

**(SECTION - I)****TECHNICAL SPECIFICATION**

## TECHNICAL SPECIFICATION FOR GI STAY WIRE SIZE 7/2.50MM (7/12SWG)

## 1. SCOPE:

This specification provides for manufacture, testing before dispatch at manufacturers work, supply and delivery of the 7/2.50mm stranded wire to any of our Regional/ Divisional Store/Destination, in Gujarat State as intimated by the PGVCL from time to time.

## 2. STANDARDS:

The G.I. Stranded wires shall comply with the specific requirement of IS-2141/2000, IS-4826/1979 and latest amendment if any.

## 3. MATERIAL:

The wires shall be drawn from steel made by the open hearth basic oxygen or electric furnace process and of such quality that when drawn to the size of wire specified and coated with zinc, the finished strand and the individual wires shall be of uniform quality and have the properties and characteristics as specified in this specification. The wires shall not contain sulphur and phosphorus exceeding 0.060 percent each.

## 4. TENSILE GRADE:

The wires shall be grade 4 having minimum tensile strength of 700 N/mm<sup>2</sup> confirming to IS-2141/2000 and latest amendment if any.

## 5. GENERAL REQUIREMENT:

The lay length of wire strands shall be 12 to 18 times the strand diameter.

## 6. MINIMUM BREAKING LOAD:

The minimum breaking load of the wires before and after stranding shall be as follows.

No. of wires and Const.	Wire Dia (mm)	Min. breaking load of Single Wire before Strand (KN)	Min. breaking load of the Stranding wire (KN).
7(6/1)	2.50mm	3.44	<u>21.4</u>

## 7. CONSTRUCTION:

7.1 The stay wire shall be of 7 wire construction. The wires shall be so stranded together that when as even distributed pull is applied at the end of completed stand, each wire shall take an equal share of the pull.

7.2 Joints are permitted in the individual wires during stranding but such joints shall not be less than 15 meters part in the finished strands.

7.3 The wire shall be circular and free from scale, irregularities, imperfection, flows, splits and other defect. The zinc coating shall confirm to IS: 4826/1979.

**8. TOLERANCE:**

A tolerance of  $\pm 2.5$  % on the diameter of wires before stranding shall be permitted.

**9. SAMPLING CRITERIA:**

The sampling criteria shall be in accordance with Table-3 Annexure-A of (clause no. 10.1 & 10.2) IS: 2141/2000 and latest amendment if any.

**10. TESTS ON WIRES BEFORE MANUFACTURE:**

The wire shall be subjected to the follow as tests in accordance with IS: 2141/2000 and its latest amendment if any.

- (1) Ductility test.
- (2) Tolerance on wire diameter.

**11. TESTS ON COMPLETED STRAND:**

The sampling criteria shall be in accordance with Table-3, Ann—A of IS 2141/2000 and its latest amendments if any.

**a) Tensile and Elongation test.**

The percentage elongation of the stranded wire shall not be less than 6 % (Grade-4) as per IS: 2141/2000 and latest amendment if any.

**b) Chemical Analysis:**

The manufacturer shall have to submit test certificate with every lot for the chemical composition of the steel rods from which the wires are drawn.

**c) Galvanizing test.**

The zinc coating shall confirm to "heavy coating" as laid down in IS 4826/1979 and latest amendment if any.

**12. PACKING:**

The G. I. Stay wire shall be supplied in coils. Each coil should be weighing 50 to 70 Kgs. Each coil shall be wrapped in hessian to avoid surface damage to wire during transport and for protection against pollution. Each coil shall be supplied with a metallic tag of aluminum with on the following particulars shall be printed/embossed/engraved with water-proof ink/itched.

- 1) Name of Manufacturer.
- 2) Size of G. I. Stay wire.
- 3) Coil Serial No.
- 4) Weight of Coil (in Kg.)
- 5) Tensile designation.
- 6) Coating.
- 7) A/T No. & Date.
- 8) ISI Mark if any.
- 9) Property of PGVCL

The Metallic tag should be of Aluminum Strip of size as below;

1. Thickness: 0.5mm, 80mm \* 40 mm rectangular strip

13. SEALING:

The manufacturer shall keep all the coils ready with seal wire and lead seal so as to enable the respective company's inspectors to seal the inspected material immediately. Coils shall then be wrapped with hessian before dispatch.

