



IS 1395 : 1982 –Specification for low and medium alloy steel covered electrodes used in manual metal arc welding

The **IS 1395:1982** standard specifies the requirements for **low and medium alloy steel covered electrodes used in manual metal arc welding**. These electrodes are designed to provide strong and durable weld joints for various applications, including structural fabrication, pipelines, boilers, and pressure vessels. The standard classifies electrodes based on their chemical composition, usability characteristics, mechanical properties, and type of flux covering. It ensures that these electrodes meet strict quality requirements for weld strength, impact resistance, and operational efficiency to suit industrial welding needs.

Consumers expect welding electrodes to deliver high-quality welds with excellent mechanical properties. Key quality parameters include consistent chemical composition, high tensile strength, impact toughness, proper flux covering, minimal spatter, and ease of arc striking and restriking. The electrodes must also exhibit good slag detachability, resistance to cracking, and controlled hydrogen levels to prevent weld defects. Additionally, they should comply with strict size tolerances, proper alloy recovery, and uniform flux coating to ensure reliability in welding applications. The moisture resistance of the flux coating is another important factor, as excessive moisture can lead to hydrogen embrittlement and weld failure.

The **IS 1395:1982** standard addresses these expectations by setting stringent material, performance, and testing requirements. It prescribes chemical composition limits for different electrode types, along with mechanical testing, including tensile strength, impact resistance, and radiographic analysis for weld integrity. The standard also mandates electrode classification, marking, and packaging requirements to ensure quality control and traceability. Additionally, it specifies moisture content limits in flux coatings and provides guidelines for storage and handling to maintain electrode performance. Through these comprehensive measures, **IS 1395:1982** ensures that welding electrodes meet the highest standards of safety, durability, and efficiency in industrial applications.