



ALL DIELECTRIC SELF-SUPPORTING (ADSS) CABLE

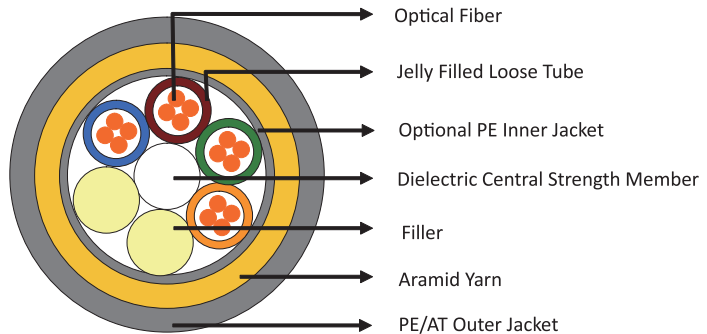
► Application

The “All Dielectric Self-supporting (ADSS)” cable is designed for aerial self supporting application at short, medium and long span distances. ADSS cable offers a rapid and economical means for deployment by cable television operators, telephone companies and power utilities. It is adopted for high voltage, middle, small span conditions in Power Transmission System or mazy terrain such as river spanning, mountains.

► Description

The cable consists of 5 to 36 fibers containing tubes or fillers stranded in up to 3 layers around a central strength member and bound under a PE jacket. Each tube contains 6 -12 fibers. All the fibers in the cores are filled with water blocking gel. Fillers may be used to preserve the cable geometry. A water swelling tape is helically wrapped around the cable core. Aramid yarns are helically laid to supply peripheral strengthening of the cable. The outer jacket is tightly bounded over the aramid yarn layer. The cable jacket incorporates an optional inner polyethylene jacket and an outer polyethylene or AT (anti-tracking) jacket. When the induction on cable surface is above 12KV, anti-tracking sheath material (AT) will be applied. With AT outer jacket, the maximum electric field strength at operating point can reach 35KV. For long span application, a double jacket design can be considered. An optional ripcord can be put under the jacket layer to facilitate its removal.

► Construction



► Physical Properties

| Span (m) | Ice + Wind: 0mm + 35m/sec | | | | Ice + Wind: 12mm + 30m/sec | | | |
|----------|---------------------------|-------------------------------|-----------------------------|--------------|----------------------------|-------------------------------|-----------------------------|--------------|
| | Cable O.D. (mm/in) | Cable Weight (kg/km)/(lb/kft) | Max. Working Tension (N/lb) | Max. Sag (%) | Cable O.D. (mm/in) | Cable Weight (kg/km)/(lb/kft) | Max. Working Tension (N/lb) | Max. Sag (%) |
| 100 | 13.9/5.472 | 152/102.01 | 7578/1704 | 2 | 13.8/0.543 | 150.0/100.67 | 6621/1489 | 2 |
| 200 | 14.3/0.562 | 161/108.05 | 10430/2346 | 3 | 14.1/0.555 | 157.0/105.37 | 9000/2024 | 3 |
| 400 | 15.9/0.625 | 199/133.56 | 23221/5223 | 3 | 15.4/0.606 | 187.0/125.50 | 19255/4331 | 3 |
| 500 | 16.7/0.657 | 220/147.65 | 30590/6881 | 3 | 16.1/0.633 | 204.0/136.91 | 24885/5598 | 3 |
| 600 | 16.3/0.641 | 209/140.27 | 26952/6063 | 4 | 15.7/0.618 | 196.0/131.54 | 22154/4983 | 4 |
| 800 | 16.5/0.649 | 216/144.97 | 29452/6625 | 5 | 15.9/0.625 | 201.0/134.90 | 24042/5408 | 6 |
| 1000 | 16.7/0.657 | 221/148.32 | 31271/7034 | 6 | 16.1/0.633 | 204.0/136.91 | 24407/5490 | 6 |

* Above table do not cover all of available types. Other ADSS cables can be manufactured upon customer's request according to different span and sag environment.

▶ ALL DIELECTRIC SELF-SUPPORTING (ADSS) CABLE



▶ Mechanical Properties

| | | |
|------------------------------|---|--|
| Minimum Bend Radius: | | Maximum Compressive Load: 4000N |
| Under installation: | 20×OD | Repeated Impact: 4.4 N.m (J) |
| During operation: | 10×OD for unarmoured cables; 20×OD for armoured cables | Twist (Torsion): 180×10 times, 125×OD |
| Temperature Range: | | Cyclic Flexing: 100 cycles . |
| Operating Temperature Range: | -40°C(-40°F) to +70°C(+158°F) | Crush Resistance: 220N/cm(125lb/in) |
| Storage Temperature Range: | -50°C(-58°F) to +70°C(+158°F) | |

▶ Fiber Compliance

| | |
|----------------------------|------------------|
| Temperature Cycling | IEC60794-1-2-F2 |
| Tensile Strength | IEC60794-1-2-E1A |
| Crush | IEC60794-1-2-E3 |
| Impact | IEC60794-1-2-E4 |
| Repeated Bending | IEC60794-1-2-E6 |
| Torsion | IEC60794-1-2-E7 |
| Kink | IEC60794-1-2-E10 |
| Cable Bend | IEC60794-1-2-E11 |
| Cool Bend | IEC60794-1-2-E11 |

▶ Standard Compliance

| | | | |
|-----------------|--------------------------------|---------------|-----------|
| Telcordia GR-20 | RUS 7 CFR 1755.900 (REA PE-90) | ICEA S 87-640 | IEEE 1222 |
|-----------------|--------------------------------|---------------|-----------|

▶ Features

- High capacity cable offer great flexibility for placement on overhead transmission towers, eliminating the need for a support messenger.
- Dry core design and high tension strength capability suitable for toughest environmental and electrical conditions.
- Fit for extra high voltage power lines without interruption of power service to the customers.
- Typical spans with 1%-1.5% installation sag