SRI LANKA STANDARD 916 : PART 2 : 1991

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SPECIFICATION FOR

RUBBER COMPOUNDING INGREDIENTS

PART 2 - ZINC OXIDE

SRI LANKA STANDARDS INSTITUTION

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SLS 916:1991

Gr. 4

SRI LANKA STANDARDS INSTITUTION
53, Dharmapala Mawatha,
Colombo 3,
Sri Lanka.

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Sri Lanka Standards are subject to periodical revision in order to accommodate the progress made by industry. Suggestions for improvement will be recorded and brought to the notice of the Committees to which the revisions are entrusted.

This standard does not purport to include all the necessary provisions of a contract.

SRI LANKA STANDARD
SPECIFICATION FOR RUBBER COMPOUNDING INGREDIENTS
PART 2 : ZINC OXIDE

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on 1991-11-14, after the draft, finalized by the Drafting Committee on Rubber Compounding Ingredients, had been approved by the Chemicals Divisional Committee.

Clauses **3.2** and **4.1** of this specification call for agreement between the purchaser and the supplier.

This part is one of the series of standard specification for rubber compounding ingredients. The first part of this specification covers specification for carbon black.

This specification covers only the zinc oxide, widely used in the rubber industry as activator, pigment, accelerator and reinforcing material in rubber compounds.

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

In the preparation of this specification, the assistance obtained from the publications of the International Organization for Standardization, American Society for Testing and Materials and British Standards Institution is gratefully acknowledged.

1 SCOPE

This specification prescribes the requirements and methods of sampling and test for zinc oxide used as a rubber compounding ingredient.

2 REFERENCES

CS 102 Presentation of numerical values.
SLS 428 Random sampling methods.
SLS 899 Methods of Test for Rubber compounding ingredients Part 2 zinc oxide.

3 REQUIREMENTS

3.1 Appearance

The material shall be free from visible impurities.

3.2 Zinc oxide content

The zinc oxide content shall be as agreed to between the purchaser and the supplier.

3.3 Other requirements

The material shall conform to the requirements given in Table 1 when tested by the methods prescribed in Column 4 of the table.

TABLE 1 - Other requirements for Zinc oxide

Sl. No. (1)	Characteristic (2)	Requirement (3)	Method of test (4)
i)	Volatile matter at 105 °C per cent by mass, max.	0.75	SLS 899 : Part 2 Section 1
ii)	Water soluble matter, per cent by mass, max.	1.0	SLS 899 : Part 2 Section 2
iii)	Acidity per cent by mass, as H_2SO_4, max.	0.2	SLS 899 : Part 2 Section 3
iv)	Residue on sieve, 45 µm per cent by mass, max.	0.1	SLS 899 : Part 2 Section 4
v)	Lead, per cent by mass, max.	0.2)	
vi)	Cadmium, per cent by mass, max.	0.05)	
vii)	Copper, mg/kg, max.	5)	SLS 899 : Part 2
viii)	Manganese, mg/kg, max.	50)	Section 5
ix)	Iron, mg/kg, max.	20)	
x)	Loss on ignition per cent by mass, max.	0.5	SLS 899 : Part 2 Section 6

4 PACKAGING AND MARKING

4.1 Packaging

The material shall be packed in bags as agreed to between the purchaser and the supplier.

4.2 Marking

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

a) Name of the product;
b) Name and address of the manufacturer and/or distributor (including the country of origin);
c) Registered trade mark; if any;
d) Batch or code number; and
e) Net mass, in kilograms.

NOTE

Attention is drawn to certification marking facilities offered by the Sri Lanka Standards Institution. See the inside back cover of the standard.

5 SAMPLING

5.1 Lot

In any consignment all bags of zinc oxide of the same type belonging to one batch of manufacture or supply shall constitute a lot.

5.2 Scale of sampling

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

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

TABLE 1 - Scale of sampling

Number of bags in the lot (1)	Number of bags to be selected (2)
Up to 150	3
151 to 1 500	5
1 501 to 15 000	10
15 001 and above	15

5.2.3 The 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.

5.3 Preparation of composite sample

A sufficient quantity of zinc oxide shall be drawn from the geometric centre of the bag selected as in 5.2 using a suitable sampling tube or an appropriate instrument. The material thus obtained shall be mixed together and reduced to form the composite sample of required size by using coning and quartering method. The composite sample thus prepared shall be transferred into an airtight container.

5.4 Number of tests

5.4.1 Each bag selected as in 5.2 shall be inspected for packaging and marking requirements.

NOTE

This may be carried out at the place of sampling.

5.4.2 The composite sample prepared as in 5.1 shall be tested for the requirements given in 3.3.

6 METHODS OF TEST

6.1 Tests shall be carried out as prescribed in SLS 899 : Part 2.

7 CRITERIA FOR CONFORMITY

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

7.1 Each bag inspected as in 5.4.1 satisfies the packaging and marking requirements.

7.2 The composite sample tested as in 5.4.2 satisfies the relevant requirements.

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.

Printed at the Sri Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.

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.*

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