

THE KENYA POWER AND LIGHTING CO. LTD.

SPECIFICATION

for

ALUMINIUM BINDING WIRE AND STIRRUPS

REVISION RECORD

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SPECIFICATION FOR ALUMINIUM BINDING WIRE AND STIRRUPS

FOREWORD

This specification has been prepared by the Research and Development Department on behalf of the Technical Committee of The Kenya Power and Lighting Company Limited (KPLC) and it lays down requirements for Aluminium Binding Wire and Stirrups. It is intended for use by KPLC in purchasing the materials.

It shall be the responsibility of the Manufacturer to ensure adequacy of the design and good engineering practice in the manufacture of the Aluminium Binding Wire and Stirrups for KPLC.

1. SCOPE

1.1 This specification is for Aluminium Binding Wire and Stirrups for use on Overhead Power Lines operating at voltages of up to 33kV 50Hz.

1.2 The specification covers the following:

- (a) Aluminium Binding Wire, Bare
- (b) Aluminium Binding Wire, PVC Covered
- (c) Aluminium Stirrups

2. REFERENCES

The following documents were referred to during the preparation of this specification. In case of conflict, the provisions of this specification shall take precedence.

BS 2627: Specification for Wrought Aluminium for Electrical Purposes.

BS 1475: Specification for Wrought Aluminium and aluminium alloys for general engineering purposes – wire.

BS 6746: Specification for PVC insulation and sheath of electric cables.

3. TERMS AND DEFINITIONS

For the purpose of this specification, definitions given in the reference standards shall apply.

4. REQUIREMENTS

4.1 Service Conditions

The Aluminium Binding Wire and Stirrups shall be suitable for continuous operation outdoors in tropical areas at altitudes of up to 2200m above sea level, humidities of up

to 90%, average ambient temperature of +30°C with a minimum of -1°C and a maximum of +40°C, in direct sunlight and heavy saline conditions along the coast.

4.2 Materials and Construction

- 4.2.1 The binding wire shall be 3.65 mm (SWG 9) diameter plain aluminium to BS 2627, soft drawn for use with bare All Aluminium Conductor and Aluminium Conductor Steel Reinforced.
- 4.2.2 The binding wire for use with PVC covered conductors shall be covered with 0.5mm black PVC to BS 6746 Type 1.
- 4.2.3 The stirrups shall be cold formed such that the bends shall be smooth and the stirrup free from indentations.
- 4.2.4 The stirrup shall be 7.0mm diameter aluminium rod to BS 1475 soft drawn.

4.3 Packing and Marking

- 4.3.1 The finished Aluminium Binding Wire and Stirrups shall be packed in coils such as to prevent damage during transportation and storage. Each coil shall be 100m in length.
- 4.3.2 The following information shall be marked legibly and in a permanent manner on the package:
 - a) The manufacturer's name
 - b) The type of product
 - c) The length, in metres
 - d) The mass, in kilogram
 - e) The standard to which the product complies.

5. TESTS AND INSPECTION

- 5.1 The Aluminium Binding Wire and Stirrups shall be tested and inspected in accordance with the requirements of this specification and BS 2627, BS 1475 and BS 6746 as applicable. It shall be the responsibility of the manufacturer to perform or to have performed the tests specified and whatever other tests normally performed at works.
- 5.2 Certified true copies of previous Test Reports from an ISO/IEC 17025 accredited Laboratory recognized by the International Laboratory Accreditation Co-operation (ILAC) shall be submitted with the tender for the purpose of technical evaluation, all in the English Language.

6. TECHNICAL DOCUMENTATION

- 6.1 The Manufacturer shall submit a clause by clause statement of compliance with these specifications together with copies of the manufacturer's catalogues, brochures, technical data, drawings and copies of previous test reports clearly marked to support

each clause, all in the English Language for evaluation. The manufacturer's type reference/ designation and technical particulars of the item offered shall be submitted.

- 6.2 Technical details and drawings for the Aluminium Binding Wire and Stirrups to be supplied shall be submitted to KPLC for approval before manufacture commences.
- 6.3 Complete test reports for the Aluminium Binding Wire and Stirrups shall be submitted to KPLC for approval before shipment/delivery. The test reports shall be from an ISO/IEC 17025 accredited Laboratory recognized by the International Laboratory Accreditation Co-operation (ILAC).
- 6.4 Experience of Manufacturer
 - 6.4.1 A detailed list & contact addresses of previous major customers (utilities) in the past five years shall be submitted with the tender for evaluation.
 - 6.4.2 The manufacturer shall have at least five years experience in the manufacture of the offered Aluminium Binding Wire and Stirrups and shall have exported to at least three countries (utilities).

APPENDIX A: Statement of Compliance (to be filled and signed by the Manufacturer for all clauses and submitted for tender evaluation)

Clause Number	Bidder's offer	Reference page on Manufacturer's catalogue, drawing, technical data or tests certificate to support the offer.

NB: - This schedule does not in any way substitute for detailed information required elsewhere in the specification.

Manufacturer's Declaration: Ion behalf of.....

Declare that the above specifications matrix conforms to a typical tender item type as clearly marked in the attached technical brochures & drawings, and being offered for this tender.

Signature..... **Date**.....**Stamp/Seal**.....