IS 12586 : 2021 Brazed Low Carbon Steel Gas Cylinders not Exceeding 13 Litre Water Capacity – Specification (*First Revisio*n)

Brazed Low Carbon Steel Gas Cylinders are designed for the **storage** and **transport** of **low-pressure liquefiable gases**, excluding toxic gases. The Indian Standard IS 12586:2021 defines specifications for brazed low carbon steel gas cylinders with a water capacity of up to 13 liters. The standard outlines the minimum requirements for **materials**, **design**, **fabrication**, **testing**, and **marking** to ensure **safety** and **reliability**.

Consumers expect gas cylinders to be **durable**, **safe**, **leak-proof**, and capable of **withstanding pressure variations** during use and transport. Quality cylinders must have robust construction, high resistance to corrosion, and secure fittings to prevent gas leaks. Additionally, users prioritize compliance with safety regulations, ensuring cylinders can safely hold gases under specified conditions without failure.

IS 12586:2021 addresses these consumer expectations through stringent guidelines on cylinder manufacturing and testing. The standard specifies the use of high-quality low carbon steel with guaranteed **minimum yield strength**. It outlines detailed design requirements, including **wall thickness calculations** and **joint integrity**, to ensure **structural strength**. The fabrication process mandates the use of brazing with copper or copper alloys for **high-quality, leak-resistant joints**.

To ensure reliability, the standard includes rigorous testing procedures like **hydrostatic proof tests, leakage tests, and mechanical strength assessments**. Each cylinder must pass **a burst test** to verify that it can withstand pressures significantly above its rated capacity without rupturing. The cylinders are also subjected to dimensional checks and surface inspections to ensure quality compliance.

By adhering to this standard, manufacturers can produce gas cylinders that meet **high safety** and **performance standards**, aligning with consumer expectations for **quality, durability, and safety** in **gas storage** and **transportation**.