

Summary of IS 648:2022;

Cold Rolled Non Oriented Electrical Steel Sheet and Strip-Fully processed type- Specification

Cold Rolled Non Oriented Electrical Steel are **Steel** sheet/strip having substantially the same **magnetic** and **electrical characteristics** in all direction of the plane of the sheet. These are **Specialized** type of Steel which is used in the manufacture of **electric motors, transformers, Generators** and other electrical equipment requiring **efficient magnetic properties**. It is characterized by its **non-oriented grain structure**, which offers **high electrical conductivity** and **low core losses**, making it ideal for applications where **efficiency** and low energy loss are crucial.

This standard was first published in 1955 and subsequently revised in 1962, 1970, 1980, 1994 2006 and 2022.

This standard covers the requirement for non-oriented electrical steel with **silicon** content up to **3.5 percent**, cold rolled, both insulated and uninsulated, **fully processed** electrical steel and strip primarily intended for **static** and **rotating machines** operating at power frequencies.

Indian Standard IS 648:2022 sets the **framework** for the production and quality control of the product, ensuring that it meets the stringent requirements needed for efficient, reliable electrical equipment. The standard covers various aspects from **General Delivery condition**, chemical composition, Surface conditions and technical requirements briefed from **magnetic characteristics** to **Surface Insulation Characteristic**. The Standard is also imparting **complete details** about **dimensional requirements, sample preparation** and **test certificate**. It provides **guidelines** for the **frequency** and **type of tests** to be conducted during manufacturing and at various stages of production to ensure compliance with the specified requirements. Additionally, **marking requirements** are outlined for traceability and identification, including **grade**, lot number, and manufacturing details.