SRI LANKA STANDARD 1082 : Part 2.2: 2009
IEC 60264-2-2: 1990 + A 1: 2003

SPECIFICATION FOR PACKAGING OF WINDING WIRES

PART 2.2: CYLINDRICAL BARRELLED DELIVERY SPOOLS –RETURNABLE SPOOLS MADE FROM THERMOPLASTIC MATERIAL

(First Revision)

SRI LANKA STANDARDS INSTITUTION

Sri Lanka Standard
SPECIFICATION FOR PACKAGING OF WINDING WIRES\ PART 2-2: CYLINDRICAL BARRELLED DELIVERY SPOOLS –RETURNABLE SPOOLS MADE FROM THERMOPLASTIC MATERIAL

(First Revision)

SLS 1082 : Part 2.2: 2009
IEC 60264-2-2: 1990
+ A 1: 2003

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Sri Lanka.

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 PACKAGING OF WINDING WIRES
PART 2-2 : CYLINDRICAL BARRELLED DELIVERY SPOOLS –RETURNABLE SPOOLS MADE FROM THERMOPLASTIC MATERIAL
(First Revision)

NATIONAL FOREWORD

This standard was approved by the Sectoral Committee on Electric Cables and Conductors and was authorized for adoption and publication as a Sri Lanka Standard by the Council of Sri Lanka Standards Institution on 2009-10-28.

This is the first revision of **SLS 1082 : Part 2.2 : 1995** and identical with **IEC 60264-2-2 :** Packaging of winding wires, Part 2-2 : Cylindrical barrelled delivery spools –Specification for returnable spools made from thermoplastic material Edition 1.0 1990-07 and Amd. No 1: 2003, published by the International Electrotechnical Commission (IEC).

Terminology and conventions

The text of the International Standard has been accepted as suitable for publication, without deviation, as a Sri Lanka Standard. However, certain terminology and conventions are not identical with those used in Sri Lanka Standards; attention is therefore drawn to the following:

a) Wherever the words “International Standard” appear referring to this standard they should be interpreted as “Sri Lanka Standard”.

b) Wherever the page numbers are quoted they are the page numbers of IEC standard.

c) The comma has been used as a decimal marker. In Sri Lanka Standards it is the current practices to use a full point on the base line as a decimal marker.

CROSS REFERENCES

International Standards	Corresponding Sri Lanka Standards
IEC 60264 : Packaging of winding wires – Part 2-1 Cylindrical barrelled delivery spools - Basic dimensions	SLS 1082 : Packaging of winding wires Part 2.1 Cylindrical barrelled delivery spools - Basic dimensions
IEC 60264 : Packaging of winding wires - Part 4-1 : Method of test Delivery spools made from thermoplastic materials	SLS 1082 : Packaging of winding wires - Part 4.1 : Method of test - Delivery spools made from thermoplastic materials

NORME INTERNATIONALE
INTERNATIONAL STANDARD

CEI
IEC
264-2-2

Première édition
First edition
1990-07

Conditionnement des fils de bobinage

Partie 2:
Bobines de livraison à fût de forme cylindrique
Section 2 - Spécification pour les bobines réutilisables, faites de matériau thermoplastique

Packaging of winding wires

Part 2:
Cylindrical barrelled delivery spools
Section 2 - Specification for returnable spools made from thermoplastic material

Numéro de référence
Reference number
CEI/IEC 264-2-2: 1990

Numéros des publications

Depuis le 1er janvier 1997, les publications de la CEI sont numérotées à partir de 60000.

Publications consolidées

Les versions consolidées de certaines publications de la CEI incorporant les amendements sont disponibles. Par exemple, les numéros d'édition 1.0, 1.1 et 1.2 indiquent respectivement la publication de base, la publication de base incorporant l'amendement 1, et la publication de base incorporant les amendements 1 et 2.

Validité de la présente publication

Le contenu technique des publications de la CEI est constamment revu par la CEI afin qu'il reflète l'état actuel de la technique.

Des renseignements relatifs à la date de reconfirmation de la publication sont disponibles dans le Catalogue de la CEI.

Les renseignements relatifs à des questions à l'étude et des travaux en cours entrepris par le comité technique qui a établi cette publication, ainsi que la liste des publications établies, se trouvent dans les documents ci-dessous:

- **«Site web» de la CEI***
- **Catalogue des publications de la CEI**
  Publié annuellement et mis à jour régulièrement (Catalogue en ligne)*
- **Bulletin de la CEI**
  Disponible à la fois au «site web» de la CEI* et comme périodique imprimé

Terminologie, symboles graphiques et littéraux

En ce qui concerne la terminologie générale, le lecteur se reportera à la CEI 60050: *Vocabulaire Electrotechnique International* (VEI).

