

Measurement of: Sintering of Metals, Alloys, Ceramics and Composite Powders

Equipment: Spark Plasma Sintering

Property Measured: Sintering of Metals, Alloys, Ceramics and Composite Powders under vacuum of 6 Pa, No organic samples

Photograph (small size)



Basic Principle:

Spark plasma sintering (SPS) is a rapid powder consolidation and sintering technique. It is capable of processing metals, alloys and composites. SPS utilizes the uni-axial force and ON-OFF DC pulse (12:2) for energizing. The pulse voltage and current creates the spark discharge and Joule heat points between material particles (high-energy pulses at the point of inter-granular bonding).

Capabilities: Diameter of the Graphite die 12.7 and 20 mm, Heating rate: 50 - 350°C/minute, Load: depending on the size of the sample to be sintered.

Sample Requirement: Metals, Alloys, Ceramics and Composite Powders of 10 gm quantity is required.