Summary of IS 1079:2017 - Hot Rolled Carbon Steel Sheet, Plate, and Strip Specification

The Indian Standard IS 1079:2017 provides the requirements for hot rolled low carbon steel sheets, plates, and strips designed for automotive and general engineering applications. This is the seventh revision of the standard, initially published in 1958, with revisions made in subsequent years (1962, 1968, 1973, 1988, 1994, and 2009).

Scope:

The standard covers requirements for hot rolled low carbon steel sheets, plates, and strips used primarily for drawing and forming applications.

Manufacturing and Supply

• Steel can be produced using any steel-making process at the manufacturer's discretion.

• The product can be supplied with mill edges or trimmed edges based on agreement.

• The standard specifies the conditions under which the materials can be treated (e.g., hot rolled, normalized, pickled).

Classification of Steel Grades

The standard categorizes hot rolled carbon steel into several grades, each tailored for specific applications:

1. HR0: Ordinary quality suitable for general use.

2. HR1: Commercial quality for bending and moderate forming.

3. HR2: General-purpose steel.

4. HR3: Steel designed for specific engineering applications.

5. ISH270C, ISH270D, and ISH270E: Drawing quality steels for high-performance applications.

Chemical Composition

The standard provides detailed tables outlining the maximum allowable percentages for various chemical elements (e.g., carbon, manganese, sulphur, and phosphorus) for different grades of steel.

Testing Requirements

• The document outlines the testing procedures for tensile strength, bend tests, and cupping tests, specifying the number of tests required and the criteria for passing.

• If initial tests do not meet specifications, two additional tests must be conducted.

Quality Assurance

Finished materials should be free from harmful defects that could affect their use. Specific tolerances for dimensions and surface quality are also outlined.

Certification

Products may bear the Bureau of Indian Standards (BIS) certification mark, which signifies compliance with the standard and may have legal implications regarding product liability.