



ILOILO I ELECTRIC COOPERATIVE INC.
(I L E C O I)
BRGY. NAMOCON, TIGBAUAN
ILOILO

INVITATION TO BID NO. 2025-003

***“PURCHASE OF ELECTRICAL MATERIALS FOR RELOCATION OF POLES AFFECTED BY DPWH ROAD
WIDENING PROJECTS”***

1. Iloilo I Electric Cooperative Inc. (ILECO I) through its Bids and Awards Committee (BAC), invites interested bidders to participate in the **Public Bidding** of the Project, **“Purchase of Electrical Materials for Relocation of Poles Affected by DPWH Road Widening Projects”** in accordance with the Republic Act (RA) 10531 and RA 9184 and its Revised Implementing Rules and Regulations. The ILECO I, through the FY 2024 General Fund intends to apply the sum of **Four Million Two Hundred Eighty-Six Thousand Four Hundred Forty-Five Pesos (Php 4,286,445.00)** being the Approved Budget for the Contract (ABC) to payments under the contract for the Project. The period for the performance of the obligations under the Contract shall not go beyond the validity of the corresponding appropriations for the Project.

LOT NO.	BRIEF DESCRIPTION	APPROVED BUDGET FOR THE CONTRACT (ABC) INCLUSIVE OF VAT	NONREFUNDABLE FEE FOR BID DOCUMENTS	DELIVERY SCHEDULE/ COMPLETION SCHEDULE	SOURCE OF FUND
1	Line Hardware and Conductors	Php 2,025,043.00	Php 5,000.00	Full Delivery within sixty (60) calendar days from receipt of Notice to Proceed.	General Fund
2	Poles	Php 2,261,402.00	Php 5,000.00		

2. The ILECO I BAC shall conduct the meeting for Pre-bid and opening of the documents and bid offer at the given address and schedule below **Face-to-Face only**. Authorized attendees, including representatives of bidders, must be physically present at the ILECO I Employees’ Hall, Brgy. Namocon Tigbauan Iloilo.

AVAILABILITY OF BIDDING DOCUMENTS	PRE-BID CONFERENCE	SUBMISSION OF BID/BID OPENING
May 26, 2025 to June 15, 2025 from Monday to Friday only from 8:00 A.M. to 5:00 P.M	June 2, 2025 at 1:30 P.M. (Monday)	June 16, 2025 at 1:30 P.M. (Monday)

3. The Prebid-Conference is on **June 2, 2025, 1:30 PM** at the ILECO I Employees’ Hall, ILECO I Main Office, Brgy. Namocon Tigbauan Iloilo, which shall be open to prospective bidders.
4. Bids must be duly received by the BAC Secretariat through manual submission at the office address indicated below on or before **1:30 PM of June 16, 2025. Late Bids shall not be accepted.**
5. Prospect Bidders are required to attend the Pre-bid Conference.
6. All Bids must be accompanied by a Bid Security in any acceptable forms and in the amount stated in the Bidding Documents. The Submission and Opening of Bids will be on **June 16, 2025 (Monday), 1:30 PM at ILECO I Employees’ Hall, ILECO I Main Office, Brgy. Namocon Tigbauan Iloilo.** Bids shall contain the Eligibility and Technical Documents, as well as the Financial Documents prescribed in the Bidding Documents which will be opened in the presence of the bidder’s representatives.

Unsealed or unmarked bid envelopes shall also be rejected. In addition, **bid offers received in excess of the ABC shall likewise be automatically rejected.**

7. Representatives from each bidder/company must submit their **Notarized Letter of Authorization (LOA)** during the Pre-bid conference and on Opening of Bids. Failure to comply the above-mentioned will automatically mean disqualification. Only those who have paid the Non-refundable fee in the amount specified above shall be allowed to participate in the discussion during the Prebid Conference and have their bid offers opened.

Notarized LOA must be separated from the Sealed Bid, and to present upon attendance during the bid opening.

