when tested in accordance with 5.5.

4.6 Size

Size of foundry coke shall be greater than 100 mm and any undersize particles shall conform to the following sieve analysis.

<u>Sieve size</u> (mm)	<u>Cumulative per cent</u> - <u>over size</u>
100	80
80	90
71	98
63	99
50	100

5 METHODS OF TEST

5.1 Ash

Ash content shall be tested in accordance with ISO 1171.

5.2 Volatile matter

Volatile matter content shall be tested in accordance with ISO 562.

5.3 Moisture

Moisture content shall be tested in accordance with ISO 579.

5.4 Sulphur

Sulphur content shall be tested in accordance with ISO 334.

5.5 Phosphorus

Phosphorus content shall be tested in accordance with ISO 622.

6 PACKING

Unless otherwise specified the coke shall be supplied in 50-kg bags, texture of which shall prevent escape of finer particles so that atmospheric pollution is prevented.

7 MARKING

Each bag shall be marked legibly and indelibly with the following information:

- a) Name and address of supplier;
- b) Country of origin ;
- c) Net mass in a bag; and
- d) Batch number.

8 SAMPLING

8.1 Lot : In any consignment coke containing in bags belonging to one batch of manufacture or supply shall constitute a lot.

8.2 Scale of sampling

8.2.1 Samples shall be tested from each lot for ascertaining conformity to the requirements of this specification.

8.2.2 The number of bags to be selected from a lot shall be in accordance with Table 1.

TABLE 1 - Scale of sampling

No. of bags in the lot	No. of bags to be selected
Up to 50	05
51 to 90	06
91 to 150	07
151 and above	08

8.2.3 Bags shall be selected at random. In order to ensure randomness of selection tables of random numbers as given in SLS 428 shall be used.

8.3 Preparation of composite sample

Sufficient quantities of material shall be drawn from each bag at five different locations (preferable from top, middle and bottom portions) and mixed together with the material similarly drawn from all the bags selected as in 8.2.2 and form a composite sample.

8.4 Number of tests

8.4.1 Each bag selected as in 8.2.2 shall be inspected for marking and packaging requirements.

8.4.2 The composite sample prepared as in 8.3 shall be tested for ash content (4.1), moisture content (4.2), volatile matter content (4.3), phosphorus content (4.5) and size(4.6).

8.5 Criteria for conformity

A lot shall be declared as conforming to the requirements of this specification if the following conditions are satisfied:

8.5.1 Each bag inspected as in 8.4.1 satisfies packaging and marking requirements.

8.5.2 The composite sample tested as in 8.4.2 satisfies the relevant requirements.

SLS CERTIFICATION MARK

The Sri Lanka Standards Institution is the owner of the registered certification mark shown below. Beneath the mark, the number of the Sri Lanka Standard relevant to the product is indicated. This mark may be used only by those who have obtained permits under the SLS certification marks scheme. The presence of this mark on or in relation to a product conveys the assurance that they have been produced to comply with the requirements of the relevant Sri Lanka Standard under a well designed system of quality control inspection and testing operated by the manufacturer and supervised by the SLSI which includes surveillance inspection of the factory, testing of both factory and market samples.

Further particulars of the terms and conditions of the permit may be obtained from the Sri Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.



SRI LANKA STANDARDS INSTITUTION

The Sri Lanka Standards Institution (SLSI) is the National Standards Organization of Sri Lanka established under the Sri Lanka Standards Institution Act No. 6 of 1984 which repealed and replaced the Bureau of Ceylon Standards Act No. 38 of 1964. The Institution functions under the Ministry of Science & Technology.

The principal objects of the Institution as set out in the Act are to prepare standards and promote their adoption, to provide facilities for examination and testing of products, to operate a Certification Marks Scheme, to certify the quality of products meant for local consumption or exports and to promote standardization and quality control by educational, consultancy and research activity.

The Institution is financed by Government grants, and by the income from the sale of its publications and other services offered for Industry and Business Sector. Financial and administrative control is vested in a Council appointed in accordance with the provisions of the Act.

The development and formulation of National Standards is carried out by Technical Experts and representatives of other interest groups, assisted by the permanent officers of the Institution. These Technical Committees are appointed under the purview of the Sectoral Committees which in turn are appointed by the Council. The Sectoral Committees give the final Technical approval for the Draft National Standards prior to the approval by the Council of the SLSI.

All members of the Technical and Sectoral Committees render their services in an honorary capacity. In this process the Institution endeavours to ensure adequate representation of all view points.

In the International field the Institution represents Sri Lanka in the International Organization for Standardization (ISO), and participates in such fields of standardization as are of special interest to Sri Lanka.