079 : 2000

CEB
STANDARD

ALUMINIUM BINDING WIRE

CEYLON ELECTRICITY BOARD
SRI LANKA

Specification

for

ALUMINIUM BINDING WIRE

CEB Standard 079 : 2000

CEYLON ELECTRICITY BOARD

No. 50, Sir Chittampalam A. Gardener Mawatha, Colombo 2.
Sri Lanka

Telephone: 94-1-430471, 421720 Facsimile: 94-1-430473
E-mail : cebdp@mega.lk

CONTENTS

SPECIFICATION FOR ALUMINIUM BINDING WIRE

1.0 SCOPE

This Specification Covers the general requirements of manufacture, testing supply and delivery of aluminium Binding Wire for use in the construction of overhead power lines.

2.0 SERVICE CONDITIONS

a)	Annual average ambient temperature	-	30^0 C
b)	Maximum ambient temperature	-	40^0 C
c)	Maximum relative humidity	-	90%
d)	Environmental Conditions	-	Humid tropical climate with polluted atmosphere
e)	Operational altitude	-	From MSL to 1900M above MSL

3.0 APPLICABLE STANDARD

The material used to manufacture the aluminium binding wire shall in general conform to the latest edition of the following Standard and amendments thereof.

a)	ANSI / ASTM B 233-85	-	Aluminium 1350 Re-draw Rods for electrical purposes

4.0 BASIC FEATURES

The binding wire shall be made of annealed aluminium wire through a process of drawing aluminium re draw rods and annealing. The aluminium re-draw rods used shall conform to ANSI/ASTM B 233-85.

The binding wire shall be suitable for securely binding the bare aluminium conductors to the pin insulators and to provide positive contact with the aluminium conductor so as to avoid any shafting contacts.

The binding wires shall be round smooth uniform and without any sharp edges that may cause injuries. The binding wire shall be suitable for manual application without use of a plier.

The binding wires are required for low voltage and medium voltage application. The diameter of the binding wire for low voltage application shall be 3mm and for medium voltage application 4mm. The tolerance on diameter shall not be more than ± 5 %

The maximum electrical resistivity of the aluminium binding wire shall be less than 0.03 ohm mm^2 / m, and the tensile strength shall be in the range of 5.0 - 6.5 N/mm^2

The aluminium binding wire shall be supplied in the form of coils having an inner diameter around 300mm and of weight 10kg approximately.

5.0 ADDITIONAL REQUIREMENTS

5.1 Packing

The aluminium binding wire coil shall be wrapped with polythene to prevent any damage to the wire during transport and handling.

Each coil shall be clearly marked with the following information

a) Name of manufacturer
b) Size
c) Diameter
d) Gross/net weight.
e) Wire length

6.0 INFORMATION TO SUPPLIED WITH THE OFFER

The following information shall be furnished with the offer;

a) Diameter of the wire
b) Following Test Certificates

   I) Dimensional Check
   ii) Wrapping Test
   iii Conductivity test
   iv) Tensile strength test

7.0 SAMPLE

Five meter samples aluminium binding wire of each type offered shall be furnished with the offer. The purchaser reserve the right to carryout destructive test on the sample for evaluation purposes.

8.0 INSPECTION AND TESTING

8.1 Inspection

The selected Bidders shall make necessary arrangements for inspection by an Engineer appointed by the purchaser and also to carry out in his presence necessary Acceptance / Routine test of the item offered.

8.2 Acceptance Tests

The following tests shall be witnessed by the representative of the purchaser.

a) Dimensional check
b) Wrapping test
   (Wrap the wire round a wire of its own diameter to form a close helix of eight turns. Unwrap six turns and again wrap in the same direction as before).