8. Bidding will be conducted through open competitive bidding procedures using a non-discretionary “pass/fail” criterion.
9. **The Bidder must have an experience of having Single Largest Completed Contract (SLCC) that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC.**
10. Suppliers/Contractors who intend to participate shall be immediately **disqualified under the following cases:** (a) suppliers/contractors whose contracts were previously **terminated** by ILECO I due to its failure to comply with its contractual obligation; (b) suppliers / contractors with (b.1) **ongoing or** (b.2) **un-finish projects or with at least** (b.3) **10% negative slippage** with ILECO I; (c) suppliers/contractors with pending case filed with ILECO I and (d) contractors/suppliers which was previously **blacklisted** either by ILECO I or any government agencies, should be automatically disqualified from participating in any competitive public bidding to be or presently being undertaken by ILECO I.
11. The ILECO I reserve the right to reject any and all bids, declare a failure of bidding, or not award the contract as indicated in the National Electrification Administration (NEA) Revised Procurement Guidelines and Simplified Bidding Procedures for Electric Cooperatives IRR-RA 10531 (2017) and in the Implementing Rules and Regulations (IRR) of Republic Act (RA) 9184, otherwise known as the “Government Procurement Reform Act”.

The results of the bidding shall be submitted to the ILECO I Head of Procuring Entity (HoPE) for final decision and awarding of BIDS. The decision of the HoPE shall be deemed final and executory.

12. Interested bidders may obtain further information from the ILECO I BAC Secretariat through the contact details given below.

For further information, please refer to:

*ILECOI BAC Secretariat
Iloilo I Electric Cooperative, Inc. (ILECO-I)
Namocon, Tigbauan, Iloilo
Email Add: bac@ileco1.org
Mobile No.: 0917-156-3079
ILECO-I Website: ileco1.com*

P. Star – May 26, 2025

(sgd)
ENGR. GC JUNE N. GARANCHON, PEE
BAC Chairperson

A. TECHNICAL SPECIFICATIONS

SPECIFICATION		
SUSPENSION INSULATOR		
Type:	Clevis Suspension	
Class:	52-1	
ANSI		
Specification:	C29.2-1983	
PERFORMANCE REQUIREMENTS:		
Insulators shall meet the following minimum performance ratings:		
A. Suspension Insulators (ANSI C29.2-1983.rm.)		
I. Electrical:		
a. Low-frequency dry flashover (Kv)		60
b. Low-frequency wet flashover (Kv)		30
c. Critical impulse flashover, positive (Kv)		100
d. Critical impulse flashover, negative (Kv)		100
e. Low-frequency puncture (Kv)		80
2. Radio-influence voltages (RIV):		
a. Low-frequency test voltage (rms-ground) Kv		7.5
b. Maximum. RIV @ 1.0 Mhz micro-volts		50
3. Mechanical:		
a. Combined mechanical and electrical strength (lbs)		1000
b. Mechanical impact Strength (inch-lbs)		45
c. Tension proof (lb)		5000
d. Time load (lb)		6000
4. Dimensions:		
a. Leakage distance (inches)		7

SPOOL INSULATORS		
Type	Spool	
Class	53-1; 53-2; 53-4	
Specification	C29.3-1986	
PERFORMANCE REQUIREMENTS:		
Insulators shall meet the following minimum performance ratings:		
	ANSI Class	
1. Electrical:	53-2	53-4
a. Low frequency dry flashover (Kv)	25	25
b. Low frequency wet flashover (Kv)	12	12
1. Vertical	12	12
2. Horizontal	15	15
2. Mechanical:		
a. Transverse Strength (lbs)	3000	4500

PIN INSULATORS

Type	Medium Voltage Pin
Class	55-5
ANSI Specification	C29.5-1984

PERFORMANCE REQUIREMENTS:

Insulators shall meet the following minimum performance ratings:

