

## 3-Layer 15kV ACSR Tree Wire/Spacer Cable

An Alternative and Robust Design to Bare ACSR Conductors to Harden the Electrical Grids.

3-Layer 15kV ACSR Tree Wire Concentrically Stranded ACSR Track-Resistant Crosslinked Polyethylene (HDTRLPE).



Image not to scale. See Table 1 for dimensions.

### CONSTRUCTION:

1. **Conductor:** Concentrically stranded ACSR
2. **Strand Shield:** Semi-conducting cross linked polymer
3. **Inner Layer:** Low-Density Crosslinked Polyethylene (LDXLPE)
4. **Outer Layer:** High-Density Track-Resistant Crosslinked Polyethylene (HDTRLPE)

### APPLICATIONS AND FEATURES:

Used for primary and secondary overhead distribution where limited space is available or desired for rights-of-way. Installed the same as bare conductors, however, covering is effective in preventing direct shorts and instantaneous flashovers should tree limbs or other objects contact conductors in such close proximity.

- Tree Wire - Used for spans where trees crowd the right-of-way, such as in wooded residential areas, when a minimum of interference with the environment is desired. Covering minimizes power outages due to conductor contact with tree limbs, reducing the need for frequent or severe trimming.
- Covering Rated 90°C Normal and 130°C Emergency Operation. Unless adequate knowledge of the thermal characteristics of the environment is known, the permissible conductor temperature should be reduced by 10°C or in accordance with available data.

### SPECIFICATIONS:

- ASTM B230 Aluminum, 1350-H19 Wire for Electrical Purposes
- ASTM B232 Concentric-Lay-Stranded, Aluminum Conductors, Coated Steel Reinforced (ACSR)
- ASTM B498 Zinc-Coated (Galvanized) Steel Core Wire for Aluminum Conductors, Steel Reinforced (ACSR)
- ASTM B500 Metallic Coated Stranded Steel Core for use in overhead Electrical Conductors
- ICEA S-121-733 Tree Wire and Messenger Supported Spacer Cable



**Table 1 – Weights and Measurements**

| Cond. Size    | Cond. Strands | Diameter Over Conductor | Conductor Shield Thickness | Inner Layer Thickness | Outer Layer Thickness | Approx. OD | Approx. Weight | Rated Strength |
|---------------|---------------|-------------------------|----------------------------|-----------------------|-----------------------|------------|----------------|----------------|
| AWG/<br>Kcmil | #             | inch                    | mil                        | mil                   | mil                   | inch       | lb/1000ft      | lb             |
| 4             | 6/1           | 0.250                   | 15                         | 75                    | 75                    | 0.580      | 149            | 1767           |
| 2             | 6/1           | 0.316                   | 15                         | 75                    | 75                    | 0.646      | 202            | 2708           |
| 1/0           | 6/1           | 0.398                   | 15                         | 75                    | 75                    | 0.728      | 278            | 4161           |
| 2/0           | 6/1           | 0.447                   | 15                         | 75                    | 75                    | 0.777      | 330            | 5045           |
| 3/0           | 6/1           | 0.502                   | 15                         | 75                    | 75                    | 0.832      | 393            | 6289           |
| 4/0           | 6/1           | 0.563                   | 15                         | 75                    | 75                    | 0.893      | 471            | 7933           |
| 266.8         | 18/1          | 0.609                   | 15                         | 75                    | 75                    | 0.939      | 474            | 6536           |
| 266.8         | 26/7          | 0.642                   | 15                         | 75                    | 75                    | 0.972      | 553            | 10735          |
| 336.4         | 18/1          | 0.684                   | 15                         | 75                    | 75                    | 1.014      | 570            | 8246           |
| 336.4         | 26/7          | 0.720                   | 15                         | 75                    | 75                    | 1.050      | 669            | 13395          |
| 336.4         | 30/7          | 0.741                   | 15                         | 75                    | 75                    | 1.071      | 935            | 16435          |
| 397.5         | 18/1          | 0.743                   | 15                         | 75                    | 75                    | 1.073      | 653            | 9443           |

All dimensions are nominal and subject to normal manufacturing tolerances

