

IS 4923: Hollow Steel Sections for Structural Use

IS 4923 specifies the requirements for hot and cold-formed square and rectangular hollow steel sections used in structural applications. These sections are widely used in construction due to their high strength-to-weight ratio and versatility.

Consumers expect the following key quality parameters in these hollow steel sections:

1. **Strength and Durability:**
 - **High Yield Strength:** The sections should have a high yield strength to withstand loads and stresses.
 - **Corrosion Resistance:** The steel used should be resistant to corrosion, especially in outdoor applications.
 - **Dimensional Accuracy:** The sections should have accurate dimensions to ensure proper fit and assembly.
2. **Weldability:**
 - **Good Weldability:** The steel should be weldable to facilitate connections with other structural elements.
 - **Strong Welds:** The welds should be strong and durable.
3. **Safety:**
 - **Compliance with Standards:** The sections should comply with relevant safety standards, including IS 4923.
 - **Free from Defects:** The sections should be free from defects like cracks, blisters, and other imperfections.

IS 4923 addresses these consumer expectations by:

- **Specifying Material Requirements:** The standard specifies the required material properties, including yield strength, tensile strength, and elongation.
- **Defining Dimensional Tolerances:** It sets tolerances for dimensions like wall thickness, outside dimensions, and corner radius.
- **Prescribing Testing Procedures:** The standard outlines testing procedures to verify the mechanical properties, chemical composition, and dimensional accuracy of the sections.
- **Ensuring Quality Control:** It emphasizes the importance of quality control during manufacturing, including inspections and tests.
- **Providing Guidelines for Use:** The standard provides guidelines for the design, fabrication, and erection of structures using these sections.

By adhering to the guidelines of IS 4923, manufacturers can produce high-quality hollow steel sections that meet consumer expectations for strength, durability, weldability, and safety.