



## IS 13349 : 1992 CAST IRON SINGLE FACED THIMBLE MOUNTED SLUICE GATES - SPECIFICATION

**Single faced cast iron sluice gates** are extensively used in water supply and drainage works for controlling the flow. These are of two types: one where the gate with spigot back frame is directly mounted on the wall and the other where mounting on the wall is through wall thimble.

These gates are primarily meant for use in water supply and waste water applications such as water filtration and purification works, Intake wells, pumping stations, drainage and irrigation canals, water and sewage treatment plants, flood control, thermal power stations and water cooling plants, etc, requiring flow control or shut off. These gates may also be used for industrial waste water and with other fluids provided the suitability of materials used for the seating faces, wedge facing, stem guide lining, stem nut, guide bush, resilient seat, etc, is first ascertained for their compatibility with the end use.

The Indian Standard 13349:1992 provides specifications for single-faced cast iron sluice gates, commonly used in water supply and drainage systems to control flow. These gates are typically of two types: those with spigot-back frames that mount directly onto walls, and those mounted through wall thimbles.

The standard specifies sluice gate sizes from 300 mm to 2 500 mm nominal diameter. Classification is based on maximum unbalanced water head pressure, with three classes defined:

- **Class 1:** For heads up to 5 meters
- **Class 2:** For heads up to 10 meters
- **Class 3:** For heads up to 15 meters

These sizes cover both square/round and rectangular sluice gates, with options for custom dimensions based on agreement between manufacturers and buyers.

To ensure compliance with IS 13349 requirements, sluice gates are subjected to seating clearance and leakage tests, verifying operational integrity under pressure. The standard details robust design guidelines for frame construction to withstand the specified head pressure with a safety factor of five. Materials are specified in accordance with relevant Indian Standards, prioritizing corrosion resistance and durability, with cast iron, stainless steel, and various bronzes recommended for critical components.

Finally, IS 13349 prescribes sampling methods and conformity criteria to ensure that each batch of sluice gates meets the size and performance standards before approval.