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1.0 SCOPE

This specification covers the design, manufacture, supply, testing, performance requirements and delivery of 7/2.6mm steel stranded stay wire/aerial earth wire.

It is not the intention to specify completely herein all the details of the design and construction of the wire. However, the offered wire shall conform in all respects to highest standards of engineering, design, workmanship of this specification and the latest revisions of relevant standards at the time of offer and ZESCO shall have the power to reject any work or material, which in ZESCO's judgement is not in full compliance therewith.

2.0 SYSTEM PARAMETERS

Not applicable.

3.0 ENVIRONMENTAL PARAMETERS

In addition to the environmental parameters requirements indicated in schedule A, the stay/aerial earth wire shall also be capable of operating under the following environmental conditions:

a) Exposed to direct tropical sun;
b) Frequent and severe lightning storms occurring during summer months (isokeraunic level taken to be 86 days/year); and
c) Exposure to dust which is prevalent for long periods in the year.

4.0 DETAILED REQUIREMENTS

The manufactured stay/aerial earth wire shall be smooth and free from all imperfections not consistent with good commercial practice.

The zinc-coated steel wires shall not depart from the nominal diameter, when measured over the coating as stated in the referenced standards.

No joints of any kind shall be made in the finished coated steel wires.

The stay/aerial earth wire shall be supplied on drums which are constructed in accordance with relevant international standards so as to enable it to be run out smoothly and in lengths as long as can be conveniently handled and erected. Drums shall be marked with type, size and length of wire on the drum and also with an arrow to show the correct direction for rolling. Wooden drums battens shall be constructed from seasoned woods and be impregnated with a preservative against fungal and termite attack.

4.1 Mechanical Tests

The following mechanical tests shall be performed at the manufacturer's plant prior to shipment:

a) Stress at 1% extension;
b) Tensile test; and
c) Ductility test,
   - Elongation test;
   - Torsion test;
   - Wrapping test.

4.2 Sampling

Samples for tests shall be taken by the manufacturer from 10% of the individual lengths of stay/aerial earth wire. In cases of wire supply in large quantities and where the manufacturer has a demonstrated capability of meeting or exceeding properties, the number of test samples may be reduced, with the agreement of the purchaser and the manufacturer, to a level which ensures that each production lot of wire is given adequate monitoring.

4.3 Packaging

The stay/aerial earth wire shall be suitably protected against damage which could occur in ordinary handling and shipping.

5.0 TECHNICAL SCHEDULES (SCHEDULES A & B)

SCHEDULE A: MINIMUM ZESCO REQUIREMENTS

S/N	Detail	Units	Data
1.	Description		7/2.6mm galvanized steel stay wire
2.	Material		Galvanized steel
3.	Stranding	No/mm	7/2.6
4.	Nominal tensile grade of the aerial earth wire	N/mm^2	1100
5.	Minimum breaking load of wire	kN	43.60
6.	Type of drum		Wooden treated
7.	Length per drum	m	5000
	Environmental Parameters		
8.	Ambient temperature range	^oC	-1 to 45
9.	Minimum humidity	%	85
10.	Altitude above sea level	m	1400
	Other Requirements		
11.	Previous type test results/certificate to be provided with the bid		Required
12.	Routine test results to be provided on delivery		Required
13.	Drawings showing dimensions to be provided with the bid		Required
14.	Quality assurance certification copies to be provided with the bid		Required
15.	Applicable standard(s)		BS 183; BS EN 443; IEC 60888; IEC 61089

SCHEDULE B: TO BE COMPLETED BY BIDDER

S/N	Detail	Units	Data
1.	Description		
2.	Material		
3.	Stranding	No/mm	
4.	Nominal tensile grade of the aerial earth wire	N/mm^2	
5.	Minimum breaking load of wire	kN	
6.	Type of drum		
7.	Length per drum	m	
	Environmental Parameters		
8.	Ambient temperature range	^oC	
9.	Minimum humidity	%	
10.	Altitude above sea level	m	
	Other Requirements		
11.	Have previous type test results/certificates been provided with the bid?	Yes/No	
12.	Will routine test results be provided on delivery?	Yes/No	
13.	Have drawings showing dimensions been provided with the bid?	Yes/No	
14.	Have quality assurance certification copies been provided with the bid?	Yes/No	
15.	Applicable standard(s)		