- | | |
|---|------|
| 1. Electrical: | |
| a. Low-frequency dry flashover (Kv) | 65 |
| b. Low-frequency wet flashover (Kv) | 35 |
| c. Critical impulse flashover, positive (Kv) | 100 |
| d. Critical impulse flashover, negative (Kv) | 130 |
| e. Low-frequency puncture (Kv) | 95 |
| 2. Radio-influence voltages (RIV): | |
| a. Low-frequency test voltage (rms-ground) Kv | 10 |
| b. Maximum @ 1.0 Mhz micro-volts | 50 |
| 3. Mechanical: | |
| a. Cantilever strength(lb) | 2500 |
| 4. Dimensions: | |
| a. Leakage distance (inches) | 7 |
| b. Dry arcing distance(inches) | 4.5 |
| c. Minimum pin height(inches) | 5 |

STEEL PINS

ANSI/ASTM Specification

- (1) ASTM A575-81: Standard Specification for Steel Bars, Carbon, Merchant Quality, M-Grade.
- (2) ASTM A576-81: Standard Specification for Steel Bars, Carbon, Hot Wrought, Special Quality.
- (3) ANSI C135.1-1979: American National Standard for Galvanized Steel Bolts and Nuts for Overhead Line Construction.
- (4) NEMA PHIQ-1977: NEMA Standard for Galvanized Ferrous Washers.
- (5) NEA Technical Standard 116: Standard for Locknuts.
- (6) ANSI/ASTM A153-82: Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- (7) ANSI C135.17-1979: American National Standard for Galvanized Ferrous Bolt-Type Insulator Pins with Lead Threads for Overhead Line Construction.
- (8) ANSI B18.2.2-1972: Square and Hex Nuts
- (9) ANSI B1.1-1982: Unified Inch Screw Threads (UN and UNR Thread Form).
- (10) ANSI B18.21.1-1983: American National Standard for Lock Nuts

POLE TOP PINS

ANSI/ASTM Specification

- 1. ANSI C135.22-1979: American National Standard for Galvanized Ferrous Pole-Top Insulator Pins with Lead Threads for Overhead Line Construction.
- 2. ANSI/ASTMA153-82: Standard specification for zinc coating (hot-dip) on iron and steel hardware.

MACHINE BOLT

ANSI/ASTM Specification

- [1] ANSI C135.1-1979: American National Standard for Galvanized Steel Bolts and Nuts for Overhead Line Construction.
- [2] ANSI/ASTMA153-82 : Standard Specification for Zinc Coating on Iron and Steel Hardware
- [3] ANSI B18.2.2-1981: Square and Hex Bolts and Screws Including a Square Head Bolts, Hex Cap Screws, and Lag Screws.
- [4] ANSI B18.2.2-1972: Square and Hex Nuts.
- [5] ANSI B1.1-1982: Unified Inch Screw Threads (UN and UNR Form)
- [6] NEA Tech. Standard 186: Standard for Coarse Screw Threads.
- [7] NEA Tech. Standard 113: Standard for Square Steel Nuts.

OVAL-EYE BOLT

ANSI/ASMT Specification

- [1] ANSI C135.4-1979 : American National Standard for Galvanized Ferrous Eye-Bolts and Nuts for Overhead Line Construction.
- [2] ANSI/ASTMA153-82 : Standard Specification for Zinc Coating (Hot-Dip) on Iron or Steel Hardware.
- [3] ANSI B18.2.2-1972 : Square and Hex Nuts.
- [4] ANSI C135.1-1979 : American National Standard for Galvanized Steel Bolts and Nuts for Overhead Line Construction.
- [5] ANSI B1.1-1982: Unified Inch Screw Threads (UN and UNR Thread Form).
- [6] NEA Standard 186: Standard for Coarse Screw Threads.

