

Data Sheet

Free Swelling Index Furnace, FSI



INTRODUCTION

The Swelling Index Furnace, often simply called the free swelling Index (FSI) or Crucible Swelling Number (CSN), measures the swelling behaviour of materials.

The cokeability of coal is an important technological parameter of coals during the reduction process. Coking properties of coal are evaluated using the FSI. It is a test that determines the ability of coal to form a coherent mass, or "coke," when heated in the absence of air. This property is crucial for the steel industry, where coking coal is used in the production of coke, a key ingredient in blast furnace operations.

FSI is determined by comparing the size and shape of the coke button with a chart of standard profiles and scaling a value from 0 to 9 at an interval of 0.5.



Free Swelling Index Furnace, FSI

STANDARD FEATURES

- | Maximum temperature: 900°C
- | Continuous operating temperature: Up to 850°C
- | Top opening furnace as per ASTM D720, BS ISO 501 & ISO 501
- | Residual current device (RCD) is fitted to provide enhance operator safety
- | Uses high power resistance heating element
- | Excellent temperature stability and quick temperature ramping
- | Energy efficient, high quality, low thermal mass insulation
- | Temperature measurement with 'N' type thermocouple
- | High end Microprocessor PID temperature controller to maintain the required temperature
- | A set of Crucible and lid supplied as standard for swelling test as per the dimensions given in the test standard
- | Wire Crucible holder supplied as standard

STANDARD SUPPLY

- | Free Swelling Index Furnace, FSI
- | Silica Crucible – 1 No.
- | Silica Crucible lid – 1 No.
- | Crucible Holding wire – 1 No.
- | Instructions manual – 1 No.

OPTIONAL FEATURES

- | Over Temperature controller
- | Silica crucible & lid with hole for calibration
- | Ceramic Cooling block for cooling crucibles

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