TECHNICAL SPECIFICATIONS

OVERHEAD INSULATED MULTIPLEX SERVICE DROP CONDUCTOR

JPS NO 1555-S-2008

EFFECTIVE: FEBRUARY 2008

PART INDEX

The "Technical Specifications, General Requirements" forms a part of this specification.

1. SCOPE

1.1 These specifications cover overhead, cross-linked polyethylene insulated, aluminium conductors for secondary and overhead service drop applications, on 50 Hertz distribution system, voltage less than 600 volts between insulated conductors. All required service drops shall be supplied with bare aluminium alloy neutral messenger.

2. GENERAL REQUIREMENTS

2.1 INFORMATION

2.1.1. Refer to "Submittal of Information" Section 2 Paragraph 2.1 of "Technical Specifications, General Requirements".

2.2 DRAWINGS ETC. BY SUPPLIER

2.2.1 Refer to "Submittal of Information" Section 2, paragraph 2.2 of "Specifications and Requirements".

3. STANDARDS AND SERVICE CONDITIONS

3.1 STANDARDS

3.1.1 Refer to "Codes and Standards" Section 3 of "Technical Specifications, General Requirements".

3.1.2 The following standards shall be observed in the design, manufacture, performance and tests.

3.1.2.1 ASTM B-398 Aluminium Alloy 6201-T81 for Electrical purposes

3.1.2.2 ASTM B-399 Concentric Lay Stranded 6201-T81 Aluminium Alloy Conductors

3.1.2.3 ASTM B-230 Aluminium Wire, 1350-H19 for Electrical Purposes

3.1.2.4 ASTM B-231 Aluminium Conductors, Concentric Lay Stranded

4.2.2.1 NEMA WC-21 Non-returnable reels for wire and cable.

4.2.2.2 ICEA S-95-658/NEMA WC70, Non-shielded 0-2kV Cables

4.2.2.3 Triplex and Quadruplex service drop cable meets or exceeds all applicable requirements of ANSI/ICEA body S-76-474.

3.2 SERVICE CONDITIONS

3.2.1 Refer to "Geographic Conditions" Section 4 of "Technical Specifications, General Requirements".

4. DETAILED REQUIREMENTS

4.1 TYPE

(See chart)

4.2 CONSTRUCTION

4.2.1 PHASE CONDUCTOR (S)

Conductors shall be concentrically stranded, compressed 1350- H19 aluminium. Insulated with either polyethylene or cross-linked polyethylene. Construction shall be in accordance with ASTM B-230, ASTM B-231 standards.

4.2.2 BARE ALUMINIUM NEUTRAL MESSENGER

4.2.2.1 Bare aluminium neutral messenger shall be constructed from 6201-T81 Aluminium Alloy in accordance with ASTM B398, ASTM B399 standards.

4.2.3 INSULATION

The insulation shall be black and manufactured from a cross-linked thermosetting polyethylene material in accordance with part 7.3 of IPCEA.

The insulation shall be suitable for exposure to sunlight and other atmospheric environments at the conductor operating temperature, in the range of ambient given under "Geographic Conditions", in the "General Requirements" section.

The average thickness of the insulation shall not be less than the values specified in Section 4.2.4 of this Specification.

4.2.4 TWISTED CONDUCTOR

The insulated conductors shall be twisted around the neutral conductor in a right hand direction with a lay of 25 to 60 times the diameter of one of the insulated conductors.