DOUBLE-ARMING BOLTS

ANSI/ASTM Specification

- 1. ANSI C135.1-1979: American National Standard for Galvanized Steel Bolts and Nuts for CNER head Line Construction.
- 2. ANSI/ASTM A153-80: Standard Specification for. Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- 3. ANSI B18.2.2-1972: Square and Hex Nuts.
- 4. ANSIB1.1-1982: Unified Inch Screw Threads (UN and UNR Thread Form).
- 5. NEA Technical Standard 186: Standard for Coarse Screw Threads.

CARRIAGE BOLTS

ANSI/ASTM Specification

- 1. ANSI C135.1-1979: American National Standard for Galvanized Steel Bolts and Nuts for Overhead Line Construction.
- 2. ASTM A663-82: Standard Specification for Steel Bars, Carbon, Merchant Quality, Mechanical Properties.
- 3. ASTM A675,-82: Standard Specification for Steel Bars, Carbon, Hot Wrought, Special Quality, Mechanical Properties.
- 4. ANSI/ASTM A153-82: Standard Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware.
- 5. ANSI B18.5-1978: Round Head Bolts.
- 6. ANSI B18.2.2-1972: Square and Hex Nuts.
- 7. ANSI B1.1-1982: Unified Inch Screw Threads (UN and UNR Thread Form).
- 8. NEA Technical Standard 186: Standard for Coarse Screw Threads.

SINGLE AND DOUBLE UPSET BOLTS

ANSI/ASTM Specification

- [1] ANSI C 135.31-1980: American National Standard for Galvanized Ferrous Single and Double Upset Spool Insulator Bolts for Overhead Line Construction.
- [2] NEMA PH31-1977: NEMA Standard for Galvanized Ferrous Single and Double Upset Spool Insulator Bolts.
- [3] ANSI/ASTM A153-82:
- [4] ANSI B18.2.2-1972: Square and Hex Nuts.
- [5] ANSI C135.1-1979: American National Standard for Steel Bolts and Nuts for Overhead Line Construction.
- [6] NEMA Pub. No. PH10-1977: NEMA Standards for Galvanized Ferrous Washers
- [7] NEA specification 116: NEA spec. for Square Locknuts.
- [8] ANSI B1.1-1982: Unified Inch Screw Threads (UN and UNR Thread Form)
- [9] NEA specification 186: Spec. for Coarse Screw Threads.

STEEL CROSS-ARM BRACES

ANSI/ASTM Specification

- 1. ASTM A570-79: Standard Specification for Hot-Rolled Carbon Steel Sheet and Strip, Structural Quality.
- 2. NEMA Pub. No. .PH6-1970: EEI-NEMA Standards for Metal Crossarms Braces.
- 3. ANSI/ASTM A153.82: Standard Specifications for Zinc Coating (Hot Dip) on Iron and Steel Hardware.

FERROUS WASHER

ANSI/ASTM Specification

- 1. ASTM A569-72 (R-1979): Standard Specification for Steel, Carbon (0.15 Maximum, Percent), Hot-Rolled Sheet and Strip, Commercial Quality.
- 2. ASTM A570-79: Standard Specification for Hot-Rolled Carbon Steel Sheet and Strip, Structural Quality.
- 3. ASTM A575-81: Standard Specification for Steel Bars, Carbon, Merchant Quality, M-Grade.
- 4. ASTM A635-81: Standard Specification for Hot-Rolled Carbon Steel Sheet and Strip, Commercial Quality, Heavy Thickness Coils (Formerly Plate).
- 5. ASTM A197-79: Standard Specification for Cupola Malleable Iron.
- 6. ASTM A536-80: Standard Specification for Ductile Iron Castings.
- 7. NEMA Pub. No. PH10-1971: NEMA Standards for Galvanized Ferrous Washers.
- 8. ANSI/ASTM A153-82: Standard Specification for Zinc Coating (Hot-Dip) on Iron or Steel Hardware.

