



Southern Electricity Co.

شركة كهرباء الجنوب

# Tender No. (ELEC. 01/2008)

Description	Sum(NIS)
Cables	

Company.....

Signature.....



## **Instructions to bidders**

- *The bidder must submit a bank guarantee equivalent to 5% of the tender total value, valid for 90 days from the date of submission; otherwise, quotation will be rejected.*
- *Prices excluding vat.*
- *Payments: 2 equal installments ,1st within 45 days from proof of delivery, 2<sup>nd</sup> within 60 days after final technical approval.*
- *Delivery: within (30) days from the date of accepting and informing the bidder of acceptance of quotation or according to the agreement after awarding the tender.*
- *Fines: 1% of the item price per week of delay and not more than 5% of total bid value.*
- *Prices including all charges up to the warehouses of SELCO.*

**Basel Al Qadi**  
**Financial & Administrative Director**



**Tender No. (ELEC. 01/2008)**  
**Electrical Materials**  
**&Cables**

You are kindly requested to quote for the supply and delivery of electrical materials in the attachment schedule to our stores.

All materials should comply with the latest I.E.C. and Palestinian standards.

Should the tender consider that they can offer any advantages to the purchaser by a modification to the specifications he may draw attention to such  
By an attach mend document stating the change in the amount of his tender.

The purchaser does not bind himself to accept the lowest or any tender nor to assign any reason for the rejection of any tender, nor to purchase the whole of the equipment and materials specified.

Test reports and catalogs must be submitted with the tender.

## **CABLES AND ACCESSORIES**

### **General:**

All cables accessories and materials shall be in accordance with the latest editions (including all amendments) of CENELEC HD 620 IEC and ISO recommendations.

All cables shall be suitable for operation

- (a) on a system either direct or through resistance or reactance at one or more neutral points
- (b) under the loads specified and such sudden variations of load and voltage as may be met with under working conditions on the system and
- (c) in the climatic conditions prevailing on Site.

The manufacturer shall have established a quality control system based on regularly accelerated test of production samples according to CENELEC HD620.

### **Conductors:**

All conductors shall be stranded copper or aluminum as specified in the Schedules. The conductor shall be clean, uniform in size, shape and quality, smooth and free from scale, spills, splits, sharp edges and other harmful defects.

They shall be circular, shaped, stranded, bunched and multiple stranded, as required, to suit the cable specification and shall comply with the requirements of IEC 60228 where applicable.

Where joints are permitted in individual wires, formed into a conductor, they shall be made in the manner prescribed in the appropriate standard and the frequency shall conform to the



limiting dimensions stated therein. No joints shall be made in the conductor after it has been formed.

**Identification of Cores:**

The cores of all twin, three and four core power cables shall be identified by numbers or colors in accordance with IEC standard or approved National Standard.

**Manufacturer's Identification:**

The manufacturer's identification shall be provided on outer sheath throughout the length of the cables by means of a tape under the sheath printed with the manufacturer's name. Alternatively the manufacturer's identification may be embossed on the outer PVC sheath together with identification and voltage markings. The cables shall be marked for each meter.

**Testing:**

Notwithstanding that cables are manufactured to an approved National Standard all cables, accessories and materials shall be subjected to and withstand satisfactorily the test requirements detailed in this specification subject to any exceptions stated therein. All materials shall withstand such routine tests as are customary in the manufacture of the cables and accessories included in the Contract.

**Sealing and Drumming:**

The cable shall be wound on strong non-returnable drums arranged to take a round spindle of a section adequate to support the loaded cable drum during installation and handling. The drum shall be lagged with strong closely fitting battens that shall be securely fixed to prevent damage to the cable. Wooden drums shall be constructed of seasoned timber to prevent shrinkage of drums during shipment and subsequent storage on site. Each drum shall be clearly marked in a manner which cannot be obliterated with the particulars of the cable including voltage, length, conductor size, number of cores, type of protective covering, section number, gross and net weight, together with the direction for rolling.

The ends of cables shall be suitably sealed to prevent the ingress of moisture. The end of the cable left projecting from the drum shall at all times be securely protected against damage by mishandling during transport or storage.

Drum lengths of cables shall not exceed 500 meter.

**Current Carrying Capacity and Design Parameters:**

The maximum continuous current carrying capacity and maximum permissible continuous conductor temperature, and the factors for determining such rating and temperature shall be based on IEC Recommendation No. 287 and subsequent amendments and all conditions prevailing on the Site.



**Cable Joints and Terminations:**

The Tender shall submit with his Tender drawings showing the types of joints proposed for each of the cables included in the Contract.

The joints shall be of a watertight, “pull-over” heat shrink type (Raychem or similar) without molding, free from sharp points or ridges, thoroughly clean internally and externally. The sleeves shall be of sufficient diameter and length to permit color-to-color jointing without undue bending, handling or deformation of the cores.

**Terminations:**

Detailed drawings showing the types of cable sealing ends, terminal boxes and glands and overhead line terminations shall be submitted to the Purchaser for approval.

Stress cones or other approved means shall be provided for grading the voltage stress on the core insulation of screened cables.

