

Summary of

IS 4224: 1972

Specification for Steel Wire for Staples, Pins and Clips

Steel Wire for Staples, Pins, and Clips is a specialized type of wire used in the manufacturing of fastening products like staples, paper clips, and pins. This wire is typically made from high-carbon steel or low-carbon steel, which gives it the necessary strength, flexibility, and durability for these applications. It is drawn into thin, strong strands and often coated to prevent corrosion.

Major Properties of Steel Wire for Staples, Pins, and Clips:

1. **Strength and Durability:** Steel wire used for staples, pins, and clips is designed to have high tensile strength, allowing it to withstand the mechanical stresses involved in fastening materials. This ensures that the fasteners hold items securely without breaking or bending easily.
2. **Flexibility and Resilience:** The wire is flexible enough to bend into the required shapes for staples, clips, and pins, but it retains its resilience, meaning it returns to its original form after deformation (e.g., when a staple is bent).
3. **Corrosion Resistance:** Steel wire for these products is often coated with a layer of zinc (galvanized), or sometimes with a more advanced coating like nickel or chrome, to prevent rust and corrosion. This is especially important for fasteners used in humid or outdoor environments.
4. **Smooth Surface:** A smooth surface finish is essential for ensuring that the staples, clips, and pins can be used smoothly without friction, which might interfere with their performance, particularly in stapling machines or when being inserted into materials.
5. **Formability:** Steel wire must be easily formed into specific shapes like staples, pins, and clips, which requires the wire to have good formability without losing its structural integrity during the bending process.

This standard prescribed the requirements for the composition of the steel with 2 types one low carbon and other medium carbon steel. It also gives the requirements for the round and rectangular wires which are used for pins, clips and staples respectively.

It prescribed the surface finish and strength requirements too. This standard is useful to all the manufacturers of the steel wire as well as the manufacturers of the pins staples and clips.