SQUARE NUT

ANSI/ASTM Specification

- 1. ANSI C135.1-1979: American National Standard for galvanized steel bolts and nuts for overhead line construction.
- 2. ASME/ANSI A153-82: American National Standard specifications for zinc coating (hot-dip) on iron and steel hardware.
- 3. ANSI B18.2.2-1987: Square and Hex nuts
- 4. ANSI B1.1-1982: Unified inch screw threads (UN and UNR thread form).
- 5. ANSI B18.2.1-1981: Square and hex bolts and screws including square head bolts, hex cap screws, and lag screws.
- 6. NEA Specification 186: Specification for coarse screw threads.

7. NEA Specification 103: Specification for machine bolts.

SQUARE LOCK NUTS

ANSI/ASTM Specification

- [1] ANSI C135.1-1979: American National Standard for Galvanized Steel. Bolts and Nuts for Overhead Line Construction.
- [2] ANSI/ASTM A153-82: Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- [3] ANSI B1.1-1982: Unified Inch Screw Threads (UN and UNR Thread Form).
- [4] NEA Standard 186-1988: Standard for coarse screw threads.

OVAL-EYE NUTS

ANSI/ASTM Specification

- [1] ASTM A663-82: Standard Specification for Steel Bars, Carbons, Merchant Quality, Mechanical Properties.
- [2] ANSI C135.5-1979: American National Standard for Galvanized Ferrous Eye Nuts and Eyelets for Overhead Line Construction.
- [3] ANSI/ASTM A153-82: Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- [4] ANSI B1.1-1982: Unified Inch Screw Threads (UN and UNR, Thread Form).
- [5] NEA Standard 186: Standard for coarse screw threads.

THIMBLE-EYE NUT

ANSI/ASTM Specification

- 1. ASTM A663-82: Standard Specification for Steel Bars, Carbon, Merchant Quality, Mechanical Properties.
- 2. ASTM A675-82: Standard Specification for Steel Bars, Carbon, Hot Wrought, Special Quality, Mechanical Properties.
- 3. ANSI C135.5-1979: American National Standard for Galvanized Ferrous Eye Nuts and Eyelets for Overhead Line Construction.
- 4. ANSI/ASTM A153-82: Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- 5. ANSI B1.1-1982: Unified Inch Screw Threads (UN and UNR Thread Form).
- 6. NEA Standard 186: Standard for Coarse Screw Threads.

ANCHOR SHACKLE

ANSI/ASTM Specification

- [1] ASTM A668-83: Standard Specification for Steel forging, Carbon and Alloy, for General Industrial Use.
- [2] ANSI C135.1-1979: American National Standard for Galvanized Steel Bolts for Overhead Line Construction.
- [3] ANSI/ASTM A153-82: Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

ATTACHMENT GUY

ANSI/ASTM Specification

- 1. ANSI/ASTM A153-82: Standard Specification Zinc Coating (hot-dip) on Iron and Steel Hardware.

ANCHOR ROD

ANSI/ASTM Specification

[1] ASTM A663-82: Standard Specification for Steel Bars, Carbon, Merchant Quality, Mechanical Properties.

[2] ASTM A675-82: Standard Specification for Steel Bars, Carbon Hot Wrought, Special Quality, Mechanical Properties.

[3] ANSI C135.2-1979: American National Standard for Threaded Galvanized Ferrous Strand-Eye Anchor Rods and Nuts for Overhead Line Construction.

[4] ANSI/ASTM A153-82: Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

[5] ANSI B1.1-1982: Unified Inch Screw Threads (UN and UNR Thread Form).

[6] NEA STANDARD 186: Standard for Coarse Screw Threads.