Pour les symboles graphiques, les symboles littéraux et les signes d'usage général approuvés par la CEI, le lecteur consultera la CEI 60027: *Symboles littéraux à utiliser en électrotechnique,* la CEI 60417: *Symboles graphiques utilisables sur le matériel. Index, relevé et compilation des feuilles individuelles,* et la CEI 60617: *Symboles graphiques pour schémas.*

* Voir adresse «site web» sur la page de titre.

Numbering

As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series.

Consolidated publications

Consolidated versions of some IEC publications including amendments are available. For example, edition numbers 1.0, 1.1 and 1.2 refer, respectively, to the base publication, the base publication incorporating amendment 1 and the base publication incorporating amendments 1 and 2.

Validity of this publication

The technical content of IEC publications is kept under constant review by the IEC, thus ensuring that the content reflects current technology.

Information relating to the date of the reconfirmation of the publication is available in the IEC catalogue.

Information on the subjects under consideration and work in progress undertaken by the technical committee which has prepared this publication, as well as the list of publications issued, is to be found at the following IEC sources:

- **IEC web site***
- **Catalogue of IEC publications**
  Published yearly with regular updates (On-line catalogue)*
- **IEC Bulletin**
  Available both at the IEC web site* and as a printed periodical

Terminology, graphical and letter symbols

For general terminology, readers are referred to IEC 60050: *International Electrotechnical Vocabulary* (IEV).

For graphical symbols, and letter symbols and signs approved by the IEC for general use, readers are referred to publications IEC 60027: *Letter symbols to be used in electrical technology*, IEC 60417: *Graphical symbols for use on equipment. Index, survey and compilation of the single sheets* and IEC 60617: *Graphical symbols for diagrams.*

* See web site address on title page.

NORME INTERNATIONALE
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Packaging of winding wires

Part 2:
Cylindrical barrelled delivery spools
Section 2 - Specification for returnable spools made from thermoplastic material

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PACKAGING OF WINDING WIRES

Part 2: Cylindrical barrelled delivery spools
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FOREWORD

1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.

3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

4) The IEC has not laid down any procedure concerning marking as an indication of approval and has no responsibility when an item of equipment is declared to comply with one of its recommendations.

This International Standard has been prepared by IEC Technical Committee No. 55: Winding wires.

The text of this standard is based on the following documents:

Six Months' Rule	Report on Voting	Two Months' Procedure	Report on Voting
55(CO)334	55(CO)363	55(CO)377	55(CO)385

Full information on the voting for the approval of this standard can be found in the Voting Reports indicated in the above table.

INTRODUCTION

This International Standard is one of a series which deals with insulated wires used for windings in electrical equipment. The series comprises three groups describing:

1) Methods of test (IEC 851);

2) Specifications (IEC 317);

3) Packaging (IEC 264).

PACKAGING OF WINDING WIRES

Part 2: Cylindrical barrelled delivery spools
Section 2 - Specification for returnable spools made from thermoplastic material

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1 Scope

This International Standard specifies the requirements for returnable cylindrical barrelled delivery spools made from thermoplastic material.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 264-2-1: 1989, *Packaging of winding wires - Part 2: Cylindrical barrelled delivery spools. Section One - Basic dimensions.*

IEC 264-4-1: 1989, *Packaging of winding wires - Part 4: Methods of test. Section One - Delivery spools made from thermoplastic material.*

3 Material

The spools shall be made from thermoplastic material (for example modified polystyrene) that satisfies the requirements given in this standard. The material used shall not have a deleterious effect on the conductor or the covering of the winding wire.

4 Type designation

Cylindrical barrelled delivery spools according to this standard shall be identified by dimension d_1 as specified in IEC 264-2-1, for example as follows:

Delivery spool 264-2-2/IEC 250.

5 Requirements

For test methods, see IEC 264-4-1.

5.1 *Spool irregularities*

5.1.1 *Surface*

The surface of the spool shall be smooth and the flanges free from protruding material liable to damage the wire or injure the hands of the winding operator.

5.1.2 *Construction*

Bolts and screws, if used in the construction of the spools, shall be countersunk so that the heads are below the surface.

5.2 *Spool marking*

Each spool shall have embossed and/or engraved markings, located on top side of the upper flange, containing the following information:

a) the type designation of the spool (for example 264-2-2/IEC 250);

b) name and/or trade mark of the spool manufacturer;

c) year of manufacture;

d) the nominal mass of the spool in grams.

