

**2. 20 MM DIA STAYS SETS FOR 33KV LINES (GALVANIZED)**

THE STAY SET (LINE GUY SET) WILL CONSIST OF THE FOLLOWING COMPONENTS:

- a) **ANCHOR ROD WITH ONE WASHER AND NUT:** Overall length of Rod should be 1800mm to be made out of 20mm dia GS Rod, one end threaded upto 40mm length with a pitch of a threads per cm. And provided with one square G.S. Washer of Size 50x50x1.6mm and one GS Hexagonal nut conforming to IS:1367:1967 & IS:1363:1967. Both washer & nut to suit the threaded rod of 20mm. The other end of the rod to be made into a round eye having an inner dia of 40mm with best quality welding. Dimensional and other details are indicated and submitted by bidders for owner's approval before start of manufacturing.
- b) **ANCHOR PLATE:** Size 300x300x8mm: To be made out of G.S. Plate of 8mm thickness. The anchor plate to have at its centre 22mm dia hole.
- c) **TURN BUCKLE, EYE BOLT WITH 2 NUTS:** To be made of 20mm dia G.S. Rod having an overall length of 450 mm. One end of the rod to be threaded upto 300mm length with a pitch of 4 threads per cm. The 20mm dia bolt so made shall be provided with two G.S. Hexagonal nuts of suitable size conforming to IS:1637/1967 & IS:1363/1967.

The other end of the rod shall be rounded into a circular eye of 40mm inner dia with proper and good quality of welding. Welding details are to be indicated by the bidder separately for approval.

- d) **BOW WITH WELDED CHANNEL:** To be made out of 16mm dia G.S. Rod. The finished bow shall have an overall length of 995 mm and height of 450 mm. The apex or top of the bow shall be bent at an angle of 10R. The other end shall be welded with proper and good quality welding to a G.S. Channel 200mm long having a dimension of 100x50x4.7 mm. The Channel shall have 2 holes of 18 mm dia and 22 mm dia hole at its centre.
- e) **THIMBLE 2 Nos.:** To be made of 1.5mm thick G.S. sheet into a size of 75x22x40mm and shape as per standard.
- f) **GALVANISING:** The complete assembly shall be hot dip galvanised.
- g) **WELDING:** The minimum strength of welding provided on various components of 20mm dia stay sets shall be 4900 kg. Minimum 6mm fillet weld or its equivalent weld area should be deposited in all positions of the job i.e. at any point of the weld length. The welding shall be conforming to relevant IS: 823/1964 or its latest amendment.
- h) **THREADING:** The threads on the Anchor Rods, Eye Bolts and Nuts shall be as per specification IS: 4218:1967 (ISO Metric Screw Threads). The Nuts shall be conforming to the requirements of IS: 1367:1967 and have dimension as per IS 1363:1967. The mechanical property requirement of fasteners shall conform to the property clause 4.6 each for anchor rods and Eye bolt and property clause 4 for nuts as per IS: 1367:1967.

AVERAGE WEIGHT OF FINISHED 20MM STAYS SET: 14.523 KG. (MIN.) (EXCLUDING NUTS THIMBLE & WASHER): 15.569 KG. (MAX.)

3. **TEST CERTIFICATE:** The contractor shall be required to conduct testing of materials at Govt./Recognized testing laboratory during pre – dispatch inspection for Tensile Load of 3100 Kg/4900 Kg. applied for one minute on the welding & maintained for one minute for 16 mm and 20 mm dia stay sets respectively.
4. **IDENTIFICATION MARK:** All stay sets should carry the identification mark of word DDUGJY and size of the stay set. This should be engraved on the stay plate and on stay rods to ensure proper identification of the materials.

The nuts should be of a size compatible with threaded portion of rods and there should be no play or slippage of nuts.

Welding wherever required should be perfect and should not give way after erection.

5. **TOLERANCES:** The tolerances for various components of the stay sets are indicated below subject to the condition that the average weight of finished stay sets of 16mm dia excluding nuts, thimbles and washers shall not be less than the weight specified above :-

| No. Item          | Section Tolerances        | Fabrication Tolerances                                       | Material                |
|-------------------|---------------------------|--|-------------------------|
| 1 Anchor Plate    | 6mm thick +<br>12.5% - 5% | 200x200mm + 1%   | GS plate 6mm thick      |
|                   | 8mm thick +<br>12.5% - 5% | 300x300mm + 1%   | GS plate 8mm thick      |
| 2 Anchor Rod      | 16mm dia +<br>5%- 3%      | Length 1800mm + 0.5%   | GS Round 16mm dia       |
|                   |                           | Rounded Eye 40 mm inside dia +<br>3%. Threading 40mm+11% - 5 | GS Round 16mm dia       |
|                   | 20mm dia +<br>3%- 2%      | Length 1800mm + 0.5%   | GS Round 20mm dia       |
|                   |                           | Round Eye 40mm inside dia +<br>3%. Threading 40mm +11% -5%   | GS Found 20mm dia       |
| 3 Turn Buckle Bow | 16 mm dia +<br>5%- 3%     | Length 995mm + 1% 16mm dia                                   | GS Round 16mm dia       |
|                   |                           | Length 180mm + 1% 50x50x6mm                                  | GS Angle                |
|                   |                           | Channel length 200mm + 1%                                    | GS Channel 100x50x4.7mm |
| 4 Eye Bolt Rod    | 16mm dia +                | Length 450mm + 1%  | GS Round                |

- i) Mass
- j) ISI certification mark, if any

**14. PACKING**

The wires shall be supplied in 75-100 Kg. coils. The packing should be done in accordance with the provisions of IS:6594.