SOLID FERROUS GROUND RODS

ANSI/ASTM Specification

1. NEA Specification 140: Specification for ground rod clamps.

2. ASTM A663-82: Standard Specification for steel bars, carbon, merchant quality, mechanical properties.

3. ASTM A675-82: Standard specification for steel bars, carbon, hot wrought, special quality, mechanical properties.

4. ASTM A47-77: Standard specification for malleable iron castings.

5. ANSI/ASTM A153-82: Standard specification for zinc coating (hot-dip) on iron and steel hardware.

CONNECTOR COMPRESSION

ANSI/ASTM Specification

1. NEMA Pub. No. CC-3: EI-NEMA Standards for connectors for use between aluminum or aluminum-copper overhead conductors.

CONDUCTOR BARE, ACSR

Size AWG	Strands no. & Size (inches)		Overall Diameter	DC Resistance	Ultimate Strength (lbs)
			(inches)	Ohms/mile @ 25 C	
	Aluminum	Steel			
4/0	6 X 0.1878	1 X 0.1878	0.563	0.441	8,420

ANSI/ASTM/IEC Specification

[1] ASTM B232: Standard Specification for Concentric-Lay-Stranded Aluminum Conductors, Coated-Steel Reinforced (ACSR).

[2] ASTM B498: Standard Specification for Zinc Coated (Galvanized) Steel Core Wire for Aluminum Conductors, Steel Reinforced (ACSR).

[3] ASTM B230: Standard Specification for Aluminum 1350-H19 Wire for Electrical Purposes.

[4] ASTM B233: Standard Specification for Aluminum 1350 Redraw Rod for Electrical Purposes.

[5] IEC 888: Zinc-coated steel wires for stranded conductor.

CONDUCTOR, INSULATED ACSR

Size AWG	Strands no. & Size (inches)		Before Insulation Overall Diamater (inches)	DC Resistance Ohms/mile @ 25 C	Ultimate Strength (lbs)
	Aluminum	Steel			
2/0	6 X 0.1490	1 X 0.1490	0.447	0.702	5,345
Physical and Aging Requirements					
The insulation should exhibit the following performances:					
1. Unaged Condition					
	Minimum tensile strength (lb/in.2)			1800	
	Minimum elongation at rupture (%)			250	
2. Aged condition after oven test at 121°C + / -1°C for 168 hours.					
	Minimum tensile strength at rupture (% of unaged value)			75	
	Elongation at rupture (% of unaged value)			75	
Heat distortion (% of unaged value)					
4/0 AWG and smaller (30)					
Larger than 4/0 AWG (10)					
3. Insulation Thickness					
Insulation jacket thickness of cables are listed below:					
		Conductor Size AWG	Insulation Thikness (mils)		
		2/0	60		
ANSI/ASTM/AWPA Specification					
[1] ASTM B232: Standard Specification for Concentric-Lay-Stranded Aluminum Conductors, Coated-Steel Reinforced (ACSR).					
[2] ASTM B498: Standard Specification for Zinc Coated (Galvanized) Steel Core Wire for Aluminum Conductors, A27 Steel Reinforced (ACSR).					
[3] ASTM B230: Standard Specification for Aluminum 1350-H19 Wire for Electrical Purpose.					
[4] ASTM B233: Standard Specification for Aluminum 1350 Redraw Rod for Electrical Purpose					
[5] AWPA C 1: Standards for Preservatives Treatment by Pressure Process - All Timber Products.					
[6] AWPA P5: Standards for Water-Borne Preservatives.					
[7] AWPA A2: Standard Methods for Analysis of Water-Borne Preservatives and Fire-Retardant Formulations.					
[8] AwPA A7: Wet Ashing Procedures for Preparing Wood for Chemical Analysis.					
[9] AWPA A9: Standard Method for Analysis of Treated Wood and Treating solutions by X-Ray Emission Spectroscopy.					
[10] AWPA A11: Analysis of Treated Wood and Treating solutions by Atomic Absorption Spectroscopy.					

