Indian Standard IS 15769- Your Guide to Flux Cored Arc Welding

Flux-cored arc welding (**FCAW** or **FCA**) is a semi-automatic or automatic arc welding process. FCAW requires a continuously-fed consumable tubular electrode containing a flux and a constant-voltage or, less commonly, a constant-current welding power supply.

Flux-cored electrodes are special welding tools that look like thin tubes filled with a mixture of metal and other compounds. They are used for welding carbon or carbon-manganese steel. Here's a simple breakdown:

1. **Two Types**: There are two main types of these electrodes: gas-shielded and self-shielded.
    - **Gas-Shielded Electrodes**: These need an external gas (like argon or carbon dioxide) to protect the weld from contaminants in the air.
    - **Self-Shielded Electrodes**: These don't need extra gas. They contain materials that create their own protective gas when heated during welding.
2. **Advantages**:
    - **Portability**: These electrodes are easy to carry around and use in different places.
    - **Good Penetration**: They can create deep, strong welds.
    - **Speed**: This welding method is faster than many others.

Overall, flux-cored electrodes are very useful for welding, especially in outdoor or windy conditions, because they are versatile and effective.

IS 15769:2008 is a standard set by the **Bureau of Indian Standards (BIS)** for flux-cored (tubular) electrodes. It specifies the requirements for electrodes used in metal arc welding, **both with and without shielding gas**.

Electrodes are classified based on their chemical composition, mechanical properties, and surface conditions. The standard includes guidelines for preparing and testing samples to ensure quality and performance.

DPIIT, Ministry of Commerce, has mandated that Flux Cored Tubular Electrodes made from Carbon and Carbon Manganese Steel, that are sold, manufactured or imported into India shall comply to IS 15769:2008 and shall bear the BIS Standard Mark (ISI Mark).