

Summary of IS 10109: 2018 - Oil Pressure Stove (Offset Burner Type)

IS 10109: 2018 sets the technical specifications and safety requirements for oil pressure stoves with an offset burner design. These stoves, which typically use kerosene or similar oils for fuel, are designed for household cooking. The standard ensures they operate safely and efficiently, reducing fuel consumption while delivering reliable performance.

The construction and design of the stove must use durable, heat-resistant materials. The offset burner design places the burner away from the fuel reservoir, improving safety by controlling fuel flow more effectively and reducing the risk of overheating. The design also ensures a stable flame, minimizes soot formation, and promotes cleaner combustion, which improves efficiency.

Safety is a key focus of the standard. IS 10109: 2018 specifies that stoves must include mechanisms to regulate fuel pressure and prevent oil leaks. To ensure safe operation, the stove must pass certain tests such as oil leakage tests and overpressure safety tests, which assess the ability of the stove to handle fuel safely under various conditions.

The performance and efficiency of the stove are measured through several tests. The standard emphasizes thermal efficiency, ensuring that the stove converts fuel into heat effectively, with minimal energy loss. Thermal efficiency tests measure how well the stove transfers heat to the cooking vessel, while flame stability tests evaluate the consistency and reliability of the flame during use. The fuel consumption test assesses how efficiently the stove uses fuel over time, helping to ensure low operational costs for users.

To meet safety and quality standards, the stove must pass additional tests such as the ignition test, which checks how easily and reliably the stove can be lit, and the combustion quality test, which ensures that the stove produces minimal emissions and unburned fuel during operation.

The marking and labeling requirements in the standard ensure that compliant stoves are clearly marked with the manufacturer's details, model number, and BIS Standard Mark. These labels help consumers identify products that meet the required safety and performance criteria.

In conclusion, IS 10109: 2018 ensures that oil pressure stoves with offset burners are built to be safe, efficient, and reliable. The tests and guidelines set forth in the standard help manufacturers produce stoves that are environmentally friendly, fuel-efficient, and suitable for everyday cooking needs.