



IS 915:2012 Glass, Glassware and Laboratoryware Sectional Committee

This standard prescribes the parameter set out for the volumetric instruments manufactured from glass in order to facilitate the most reliable and convenient laboratory purpose use to the intended degree of accuracy. IS 915:2012 specifies the requirements for one-mark volumetric flasks used as Laboratory Glassware. Single Mark Volumetric flasks are commonly used in laboratories for precise measurement of liquids. It may be noted that this standard was first published in 1958 and subsequently revised in 1975. However keeping in view of the trend at the level of International Organization for Standardization followed in ISO 1042 : 1998 this standard was further revised in 2006.

Key aspects of the standard include:

1. **Capacity and Tolerance:** Defines standard nominal capacities and allowable tolerances for accuracy, ensuring that measurements taken with these flasks are consistent and reliable.
2. **Material and Construction:** Specifies the quality and type of glass to be used for durability, chemical resistance, and clarity.
3. **Marking and Calibration:** Requires clear and precise one-mark calibration, indicating the exact volume the flask holds when filled to the mark. It also includes details about labeling and marking for easy identification.
4. **Shape and Design:** Describes the shape and dimensions of the flasks, including neck design to ensure ease of use and prevent spillage.
5. **Testing Procedures:** Outlines methods for testing the volumetric accuracy, stability, and other essential parameters to meet laboratory standards.
6. **Usage and Maintenance:** Provides guidelines on proper usage, cleaning, and storage to ensure the longevity and accuracy of the flasks.

IS 915:2012 establishes standards to ensure quality and consistency in laboratory glassware, specifically for one-mark volumetric flasks, enhancing the reliability of volumetric measurements in scientific and industrial applications. The capacity of a volumetric flask is defined as the volume of water, in millilitres, it holds at 20 °C when filled to the graduation line, with accuracy classified into Class A and Class B – Class A flasks offering tighter tolerances for higher precision. The standard specifies stringent requirements for material and construction, mandating the use of high-

quality glass that is free from visible defects which could impair performance. In addition, it covers various physical specifications such as wall thickness, shape, neck design, stability, graduation line, and dimensions, ensuring both durability and precision.

To uphold quality, capacity and accuracy testing of these flasks must be conducted in accordance with ISO 4794. Furthermore, the standard mandates that each flask bears clear markings indicating nominal capacity (in mL or cm³), manufacturer identification, and other essential information for traceability. Markings should include the capacity symbol (mL or cm³) and the vendor's name.

The DPIIT Quality Control Order enforces compliance, requiring that all one-mark volumetric flasks manufactured, sold, or imported in India adhere to IS 915:2012 and display the BIS Standard Mark, guaranteeing accuracy and reliability. This standard ultimately supports consistent quality in laboratory measurements, facilitating accurate and dependable results across diverse scientific and industrial applications.