

## **TECHNICAL SPECIFICATION FOR GALVANISED STRANDED STEEL WIRE**

### **SCOPE:**

This specification covers the manufacture, testing before despatch, supply and delivery of galvanized stranded wire for power distribution system.

### **STANDARDS:**

The GSS wire shall comply with the latest version of IS: 2141 with their latest amendments unless otherwise modified in these specification.

### **PART-'A'- STRANDED WIRE:**

#### **1.0 MATERIAL:**

- 1.1 The wire shall be drawn from steel made by the open hearth basic oxygen or electric furnace process of such quality that when drawn to the size of wire specified & coated with zinc, the finished strand and the individual wires shall be of uniform quality and have the properties and characteristics as specified in the latest version of IS: 2141. The wires shall not contain Sulphur and Phosphorous exceeding 0.06 percent each.
- 1.2 The wire shall be circular and free from scale, irregularities imperfections, flaws, splits and other defects. The zinc coating shall be smooth, even and bright.
- 1.3 Joints shall be permitted in the individual wires during stranding but these stranded joints shall not be less than 15 meters apart in the finished strands.

#### **2 CONSTRUCTIONS:**

- 2.1 The wires shall be of Grade-4 having minimum tensile strength of 70 Kgf/mm<sup>2</sup>.
- 2.2 The constructional details shall be as specified in the table-'B' below. The galvanized stay strand shall be of 7 (seven) wires and the wires shall be so stranded together that when an evenly distributed pull is applied at the ends of the completed strand each wire will take an equal share of the pull. The outer wire of strands shall have a right hand lay.

Table 'B'

No. of wires	Single wire			Length of Lay. (mm)	Stranded wire	
	Diameter (mm)	Tolerance (%)	Minimum elongation (%)		Minimum breaking load of wire. (KN)	Minimum breaking load of single wire before stranding (KN)
7	4.0	±2.5	6	12 to 18 times the nominal stranded wire dia.	58.45 KN	8.79

#### **3 SAMPLING CRITERIA:**

Sampling criteria shall be in accordance with latest version of IS: 2141.

#### **4 TESTS:**

##### 4.1 Tests on wires before manufacturing :

The wires shall be subject to the following tests in accordance with latest version of IS: 2141.

- (i) Ductility Test.
- (ii) Tolerance on wire diameter.

##### 4.2 Tests on completed strand:

The completed strands shall be tested for the following tests in accordance with latest version of IS: 2141.

- (i) Tensile and elongation Test. The percentage elongation of the stranded wire shall not be less than 10%.
- (ii) Chemical analysis.
- (iii) Galvanizing tests: The zinc coating shall conform to 'Heavy coating' as laid down in latest version of IS: 4826.

### **PART-'B' GENERAL:**

#### **1. WEIGHT OF COIL/REEL**

The GSS wire shall be supplied in 50-70 Kgs. Coil.

**2. MARKING:**

Each coil shall be provided with a metallic tag fixed firmly on the inner part of the coil bearing the following information's:

- a. Manufacturer's name or Trademark.
- b. Lot number and coil number.
- c. Size.
- d. Constructions.
- e. Tensile designation.
- f. Lay.
- g. Coating.
- h. Length.
- i. Weight.
- j. ISI certification mark of any.

**3. PACKING:**

GSS wire shall be supplied in bare coil. Each coil of wire shall be bound and fastened compactly for safe rail / road transport.

**4. GUARANTEED TECHNICAL PARTICULARS:**

Guaranteed technical particulars shall be as per Annexure enclosed.