WIRE, GUY

Strand Diameter Inches	Number of Wires Per Strand	Approximate Strand Weight MFT Lbs.	High Strength Grade Min. Breaking	Extra High Strength Grade Min.
3/8	7	273	10800	15400

ANSI/ASTM/AWPA Specification

ASTM A363 Zinc-Coated (Galvanized) Steel Overhead Ground Wire Strand

ASTM A475 Zinc-Coated Steel Wire Strand

ASTM A925 -5 % Aluminum-Misch metal Alloy-Coated Steel Overhead Ground Wire Strand

ASTM A855 Zinc-5 % Aluminum-Misch metal Alloy-Coated Steel Wire Strand

ASTM A640 Zinc-Coated Steel Strand for Messenger Support of Figure 8 Cable

CONCRETE ANCHOR

Shape	:	Rectangular
Ave. weight	:	30kg (+-5%)
Size	:	5" X 5" X 30"

GUY CLAMP, 3-BOLT

- ANSI/ASTM Specification
1. NEMA Pub. No. PH23-1964: NEMA Standards for steel and malleable iron guy clamps.
 2. ASTM A242-81: Standard specification for high strength low-alloy structural steel.
 3. ANSI B18.2-1972: Square and hex nuts
 4. ANSI B1.1-1982: Unified Inch Screw Threads (UN and UNR Thread Form).
 5. NEA Technical Standard 186: Standard for Coarse Screw Threads.

SECONDARY CLEVIS BRACKETS

- ANSI/ASTM Specification
1. ASTM A570-79: Standard specification for hot-rolled carbon steel sheet and strip structural quality.
 2. ASTM 675-82: Standard specification for steel bars, carbon, hot wrought, special quality, Mechanical properties.
 3. NEMA Pub. No. PH20-1979: NEMA Standards for galvanized ferrous insulator clevis.
 4. ANSI C29.3-1980: American National Standard for wet-process porcelain insulators (spool type)
 5. ANSI/ASTM A153-82: Standard specification for zinc coating (hot-dip) on iron and steel hardware

SECONDARY SWINGING CLEVIS

- ANSI/ASTM Specification
1. ASTM A570-79: Standard specification for hot-rolled carbon steel sheet and strip structural quality.
 2. ASTM 675-82: Standard specification for steel bars, carbon, hot wrought, special quality, Mechanical properties.
 3. NEMA Pub. No. PH20-1979: NEMA Standards for galvanized ferrous insulator clevis.
 4. ANSI C29.3-1980: American National Standard for wet-process porcelain insulators (spool type)
 5. ANSI/ASTM A153-82: Standard specification for zinc coating (hot-dip) on iron and steel hardware

PIPE SPACER

- ANSI/ASTM Specification
1. ASTM A570-75: Specifications for hot-rolled steel sheet and strip, structural quality.
 2. ANSI/ASTM A153-82: Standard specification for zinc coating (hot-dip) on iron and steel hardware.

DEADEND STRAIN CLAMP

ANSI/ASTM Specification

- 1. ASTM B686-85: Standard Specification for Aluminum Alloy Castings, High Strength.
- 2. ASTM A663-85: Standard Specification for Steel Bars, Carbon, Merchant Quality, Mechanical Properties.
- 3. ASTM A675-85: Standard Specification for Steel Bars, Carbon, Hot Wrought, Special Quality, Mechanical Properties.
- 4. ANSI B1.1-1982: Unified Inch Screw Threads (UN and UNR Thread Form)
- 5. NEA SPECIFICATION 186: Standard for Coarse Screw Threads

LOOP DEADEND CLAMP

ANSI/ASTM Specification

- 1. ASTM B686-82: Standard specification for aluminum alloy castings, high strength.
- 2. ASTM B597-83: Standard practice for heat treatment of aluminum alloys
- 3. ASTM A663-82: Standard specification for steel bars, carbon, merchant quality, mechanical properties.
- 4. ASTM A675-82: Standard specification for steel bars, carbon, hot wrought, special quality, mechanical properties
- 5. ANSIB18.2.2-1972: Square and hex nuts
- 6. ANSIB18.21.1-1983: American National Standard for lock washers
- 7. ANSIB1.1-1982: Unified inch screw threads (UN and UNR thread form)
- 8. NEA Specification186: Specification for coarse screw threads

