

Summary of IS 280:2006

Indian Standard for Mild Steel Wire for General Engineering Purposes

IS 280:2006 specifies the requirements for mild steel wires which are widely used in general engineering applications. These wires, ranging from 0.125 mm to 12.5 mm in diameter, are manufactured to meet specific quality standards, ensuring durability and suitability for diverse industrial uses.

Key parameters that define good-quality mild steel wire include:

- a) **Chemical Composition:** Consistent material composition conforming to IS 7887.
- b) **Dimensional Accuracy:** Strict tolerances in diameter and uniformity across the wire.
- c) **Mechanical Properties:** Adequate tensile strength, flexibility, and ability to withstand wrapping and bending tests without breaking or splitting.
- d) **Surface Finish:** Options such as annealed, galvanized, coppered, and tinned, ensuring suitability for specific applications.
- e) **Coating Quality:** High-quality galvanization or electroplating to resist corrosion, adhering to IS 4826 or IS 12753.
- f) **Defect-Free Surface:** Free from flaws like splits, rough edges, or imperfections.

The standard provides a comprehensive framework to ensure quality and reliability:

- a) **Manufacturing:** Specifies production from wire rods complying with IS 7887.
- b) **Testing Methods:** Prescribes tensile, wrapping, and bending tests under defined conditions (e.g., IS 1608 and IS 1755) to validate mechanical strength and flexibility.
- c) **Tolerance Limits:** Establishes precise tolerances for wire diameters and variations, ensuring dimensional accuracy.
- d) **Coating and Finish:** Defines the requirements for various surface finishes and galvanization to enhance durability and corrosion resistance.
- e) **Sampling:** Enforces rigorous sampling protocols to assess batch conformity.
- f) **Defects and Marking:** Mandates defect-free wires and clear markings for traceability and authenticity.

This standard ensures consumer expectations for quality, performance, and durability are systematically met, promoting trust and consistent performance in engineering applications.