
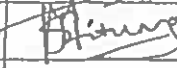



# THE KENYA POWER AND LIGHTING CO. LTD

## SPECIFICATIONS

For

COMMUNICATION CABLE (WHITE) /SIGNAL CABLE (CODE 152721)

	NAME	DESIGNATION	SIGNATURE	DATE
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# SPECIFICATIONS FOR SIGNAL CABLE

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## FOREWORD

This specification has been prepared by the Central Office Large Power Inspectorate. It lays down requirements for signal cable for low voltage applications. The specification is intended for procurement, and does not include provision of contract.

## INTRODUCTION

This specification was prepared to establish and promote uniform requirements for signal cable. The specification lays down the minimum requirements for equipment acceptable for evaluation. It is the responsibility of the Supplier to be conversant with the standards referred herein.

### 1. SCOPE

This specification is for signal cable. It shall be suitable for use with prepayment meter connection between the Customer Interface Unit (CIU) and the Measurement and Control Unit (MCU) and other applications where low voltages and currents are being used.

## 2. REFERENCES

The following documents were referred to during the preparation of this specification:  
BS 6360 and BS 6746.

In case of conflict, the requirements of these specifications take precedence.

## 3. DEFINITIONS

The definitions given in the above reference standards apply.

## 4. REQUIREMENTS

### 4.1 Operating Conditions

4.1.1 The cable shall be suitable for use in tropical conditions, with temperatures of up to 70 degrees Celsius.

4.1.2 It shall be suitable for outdoor operation.

### 4.2 Design and Construction

4.2.1 The cable shall be suitable for use with voltages of up to 60 Vrms.

4.2.2 The cable shall be suitable for currents of up to 1A per core.

4.2.3 The max resistance shall be 92.4 ohms/km.

4.2.4 The conductors shall be of annealed copper wire, as per BS 6360.

4.2.5 The insulation of the core shall be 0.2 mm PVC as per BS 6746.

4.2.6 The sheath shall be 0.5mm White PVC.

4.2.7 The overall diameter for the 4 core cable shall be approximately 3.5mm.

4.2.8 The conductors shall be stranded.

4.2.9 The insulation on the stranded conductors shall be in Yellow, Black, Red and Blue colours.

4.2.10 The cable shall be four core.

## 5.0 INSTRUCTIONS AND MARKINGS

- 5.1 Relevant technical details, schematic drawings, operational and service manuals shall be submitted to support the tender and shall be clearly marked to indicate the type of the cable being offered.
- 5.2 The tenderer shall submit a roll (100m) sample cable together with the submitted tender documents. This sample shall not be returned.
- 5.3 The tenderer shall also submit valid copy of manufacturer's ISO 9001:2000 Certificate.
- 5.4 The Tenderer shall submit a clause-by-clause statement of compliance with these specifications in the format seen in Appendix B. In case of deviations the affected requirements shall be indicated. Insertions such as "noted", "agreed" etc shall be considered non-responsive where a specific response is called for.

## 6.0 TESTS

- 6.1 Copies of certificates of tests carried out on the cable for compliance to standard BS 6360 and BS 6746 traceable to an International or National calibration laboratory shall be provided with the submitted tender documents. The certificates shall be for a type of the cable being offered.
- 6.2 The delivered cables shall have a mark of quality.
- 6.3 The manufacturer's declaration of conformity to reference Standards shall be submitted.

## 7.0 INFORMATION AND WARRANTY (In case of Tender Award)

- 7.1 The Signal cable shall have a warranty against any defects, which may develop due to faulty material, transportation or workmanship for a period of twelve months from the date of delivery. All defective cables shall be replaced at the supplier's cost.
- 7.2 The cables shall be packaged in such a manner as to minimize damage and entry of moisture during transportation and handling.
- 7.3 The cables shall be packaged in rolls of 100m each.

APPENDIX A. STATEMENT OF COMPLIANCE

(To be filled by the Supplier FOR ALL CLAUSES and submitted for tender evaluation)

Clause Number	Bidder's offer	Manufacturer's Compliance/Remarks and Reference Page to support the offer
<b>4.1</b>	<b>OPERATING CONDITIONS</b>	
4.1.1	Operation in tropical conditions , temperature up to 70 degrees Celsius	
4.1.2	Suitable for outdoor operation	
<b>4.2</b>	<b>DESIGN &amp; CONSTRUCTION</b>	
4.2.1	Suitable for use with voltages of up to 60 Vrms	
4.2.2	Suitable for currents of up to 1A per core.	
4.2.3	Max resistance, 92.4 ohms/ km	
4.2.4	Made of annealed copper wire	
4.2.5	Insulation of core shall be 0.2mm PVC	
4.2.6	Sheath shall be 0.5mm White PVC	
4.2.7	Overall diameter shall be approx 3.5mm	
4.2.8	Conductors shall be stranded	
4.2.9	Insulation on the stranded conductors in Yellow, Black, Red and Blue colours	
4.2.10	The cable shall be four core	
4.2.11	Sample, 1m length to be submitted with tender.	
<b>5.0</b>	<b>INSTRUCTIONS &amp; MARKINGS</b>	
5.1	Relevant technical details, schematic drawings, operational and service manuals shall be submitted to support the tender and shall be clearly marked to indicate the type of the cable being offered.	
5.2	The tenderer shall submit a roll (100m) sample cable together with the submitted tender documents. This sample shall not be returned.	
5.3	The tenderer shall also submit valid copy of manufacturer's ISO 9001:2000 Certificate.	
5.4	The Tenderer shall submit a clause-by-clause statement of compliance with these specifications in the format seen in Appendix A. In case of deviations the affected requirements shall be indicated. Insertions such as "noted", "agreed" etc shall be considered non-responsive where a specific response is called for.	
<b>6.0</b>	<b>TESTS</b>	
6.1	Copies of certificates of tests carried out on the cable for compliance to standard BS 6360 and BS 6746 traceable to an International or National calibration laboratory shall be provided with the submitted tender documents. The certificates shall be for a type of the cable being offered.	
6.2	The delivered cables shall have a mark of quality.	
6.3	The manufacturer's declaration of conformity to reference Standards shall be submitted.	
<b>7.0</b>	<b>INFORMATION AND WARRANTY (In case of Tender Award)</b>	

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Clause Number	Bidder's offer	Manufacturer's Compliance/Remarks and Reference Page to support the offer
7.1	The Signal cable shall have a warranty against any defects, which may develop due to faulty material, transportation or workmanship for a period of twelve months from the date of delivery. All defective cables shall be replaced at the supplier's cost.	
7.2	The cables shall be packaged in such a manner as to minimize damage and entry of moisture during transportation and handling.	
7.3	The cables shall be packaged in rolls of 100m each.	

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

**Manufacturer's Declaration:** I .....on 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.....

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