c) Conductivity test
d) Tensile strength test

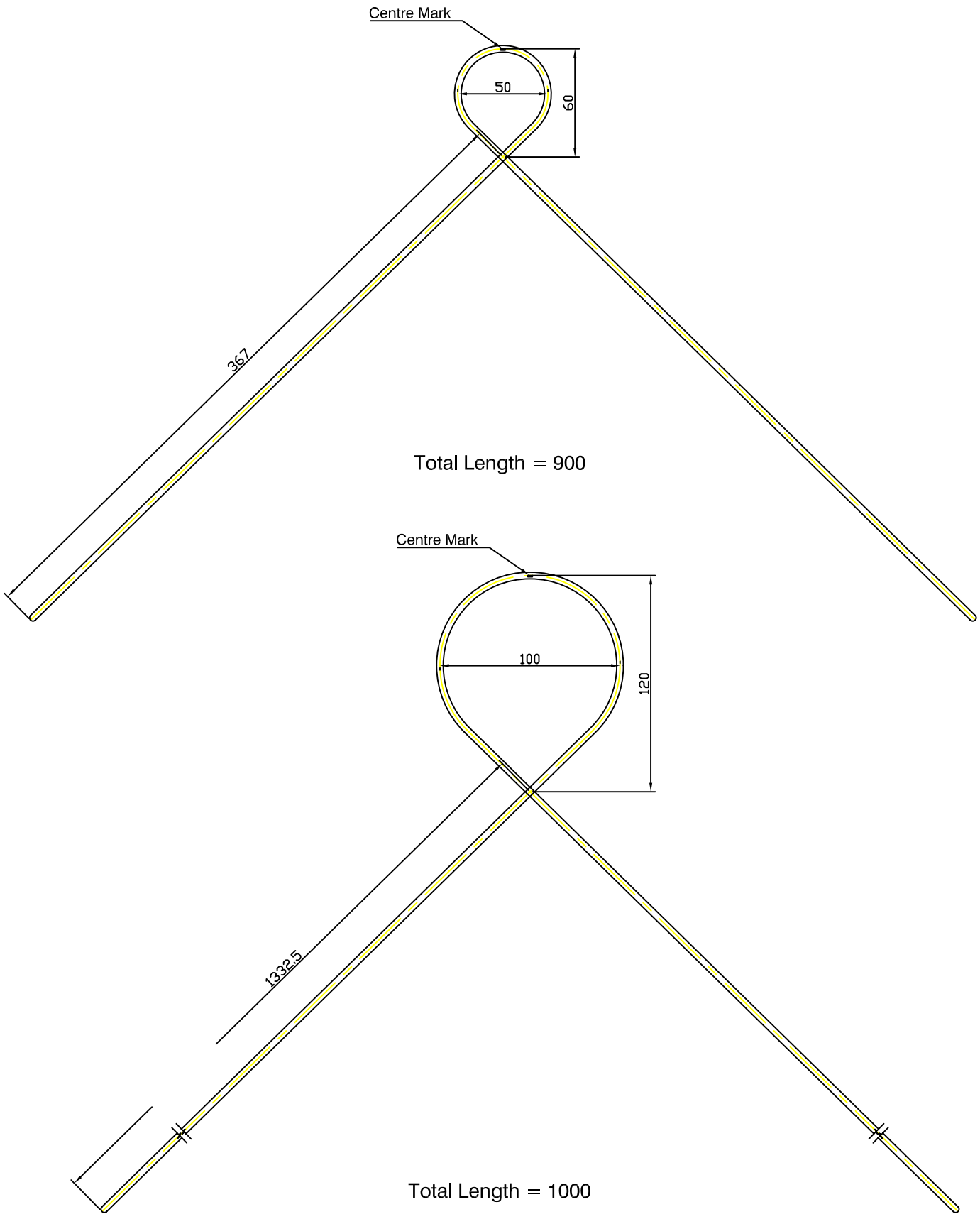
9.0 ANNEX

A - Schedule of Guaranteed technical particulars - To be filled by the Bidder

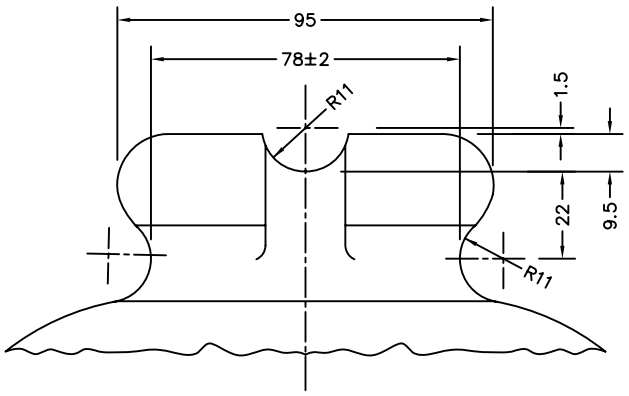
SCHEDULE OF GUARANTEED TECHNICAL PARTICULARS
(To be filled by the Manufacturer for each size separately**)**