HOT LINE CLAMPS

ANSI/ASTM Specification

- 1. ASTM B686-82: Standard Specification for Aluminum Alloy Castings, High Strength
- 2. NEMA Pub. No. CC3-1973 (R1978): EEI-NEMA. Standards for Connectors for use between Aluminum or Aluminum-Copper Overhead Conductors
- 3. NEMA SG-1.501 : NEMA Standard. Temperature Rise Test for Power Connectors
- 4. NEMA SG-1.502: NEMA Standard Resistance Test for Power Connectors

ARMOR ROD

ANSI/ASTM Specification

- 1. ASTM B211: Standard Specification for Aluminum-Alloy Bar, Rod, And Wire.

ARMOR TAPE

ANSI/ASTM Specification

- 1. ASTM A570-75: Specifications for hot-rolled steel sheet and strip, structural quality
- 2. ANSI/ASTM A153-82: Standard specification unc coating (hot-dip) on iron and steel hardware

SUSPENSION CLAMP

ANSI/ASTM Specification

- 1. ASTM A663-82: Standard Specification for Steel Bars, Carbon, Merchant Quality, Mechanical Properties.

STEEL POLES

STEEL POLES		30 ft	40 ft	45 ft
Type		Burial Type	Burial Type	Burial Type
SHAPE		Octagonal	Octagonal	Octagonal
Holes Arrangements		X,X-Y,Y,Z-Z	X,X-Y,Y,Z-Z	X,X-Y,Y,Z-Z
Surface treatment		Hot dip galvanized in accordance with ASTM A 123.	Hot dip galvanized in accordance with ASTM A 123.	Hot dip galvanized in accordance with ASTM A 123.
Section		1	1	2
Design of pole		Against earthquake of 8 grade	Against earthquake of 8 grade	Against earthquake of 8 grade
Wind Speed		160Km/Hour 30 m/s	160Km/Hour 30 m/s	160Km/Hour 30 m/s
Minimum yield Strength		355 mpa	355 mpa	355 mpa
Minimum ultimate tensile strength		470 mpa	470 mpa	470 mpa
Max ultimate tensile strength		630 mpa	630 mpa	630 mpa
10	Standard	ISO 9001 : 2008	ISO 9001 : 2008	ISO 9001 : 2008
11	Thickness	3 mm	4 mm	4 mm
12	DESIGN LOAD (kilograms)	500kg applied to 2 ft from the top pole	1280 kg.	750kg
13	Zinc Coating	>86 microns	>86 microns	>86 microns
14	Joint at Pole	N/A	n/a	insert
Section 1	Tip Diameter	127 mm	127 mm	127 mm
	Butt Diameter	226 mm	317 mm	236 mm
Section 2	Tip Diameter	N/A	N/A	219 mm
	Butt Diameter			328 mm
Length		9144	12192	13716
Pole weight (kg)		130.92	292.75	337.50

Annotations:

- Steel poles shall be fabricated from structural quality hot rolled steel which conforms to NEA Specification Standard and ASTM A570-79.
- Steel poles must be Hot Dip Galvanized in accordance with ANSI/ASTM A153-82.
- The Coating shall be continuous, smooth, reasonably uniform in thickness and free of blemishes other imperfections which are inconsistent with commercial practice.
- Pole framing holes shall be based on NEA Specification.
- Holes are through holes for 5/8 "diameter bolts mounting except for grounding slot.
- Lifting points and ground line section shall be properly marked
- 5/8" diameter step bolt holes are through & through to the body of the pole starting 10 feet from the butt up to 4 1/2 feet from the tip spaced at 20" on center at 90 degrees angle with the face of the pole.

8. Bolt holes should be 1/16" larger than bolt size.

9. Manufacturer's mark, date of manufacture, pole height & class, type of coating, pole production or serial number shall be indicated on the face of the pole 10 feet from the butt.

10. With marking ground level should be based on standard.

11. Pole shall have butt plates.