The top flange shall be of such design as to allow the application of labels giving details of the manufacturer of the winding wire, its size, the weight of winding wire on the spool, etc.

5.3 *Mass*

The mass of the spool shall comply with the value given in table 1.

There are no requirements for other spools.

Table 1

Spool type	Mass	
	Nominal g	Tolerance %
40	16	±1
50	22	±1
63	40	±1
80	70	±1
100	125	±1
125	200	±2
160	350	±2
200	600	±2
250	1 050	±2
355	1 850	±2
500	7 650	±2
710	15 600	±2

5.4 *Spool dimensions*

The spool dimensions and tolerances shall comply with the dimensions and tolerances given in IEC 264-2-1.

5.5 *True running deviations*

The true running deviations shall not exceed the value given in table 1 of IEC 264-2-1 (under *y* and *z*).

5.6 *Behaviour at high temperature*

The spool shall be conditioned at a temperature of 60 ± 3 °C.

The spool dimensions and tolerances shall comply with the dimensions and tolerances given in IEC 264-2-1.

No swelling, buckling or variation in the flanges or in the barrel is permitted.

5.7 *Impact test on flanges*

5.7.1 *Under normal ambient conditions*

The function of the spool shall not be destroyed after stressing with the value given in table 2.

There are no requirements for other spools.

Table 2

Spool type	Mass kg	Energy N.m
80	0,5	2,0
100	0,5	2,5
125	0,5	4,5
160	0,5	5,6
200	1,0	7,1
250	1,0	10,0
355	1,0	16,0
500	2,0	25,0

5.7.2 *At low temperature*

The spool shall be conditioned at a temperature from -10 °C to -12 °C. The function of the spool shall not be destroyed after stressing with 70% of the value given in table 2.

After conditioning at a temperature of -25 ± 3 °C the spool shall not be destroyed after stressing with 50% of the value given in table 2.

5.8 *Deformation under load*

When stressed with the load specified in table 3, the elongation shall not exceed the value given in table 3.

There are no requirements for other spools.

Table 3

Spool type	Minimum tensile load kN	Maximum elongation mm
40	2	0,2
50	3,15	0,2
63	4	0,5
80	5	0,5
100	8	1
125	10	1
160	12,5	1,6
200	16	2,0
250	20	2,5
355	25	2,5
500	50	2,5

5.9 *Flexibility test on flanges*

When stressed with the load specified in table 4, the increase in distance between the flanges during and after stressing shall not exceed the value given in table 4.

There are no requirements for other spools.

Table 4

Spool type	Load kN	Maximum increase in distance between flanges mm	
		During stressing	After stressing
100	3,15	4	0,5
125	4	5	0,63
160	5	6,3	0,8
200	6,3	8	1,0
250	8	9	1,0
355	10	12,5	1,0

NORME INTERNATIONALE

INTERNATIONAL STANDARD

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IEC
60264-2-2

1990-07

AMENDEMENT 1
AMENDMENT 1
2003-12

Amendement 1

Conditionnement des fils de bobinage –

Partie 2-2: Bobines de livraison à fût de forme cylindrique – Spécification pour les bobines réutilisables, faites de matériau thermoplastique

Amendment 1

Packaging of winding wires –

Part 2-2: Cylindrical barrelled delivery spools – Specification for returnable spools made from thermoplastic material

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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FOREWORD

This amendment has been prepared by IEC technical committee 55: Winding wires.

The text of this amendment is based on the following documents:

FDIS	Report on voting
55/869/FDIS	55/886/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until 2009. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

———————

Page 7

INTRODUCTION

Replace the existing text by the following:

This part of IEC 60264 is one of a series that deals with insulated wires used for winding in electrical equipment. The series comprises three groups:

1) winding wires – Test methods (IEC 60851);
2) specifications for particular types of winding wires (IEC 60317);
3) packaging of winding wires (IEC 60264).

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2 Normative references

Replace the year of publication of IEC 60264-4-1 “1989” *by* “1997”.

4 Type designation

In the last line, replace “IEC 250” *by* “250”.

Page 11

5.2 Spool marking

In 5.2 a), replace “IEC 250” *by* “250”.

In the last paragraph, penultimate line, replace “weight” *with* “mass”.

Page 13

5.6 Behaviour at high temperature

In the first line, replace the temperature requirement “60 ± 3 °C” by “(60 ± 3) °C”.

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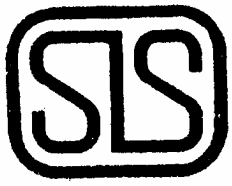

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SRI LANKA STANDARDS INSTITUTION

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.

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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.

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