1)	Name of manufacturer		-
2)	Diameter of the wire	mm	-
3)	Tolerance in diameter	%	-
4)	Tensile Strength	N/mm^2	-
5)	Electrical resistivity	ohm mm^2/m	-
6)	Diameter of the coil (inner)	mm	-
7)	Weight of coil,	kg	-
8)	Length of wire in a coil	m	-
9)	Whether the following test certificates furnished		
	a) Dimensional check	Yes/No	-
	b) Wrapping test	Yes/No	-
	c) Conductivity test	Yes/No	-
	d) Tensile strength test	Yes/No	-
10)	Type of packing		-

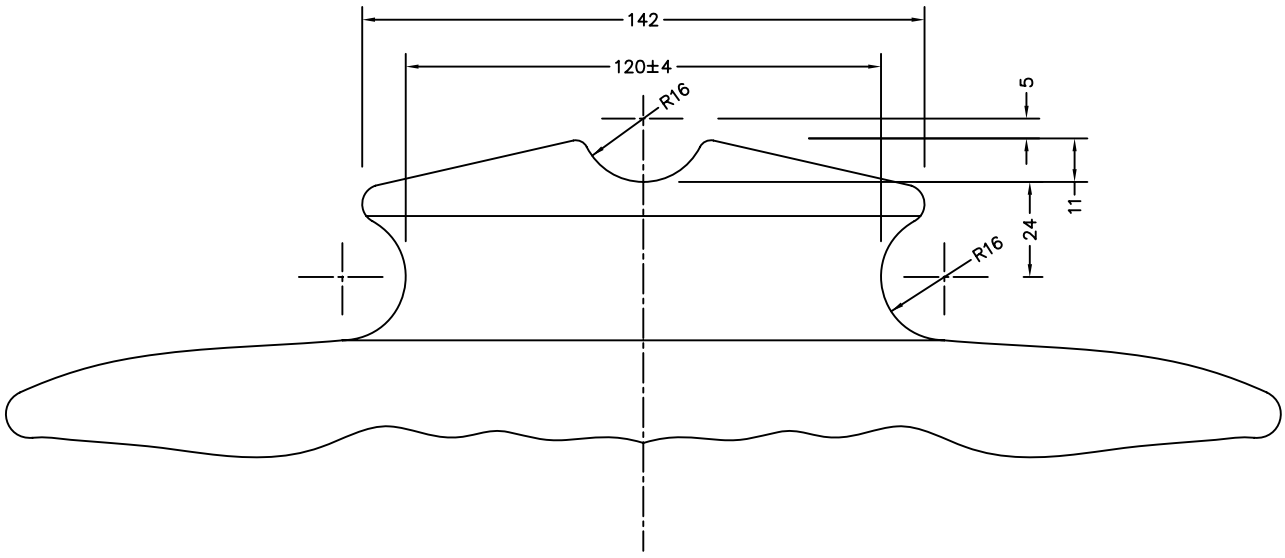
SEAL AND SIGNATURE OF THE MANUFACTURER / DATE



CEYLON ELECTRICITY BOARD	DISTRIBUTION STANDARDS & SPECIFICATION	SCALE : NOT TO SCALE
	ALUMINIUM BINDING WIRE	DRAWN : LALANI
	DESIGNED BY / APPROVED BY	DATE : July 1998
		DRG. NO : DS&S/99/079
DIST. PLANNING BRANCH	EE (DS & S) / CHAIRMAN, SPECIFICATION COMMITTEE	CAD NO :



Head of porcelain insulator
normally used on 11kV lines



Head of porcelain insulator
normally used on 33kV lines

NOTE :

Tolerances in accordance with BS 137 : Part 1 unless otherwise stated, i.e. (0.04d + 1.5) mm, where d is the dimension shown on the drawing.

All dimensions are in mm.

CEYLON ELECTRICITY BOARD	DISTRIBUTION STANDARDS & SPECIFICATION	SCALE : NOT TO SCALE
	HEAD OF MV PORCELAIN INSULATORS	DRAWN : LALANI
	DESIGNED BY / APPROVED BY	DATE : July 1998
		DRG. NO : DS&S/99/079-C
DIST. PLANNING BRANCH	EE (DS & S) / CHAIRMAN, SPECIFICATION COMMITTEE	CAD NO :