	Cable	Code	Phase Conductor , Material, Size & Stranding	Insulation Depth	Neutral Messenger ,Material, Size, Stranding and Strength	Minimum Ampacity (A)	Cable Length Metres (feet)
4.2.4.1	Triplex	Hippa	1350-H19 aluminium, 16 mm^2 (No. 6 A.W.G.) 7 strands	1.14 mm (45 mils)	6201-T81 aluminium alloy, full size 16 mm^2 (No. 6 A.W.G.),7 strands, rated strength 1,110 lbs	70	610 (2,000)
4.2.4.2	Triplex	Shrimp	1350-H19 aluminium, 35 mm^2 (No. 2 A.W.G.) 7 strands	1.14 mm (45 mils)	6201-T81 aluminium alloy, full size, 35 mm^2 (No. 2 A.W.G.),7 strands, rated strength 2,800 lbs	120	548 (1,800)
4.2.4.3	Triplex	Dungenese	1350-H19 aluminium, 70 mm^2 (No. 2/0 A.W.G.) 7 strands	1.52 mm (60 mils)	6201-T81 aluminium alloy, full size, 80 mm^2 (155.4 kcmil),7 strands, rated strength 5,390 lbs	185	457 (1,500)
4.2.4.4	Triplex	Cyclops	1350-H19 aluminium, 70 mm^2 (No. 2/0 A.W.G.) 19 strands	1.52 mm (60 mils)	6201-T81 aluminium alloy, full size, 80 mm^2 (155.4 kcmil),7 strands, rated strength 5,390 lbs	185	457 (1,500)
4.2.4.5	Quadruplex	Belgian	1350-H19 aluminium, 30 mm^2 (No. 2 A.W.G.) 7 strands	1.14 mm (45 mils)	6201-T81 aluminium alloy, full size, 35 mm^2 (77,470 Cmils), 7 strands, rated strength 12.42kn (2,800lbs)	105	548 (1,800)
4.2.4.6	Quadruplex	Thorough-bred	1350-H19 aluminium, 70 mm^2 (No. 2/0 A.W.G.) 19 strands	1.52 mm (60 mils)	6201-T81 aluminium alloy, full size, 80 mm^2 (155.4 kCmils), 7 strands, rated strength 23.75kn (5,390 lbs)	160	457 (1,500)
4.2.4.7	Quadruplex	Walking	1350-H19 aluminium, 125 mm^2 (No. 4/0 A.W.G.) 19 strands	1.52 mm (60 mils)	6201-T81 aluminium alloy, full size, 125 mm^2 (246.9 kCmils), 7 strands, rated strength 37.83kn (8,560 lbs)	210	335 (1,100)

5. TESTS

5.1 Refer to "Tests" Section 5 of "Technical Specifications, General Requirements".

5.2 Certified test reports are required for all conductors manufactured.

5.3 Manufacturer shall invite purchaser's representatives (2) to witness final tests on conductors. This invitation should extend at least two weeks before the scheduled date for the commencement of such tests. Witnessing of such tests may be waived at the purchaser's discretion and in such instances the manufacturer shall provide the necessary test reports for the conductors manufactured.

6. PACKAGING AND MARKING

6.1 Conductor shall be supplied on non-returnable export type reels in approximate lengths as given in Section 4.1. All reels shall be designed to NEMA WC-21 standard or equivalent and are to be constructed to withstand the rigors of overseas shipping.

6.2 Each reel must be clearly marked or tagged (manufacturer's standard) showing legibly all essential information such as product identification, item description (conductor type and size) Length and Gross, Tare and Net Weight. All conductors shall be clearly marked **"PROPERTY OF JPS"** every 2 ft along its length.

6.3 For "Export Markings" refer to Section 8 of " Technical Specifications, General Requirements".

7. SHIPMENT

Manufacturer/supplier shall await the written instruction of the purchaser to commence shipment of materials. Approval for shipment will be given only after the purchaser has been satisfied that the material to be supplied meets the required specifications.

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Revision Number	Date of Revision	Revision Made	Checked By
1	February 2008	**Added section 4.2.4, sub clauses 4.2.2.1 4.2.2.2** **Covered neutral messenger and identification marking**	
2	March 2012	**a. Modifications made to section 4.2.4 to include Dungenese conductor and Earlham conductor.** **b. Ampacity of each conductor added to table.**	
3	July 2012	**a. Addition of 'Cyclops' conductor to table in section 4.2.4.** **b. Obliteration of 'Solaster and Earlham' conductors from table.** **c. Elimination of all clauses pertaining to covered neutral messenger and updating to bare aluminium neutral messenger.**	

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