

TECHNICAL SPECIFICATION OF HT LT STAY SETS

MATERIAL SPECIFICATION CELL

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1.00 SCOPE:

This specification covers the manufacture, testing and supply of Stay sets complete.

2.00 SERVICE CONDITIONS:

The materials used in the construction of the Stay Sets shall be suitable for use under following weather condition:

- a) Temperature range from : 0^o C to 50^o C
- b) Relative Humidity : 20 to 100 %
- c) Altitude : 0 to 1000 meters

3.00 GENERAL:

The Stay set described comprise of stay rod, stay plate (anchor plate), Turn buckle, eye bolt, Thimble, Nuts etc. The details of the components parts are given in drawing enclosed herewith (Dr.No.62.22 1/2) and (62.22 2/2).

The dimensions of the components are as per drawings enclosed herewith.

4.00 MATERIALS:

All Steel employed for the construction of the Stay sets shall be manufactured by the open hearth, electric duplex or basic/oxygen process or combination of those processes with a high yield point and with high tensile strength which should not be less than 48 kg. per sq.mm. for rods and 44 Kgf per sq.mm. for channel should conform to IS-1977/69 having U.T.S. 42/54/Kgf per sq.mm for channel should conform to IS:2062(Grade `A') amended upto date.

The tenderer shall state the names of the makers from whom he proposes to obtain the raw materials.

5.00 THREADING:

The threading in the nut, eye bolt and stay rod should be the same standard thread. The threading work shall conform to the following Indian Standards.

- a) IS 1367-1961(amended upto date): Technical supply conditions for threading and fastners
- b) IS 1362-1962(amended upto date): Dimensions for screw threads for general purpose
/IS 4218 (Part1)(amended upto date): /ISO General purpose metric screw threads Part 1- Basic & design profiles
- c) IS 1330-1958(amended upto date): General Plan for metric screw threads with ISO profile
/IS 4218 (amended upto date): /ISO General purpose metric screw threads
- d) IS 1363-1969 (amended upto date): Specification for black Hexagonal bolts and nuts and black Hexagonal screws

The threading shall be done on the eye bolts and stay rods for the length specified in threadings. The thread per cm will be as follows:

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Dia.	Threads per cm.
-----	-----
16mm	5
20mm	4
24mm	3.33

6.00 NUTS:

All nuts shall be mild Steel of the qualities specified in IS:1367-1961(amended upto date).

All nuts shall be machine made and hand tight on the threaded portion and shall not fix loose on them.

7.00 DRILLING:

Holes in the Channel and Plate shall be drilled or Machine punched. All burrs left by drill or punch shall be completely removed.

8.00 WELDING:

The welding work wherever mentioned in the drawings shall be carried out properly and the same shall not open under the tests specified below.

9.00 WORKMANSHIP:

The materials are to be supplied as per details given in the drawing and the workmanship and finish shall be good. Before any work is done all bars, channel plates etc. shall be carefully leveled, straightened and made true by methods which will not injure the materials. No rough edges shall be permitted any where through out the work. The anchor plate should be square and its edges shall be cut true and sharp Gas cutting will not be acceptable.

10.00 PAINTING:

The Stay sets will be painted with red lead paint of good quality. Before painting the surface of the metal parts shall be thoroughly cleaned of rust and the one coat of red lead paint of the approved quality shall be applied before the sets are dispatched. The threaded portion should not be painted. On this portion a coat of lubricant/antirust oil should be applied to prevent the rusting of threads.

11.00 TESTS:

The supplier shall guarantee the Stay sets for the following tensions in respect of (1) Turn Buckle (2) Stay rod-Anchor plate together both should pass the test.

Diameter of the Stay Rod For Buckle rod	Ultimate Strength in kg
-----	-----
16mm	5215.25
20mm	6802.50

The load is to be applied as a Tension and the ultimate strength is to be recorded when the plate fails. The threading is expected to stand the Tensions.

