



TECHNICAL SPECIFICATIONS – HIGH MAST (20 Mtrs).

MAST STRUCTURE

The high Mast shall be of continuously tapered, polygonal cross section polygon type (**Minimum 16 - Sides**) of 20 Mtrs. in height presenting good visual appearance and shall be based on proven design to given assured performance, reliability and service. The Mast shall have an approximate top diameter of say 180 mm to 200 mm and bottom diameter of 400mm to 450mm. The weight of the Mast shall not exceed more than 1600 kgs. excluding weight of Luminaire, to maintain good elasticity of slender structure.

MAST CONSTRUCTION:

The Mast shall be fabricated from special steel plates of **BS EN 10025 grade**, cut and folded to form polygonal section and shall be telescopically jointed and fillet welded. The welding shall be in accordance with BS : 5135. The procedural weld geometry and the workmanship shall be exhaustively tested by the radiography on the completed welded and certificates submitted.

The Mast shall be delivered **in only 2 sections without any circumferential welding** at site, which shall be joined together by slip-stressed-fit method. The joining shall be with stressing equipment, thus forming the sleeve joint. No site welding or bolted joint will be accepted. The overlap distance shall have full penetration of longitudinal welds. The base plate of the mast shall be **atleast 25 mm.** thick. An adequate door opening of **min. 1400 mm x 300 mm** shall be provided at the base of each Mast. The opening shall be such as to permit clear access to equipment like winches, cable pug and socket, etc. The opening shall be complete with a close fitting vandal resistant, weather- proof door provided with a heavy duty lock. For metal protection of the Mast, the entire fabricated Mast shall be not dip galvanised internally and externally, having minimum average thickness of 65 microns.

DYNAMIC LOADING:

The Mast structure shall be designed for an assumed maximum reaction arising from the maximum win speed (3 seconds gust) and measured at a height of 10 Mtrs. above ground level as per IS 875, Part III, 1987. The design life of the Mast shall be min. 25 years. Wind excited oscillation shall be damped by the method of constructions and adequate allowance made for the related stresses. The offered High Mast shall be a tested design.

FOUNDATION:

The tenderer shall see the site closely and minutely with regard to the nature of the soil, average depth of decomposed garbage and debris at proposed Mast locations and the other site conditions before working out the type of foundation and specifications for the proposed High Mast.