# **Duplex XLPE Service Drop. AAC Neutral - Messenger**

Aluminum Conductors With Crosslinked Polyethylene Insulation.



Image not to scale. See Table 1 for dimensions.

#### **CONSTRUCTION:**

1. **Conductor**: Conductors are stranded, compressed 1350-H19 aluminum

2. **Insulation:** Cross Linked Polyethylene (XLPE)

3. **Messenger:** AAC Neutral

### **APPLICATIONS AND FEATURES:**

Primarily used for 120 volt overhead service applications such as street lighting, outdoor lighting, and temporary service for construction. To be used at voltages of 600 volts phase-to-phase or less and at conductor temperatures not to exceed 90°C for crosslinked polyethylene (XLP) insulated conductors.

#### SPECIFICATIONS:

- ASTM B230 Aluminum, 1350-H19 Wire for Electrical Purposes
- ASTM B231 Standard Specification for Concentric-Lay-Stranded Aluminum 1350 Conductors
- ASTM B901 Standard Specification for Compressed Round Stranded Aluminum Conductors Using Single Input Wire Construction. (The number of strands for both phase and neutral may differ)
- ICEA S-76-474 Standard for Neutral-Supported Power Cable Assemblies with Weather-Resistant Extruded Insulation Rated 600V

**Table 1 – Weights and Measurements** 

| Stock<br>Number | Code<br>Word | Phase<br>Cond. Size | Phase<br>Strand | Dia. Over Phase<br>Conductor | Phase Insul.<br>Thickness | Dia. Over Phase<br>Insulation | Neutral<br>Cond. Size | Neutral<br>Strand | Approx.<br>OD | Approx.<br>Weight |
|-----------------|--------------|---------------------|-----------------|------------------------------|---------------------------|-------------------------------|-----------------------|-------------------|---------------|-------------------|
|                 |              | AWG/Kcmil           | No.             | inch                         | mil                       | inch                          | AWG/Kcmil             | No.               | inch          | lb/1000ft         |
| 104596          | Pekingese    | 6                   | 1               | 0.162                        | 30                        | 0.222                         | 6                     | 7                 | 0.435         | 60                |
| 104604          | Collie       | 6                   | 7               | 0.177                        | 30                        | 0.237                         | 6                     | 7                 | 0.451         | 63                |
| TBA             | Dachshund    | 4                   | Solid           | 0.204                        | 30                        | 0.264                         | 4                     | 7                 | 0.530         | 158               |
| TBA             | Spaniel      | 4                   | 7               | 0.225                        | 30                        | 0.285                         | 4                     | 7                 | 0.572         | 164               |
| TBA             | Doberman     | 2                   | 7               | 0.282                        | 45                        | 0.372                         | 2                     | 7                 | 0.746         | 273               |
| TBA             | Malemute     | 1/0                 | 19              | 0.361                        | 60                        | 0.481                         | 1/0                   | 7                 | 0.964         | 444               |

All dimensions are nominal and subject to normal manufacturing tolerances

TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.



<sup>1.</sup> The actual number of strands may differ for single input wire per ASTM B901

## Table 2 – Electrical and Engineering Data

| Code<br>Word | Phase Cond.<br>Size | Neutral Rated Breaking<br>Strength | DC Resistance @<br>25°C | AC Resistance @<br>75°C | Inductive Reactance<br>@ 60Hz | GMR   | Allowable Ampacity In Air<br>75/90°C |
|--------------|---------------------|------------------------------------|-------------------------|-------------------------|-------------------------------|-------|--------------------------------------|
|              | AWG/Kcmil           | lb                                 | Ω/1000ft                | Ω/1000ft                | Ω/1000ft                      | ft    | Amp                                  |
| Pekingese    | 6                   | 563                                | 0.411                   | 0.495                   | 0.051                         | 0.005 | 75 / 85                              |
| Collie       | 6                   | 563                                | 0.674                   | 0.812                   | 0.051                         | 0.005 | 75 / 85                              |
| Dachshund    | 4                   | 881                                | 0.258                   | 0.310                   | 0.048                         | 0.007 | 100 / 115                            |
| Spaniel      | 4                   | 881                                | 0.424                   | 0.511                   | 0.048                         | 0.007 | 100 / 115                            |
| Doberman     | 2                   | 1350                               | 0.266                   | 0.320                   | 0.045                         | 0.008 | 135 / 150                            |
| Malemute     | 1/0                 | 1990                               | 0.167                   | 0.201                   | 0.044                         | 0.011 | 180 / 205                            |

#### Notes:

- 1. DC resistances include a 1% length factor for plexing.
- 2. Inductive reactance assumes the neutral is carrying current.
- 3. Phase conductors assumed to be reverse lay stranded, compressed construction.
- 4. Phase spacing assumes cables are touching.
- 5. Resistances shown are for the phase conductor only.
- 6. Ampacity based on conductor temperature of 90°; ambient temperature of 40°C; emissivity 0.9; 2 ft./sec. wind in sun.

#### **Neutral Code Word**

| Size-Strands | Code Word | OD (inches) |
|--------------|-----------|-------------|
| #6-7         | Peachbell | 0.184       |
| #4-7         | Rose      | 0232        |
| #2-7         | Iris      | 0.292       |
| 1/0-7        | Рорру     | 0.368       |

