



IS 2713 (Part 1 to 3) : 1980 Tubular Steel Poles for Overhead Power Lines

Tubular Steel Poles for Overhead Power Lines are a vital component in modern power transmission and distribution networks. These poles are made from high-strength, galvanized steel, offering significant advantages over traditional wooden or concrete poles, such as enhanced durability, resistance to corrosion, and the ability to withstand harsh environmental conditions.

Consumers expect **tubular steel poles for overhead power lines** to meet key technical parameters such as **high tensile and yield strength** for durability and load-bearing capacity; **standardized dimensions, straightness, corrosion resistance** ensuring long-term protection; Poles must be able to withstand **high wind loads** (up to **160 km/h**) and extreme weather conditions, with a service life of 40-50 years. In addition to this, the tubular poles shall be able to **withstand deflections, permanent set** and **rigid** enough to sustain any drop to ensure its integrity. Consumer also expects a guidance for the **selection of the poles against the wind load** viz a viz to the no of phases of the electrical conductor to be installed over a pre-determined span at a given height.

Lines IS 2713 (Parts 1 to 3): 1980 on Tubular Steel Poles for Overhead Power, has been published in **three parts** as under:

Part I General requirements: This part covers the general requirements for tubular steel poles of circular cross section for overhead power lines made of steels of minimum tensile strength 410 MPa and 540 MPa. This standard prescribes the requirements for **the tolerances on length, thickness and outside diameter for acceptance**. This standard prescribes the requirement of the **straightness** of the finished pole as shall not be out of straightness by more than 1/600 of its length. This standard also provides a worked **example demonstrating how to select an appropriate pole** based on factors like **wind load, conductor size and arrangement, and span length**. This standard prescribes the requirement of temporary **deflection not more than 157.5 mm** due to application of prescribed load; permanent set not exceeding 13 mm. The pole shall not show any signs of telescoping or loosening of joints during drop test. For **protection against the corrosion**, provision of painting the poles with black bitumen paint in combination with red oxide primer or galvanization is provided.

Part II Special requirements for poles made from steel of tensile strength 410 MPa - This part covers the requirements for stepped and swaged tubular steel poles of circular cross section made from steel of minimum tensile strength 410 MPa for overhead power lines in addition to the general requirements covered in in Part I. This part provides guidance for 80 variety of stepped & swaged poles for the parameters like overall length, wall thickness, weight of pole, breaking load, crippling load, load for permanent set and load for temporary set for stepped and swaged tubular steel poles.

Part III Special requirements for poles made from steel of tensile strength 540 MPa - This part covers the requirements for stepped and swaged tubular steel poles of circular cross section made from steel of minimum tensile strength 540 MPa for overhead power lines in addition to the general requirements covered in in Part I. This part provides guidance for 80

variety of stepped & swaged poles for the parameters like overall length, wall thickness, weight of pole, breaking load, crippling load, load for permanent set and load for temporary set for stepped and swaged tubular steel poles.

In summary, IS 2713 (Part 1 to 3) is your assurance that the tubular steel electric poles are safe, durable, and of high quality.