

JAMAICA PUBLIC SERVICE COMPANY LTD.
TECHNICAL SPECIFICATIONS FOR
OVERHEAD INSULATED MULTIPLEX SERVICE CONDUCTOR
JPS NO 1555-S-2000

Effective : 2000 January 18

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The “Technical Specifications, General Requirements” forms a part of this specifications.

1. SCOPE

1.1 These specifications cover overhead, cross-linked polyethylene insulated, aluminum conductors for secondary and overhead service drop applications, on 50 Hertz distribution system, voltage less than 600 volts between insulated conductors.

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

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

3.1.2.6 IPCEA S66-524

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)

Phase conductors shall be constructed from 1350- H19 (EC-H19) Aluminium in accordance with ASTM B230, ASTM B231 standards.

4.2.2 NEUTRAL MESSENGER

4.2.2.1 Bare neutral messenger shall be constructed from 6201-T81 Aluminum Alloy in accordance with ASTM B398, ASTM B399 standards. Reference shall be made to Section 4.1 (Type) of Technical Specification to determine whether neutral is to be full or reduced size.

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 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.

TYPE - Table of Requirements

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| | Cable | Code | Phase Conductor , Material, Size & Stranding | Insulation Depth | Neutral Messenger ,Material, Size, Stranding and Strength | Cable Length metres (feet) |
|-------|---------|--------------|---|-------------------|--|----------------------------|
| 4.1.1 | Duplex | Vizsla | 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 (30,580 Cmils) , 7 strands, rated strength 4.92kn (1,110 LBS.) | 850 (2,800) |
| 4.1.2 | 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 (30,580 Cmils) , 7 strands, rated strength 4.92kn (1,110 LBS.) | 610 (2,000) |
| 4.1.3 | Triplex | Dungene | 1350-H19 aluminium, 70 mm ² (No. 2/0 A.W.G.) 7 strands | 1.52 mm (60 mils) | Full size neutral 6201-T81 aluminium alloy, full size, 80 mm ² (155.4 KCM) , 7 strands, rated strength 24.5 KN (5390 LBS.) | 548 (1,800) |
| 4.1.4 | Triplex | Lepas | 1350-H19 aluminium, 120 mm ² (No. 4/0 A.W.G.) 19 strands | 1.52 mm (60 mils) | Full size neutral6201-T81 aluminium alloy, full size, 125 mm ² (246.9 KCM) , 7 strands, rated strength 38.9 KN (8560 LBS.) | 548 (1,800) |
| 4.1.5 | Triplex | Solaster | 1350-H19 aluminium, 30 mm ² (No. 2 A.W.G.) 7 strands | 1.14 mm (45 mils) | 6201-T81 aluminium alloy, full size, 25 mm ² (48,690 Cmils), 7 strands, rated strength 7.83kn (1,760 LBS.) | 548 (1,800) |
| 4.1.6 | Quadplx | 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 (2,800 LBS.) | 548 (1,800) |
| 4.1.7 | Quadplx | Thoroughbred | 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.) | 457 (1,500) |
| 4.1.8 | Quadplx | Walking | 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, 125 mm ² (246.9 kCmils), 7 strands, rated strength | 305 (1,000) |

| | | | | |
|--|--|--|----------------------|--|
| | | | 37.83kn (8,560 LBS.) | |
|--|--|--|----------------------|--|

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 purchasers 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 The words "Property of JPSCo" shall be inscribed every 5 m (15 ft) (maximum along the surface of the conductor insulation).
- 6.2 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.
- 6.3 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.
- 6.4 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.