



## **IS 1785 (Part 1) : 1983 'Specification for Plain Hard-Drawn Steel Wire for Prestressed Concrete: Part 1 Cold Drawn Stress-Relieved Wire'**

This Indian Standard (Part 1) (Second Revision) was adopted in 1983. In this revision, modifications have been incorporated in provisions relating to chemical composition, tolerance on nominal diameter and requirements of relaxation and stress corrosion.

The product is a hard-drawn steel wire designed to reinforce prestressed concrete structures. It undergoes cold-drawing and stress-relieving processes, enhancing its suitability for high-tension applications.

The IS 1785 (Part 1) outlines requirements for **plain hard-drawn steel wire** used in **prestressed concrete**, specifically **cold-drawn, stress-relieved** wire, it details the manufacturing, testing, and quality assurance guidelines for this product.

Consumers expect high **tensile strength, ductility, dimensional precision, and resistance to stress corrosion**. The steel wire must also have minimal **relaxation under load** and comply with exact **diameter tolerances** to maintain structural integrity.

IS 1785 meets these requirements through strict specifications for material **composition**, nominal size, tolerance on nominal size, tensile strength, proof stress, ductility, **elongation after fracture** and relaxation. It ensures consistent mechanical properties and dimensional accuracy by standardizing tests like **tensile strength**, and **proof stress & Reverse bend test**. The code also specifies sampling criteria, guarantees a reliable product suitable for **construction and infrastructure**.

This standard thus ensures quality and safety in high-stress concrete applications.