14. GUARANTEED TECHNICAL PARTICULAR (G.T.P.)

The guaranteed Technical particulars (G.T.P.) given below. Bidders shall submit the details in guaranteed technical particulars (G.T.P.) in Section-II along with the offer.

15. DEVIATION FROM SPECIFICATION:

Deviation in the above specification shall not be allowed.

16. Bidders are requested to submit the following documents along with the offer:

- i) Guaranteed Technical particular (G.T.P.) given below.
- ii) List of Testing Equipments.
- iii) List of plant & machinery and production capacity.
- iv) List of order executed with erstwhile " GEB/DISCOM under GUVNL".
- v) The tenderers are required to submit duly Notarized copy of the valid ISI license up to date of delivery for supply of GI wire with the tender, failing which the offer would be rejected.

17. SUBMISSION OF TEST CERTIFICATES:

The bidder has to submit the Notarized copy of type test certificates of following tests from any Govt. approved / NABL accredited test lab along with the bid, not more than seven years old as per IS-2141/2000 and latest amendment if any. The type test certificate shall cover the entire tests as per IS 2141 with latest amendment/ revision in operation on date of submission of bid.

Manufacturers Name:  
& Address:

**(SECTION-II)**

**GUARANTEED TECHNICAL PARTICULARS**

**G. I. Stay wire 7/2.50 mm (7/12 SWG)**

Technical information and guaranteed technical particulars for supply of G. I. Stay wire 7/2.50mm (7/12 SWG) size.

**PART - A**

Bidder has to conform following important requirements:

Sr. No	Particulars.	Confirmation
1	The G. I. Stay wire 7/2.50mm shall confirm to IS: 2141/2000 and 4826/1979 and PGVCL's Specification and latest amendment if any.	Yes/No
2	Quality of Wire shall be hard.	Yes/No
3	The wire shall not contain Sulphur and phosphorous exceeding 0.060 % each.	Yes/No
4	The wire shall be of Grade-4 having minimum tensile strength 700 N/MM <sup>2</sup>	Yes/No
5	The wire shall be of 2.50mm diameter qirt + or - 2.5 % tolerance.	Yes/No
6	The wire shall be circular and free from scale, irregularities, imperfection, flows, splits and other defect.	Yes/No
7	Minimum breaking load of Single wire shall be 3.44 KN.	Yes/No
8	Minimum breaking load of the stranded wire shall be 21.4 KN.	Yes/No
9	Lay Ratio shall be 12 to 18 (RHS)	Yes/No
10	The percentage elongation of the stranded wire shall be 6 % minimum (Grade-4)	Yes/No
11	The wire shall be heavily zinc coated	Yes/No
12	The wire shall be hot dip galvanized as per IS:4826/79	Yes/No
13	The mass of zinc coating shall be 218.5 Gms/m <sup>2</sup> (Minimum)	Yes/No
14	2 Nos. of 1 minutes dips guaranteed for uniformity test.	Yes/No
15	Weight of each coil shall be from 50 Kg. to 70 Kg.	Yes/No
16	Each coil shall be wrapped in hessian to avoid surface damage.	Yes/No
17	Each coil shall be supplied with a metallic tag with following particular shall be printed with water proof ink/itched. a) Name of Manufacturer. b) Size of G. I. Stay wire. c) Coil Serial No. d) Weight of Coil (in Kg.) e) Tensile designation. f) Coating. g) A/T No. & Date. h) ISI Mark if any. i) Property of PGVCL	Yes/No

PART - B

Bidder has to enclose following documents and has to confirm for the same.

Sr. No	Particulars.	Bidder Confirmation. (Yes/No)
1	ISI License for IS 2141/2000 and latest amendment if any. a) No. & Date.	
2	Proof if applied for renewal of ISI License	
3	Notarized copy of type test certificates from Govt. Approved/NABL laboratory a) Name of Lab & City b) T.R. No c) Valid up to date	
4	List of Plants & Machinery.	
5	List of order executed / pending at least for past two years for the item offered.	
6	Notarized copy of the BIS License (with schedules ((FIRST) & II (SECOND) held by the firm for using IS mark for the tendered items	

PART - C

Bidder has to mention technical deviation if any, quoting relative clause of specification, in Annexure 12 of the tender document only.

Signature & Seal of Tenderer.