Terminations for MV cable shall be of an appropriate heat shrink design (Raychem or similar) incorporating a suitable arrangement of stress control, and rain-sheds for outdoor use

Termination kits shall include suitable heat shrink tubing to effectively shroud, seal and insulate the exposed cable conductor and connector, and shall include a heat shrink glove to effectively seal the crutch of the cable to prevent ingress of moisture into the interstices of the cable. Suitable arrangements shall be provided to earth the cable screen and armor.

Terminations into cable boxes shall include brass compression glands and back nuts of the correct size, which shall secure the cable outer sheath and ensure effective electrical continuity between the cable armoring wires and the metal enclosures on which the cable is terminated. At all rising terminations the cable inner sheath shall pass through the gland to terminate not less than 6 mm above the gland.

Provision shall be made for earthing all sealing end base plates, cable boxes, glands and armor clamps.

**Self Supported Aerial Bundle Cables (ABC Cables)**

**General:**

The Aerial Bundle Cable shall be 600/1000 V grade cross-link polyethylene and shall be of the types and construction stated in the Schedules. All cables shall be manufactured and tested to the CENELEC HD 626. Cables shall be designed for a maximum continuous conductor temperature of 90 oC, and for operation on a system with the neutral solidly earthed.

The cable shall be of self supporting type where all conductors share the load; i.e. no messenger wire or reinforced neutral conductor shall be used alone for suspension of the cable.

**Conductors:**

The conductors shall be hard drawn stranded aluminum and shall comply with all the requirements of IEC 60228.



**Insulation:**

The materials used in the manufacture shall be black weather-resistant cross-linked polyethylene with a high resistance to ultra violet radiation. The insulation shall fit closely on but shall not adhere to the conductors.

**Cable Identification:**

An approved method of identifying the manufacturer and year of manufacture shall be provided throughout the length of all cables.

**Core Identification:**

Identification of individual cores of the cable shall be by longitudinal ridges on the insulation and shall be provided throughout the length of all cables.

**Testing:**

All cables, accessories and materials shall be subjected to and satisfactorily withstand the test requirements specified herein. All materials shall withstand such routine tests as are customary in the manufacture of the cables and accessories included in the Contract.

**Sealing and Drumming:**

The cable shall be wound on to a strong non-returnable drum with enclosed flanges and barrel arranged to take a round spindle of a section adequate to support the loaded cable drum during installation and handling. The drum shall be lagged with strong closely fitting battens, which shall be securely fixed to prevent damage to the cable. Wooden drums shall be constructed of seasoned timber to prevent shrinkage of drums during shipment and subsequent storage on site. Each drum shall be clearly marked in a manner that cannot be obliterated with the particulars of the cable, including voltage, length, conductor size, number of cores gross and net weights, together with direction for rolling.

The ends of the cables shall be sealed by enclosing them in approved caps, tight fitting and adequately secured to prevent the ingress of moisture.

The end of the cable left projecting from the drum shall at all times be securely protected against damage.

**Stranded Copper Conductors :**

Conductor Type		Copper
Nominal Cross-sectional area	mm <sup>2</sup>	35

**Sample is compulsory requested for technical evaluation.**

Quotations should be enclosed in the attachment sealed envelope and handed over to the Financial Department of SELCO by hand.



Schedule of requested materials

Item	Quantity	Unit	Description	Price/Unit (NIS)	Total price(NIS)
1	5000	m.l.	Stranded cu conductor 35mm <sup>2</sup> for earthing. length 500m on drum..		
2	100	set	Outdoor termination kit for 95mm <sup>2</sup> AL insulation level (36 kV min., (set for 3 Phases) Raychem or equivalent.		
3	30	set	Straight joint for 36kV insulation level, underground cable, single core 1x95mm <sup>2</sup> Al (XLPE/PVC) (Set of 3 phases) Raychem or equivalent.		
4	2000	m.l.	NYY or (equivalent) CU cable 4*16 mm <sup>2</sup> , 1000 v, numbered longitudinally (cable length 500m on each drum).		
5	5000	m.l.	L.V. 4x25 mm <sup>2</sup> AL, self supported Insulated Aerial bundled cable (ABC), numbered longitudinally (cable length 500m on each drum).		
6	2000	m.l.	NYY or (equivalent) CU cable 3*70+1*35mm <sup>2</sup> , 1000 v, numbered longitudinally (cable length 500m on each drum).		
7	1000	m	Solid CU wire 8mm.		
8	300	Pcs	ABC Tension Anchor Clamp 4x25 mm <sup>2</sup> Al		
9	600	Pcs	M.V. cable holders for fixing Outdoor termination kit (complete).		
10	300	Pcs	Solid copper rod terminal (6-70)mm.		
11	400	Pcs	Copper bolt 1/2 inch 4cm with washers &nuts.		



12	20	pcs	80 Ampere contactor (Lovato, Electromechanic or equivalent).		
13	2000	Pcs	Bimetallic parallel grove clamps Cu/Al (6-50)/ (16-70) with one bolt.		
14	100	pcs	Heavy duty Compression terminal lug for 70mm <sup>2</sup> Cu with 13 mm hole.		
15	100	pcs	Compression terminal lug for ACSR Coyote, Al/Cu with 13mm hole.		
16	200	pcs	Compression terminal lug for ACSR Rabbit, Al/Cu with 13mm hole		
17	200	Pcs	Solid Cu wire 8 mm connector.		
<b>SUM</b>					