The above tests are required to be carried out from the first lot of supply on a sample of each type of Stay sets ordered. In case facilities of any of the tests are not available at the works of the supplier, then such test shall be carried out by the supplier at the independent recognized laboratory at the cost of supplier. Sample for the test will be drawn by the purchaser's representative and the test will be witnessed by him.

In case of other Government recognized laboratories/ Test House valid approved Government certificate shall be enclosed alongwith test certificate.

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12.00 TOLERANCE SCHEDULE:

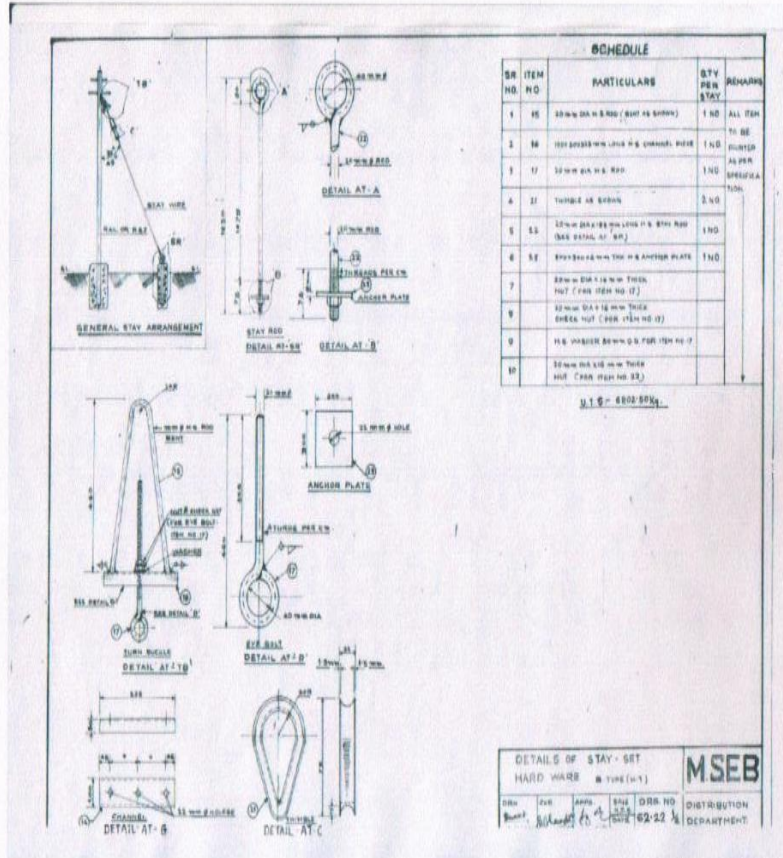
The components of the HT/LT Stay sets shall be within the following tolerances:

Sr. No.	Item	Tolerance		Fabrication Tolerance
		As per IS 1852-73(amended upto date) for Dimension/size weight		
1.	Stay plate	6 mm thickness +12.5% - 5%	----	300 x 300 +/-1%
2.	Stay Rod	Upto 25 mm dia +/- 0.5 mm	Upto 16 mm dia +/- 5% Above 16 mm dia +/- 3%	Length 2280 mm +/-0.5% 1830 mm +/-0.5% Gundi 40 mm inside dia +/-3% Threading 75mm +/-1%
3.	i) Turn Buckle ii) Channel	Upto 25 mm dia +/- 0.5 mm Upto 25 mm dia +/- 0.5 mm	Rod upto 16 mm dia +/-5% above 16mm +/- 3% -	Length 460 mm +/- 1% Length + 1%
4.	Eye Bolt	Upto 25 mm dia +/- 0.5 mm	Rod upto 16 mm +/- 5% above 16mm +/- 3%	Length 460 mm +/-1% Threading 305 mm +/-1% Gundi 40 mm inside dia with +/-3%
5.	Nuts	13/16 mm thick	-	-

Weights shall be as given below:

	Weight without Tolerance	Weight with -ve Tolerance	Remarks
H.T. Stay sets	14.787 Kg.	14.016 Kg.	Without nuts & washers
L.T. Stay sets	11.809 Kg.	11.196 Kg.	Without nuts & washers

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