

Granular In-Plant Lab

General Description

The specific electrical resistance of the electrode, strongly influenced by the coke, is an important property to minimize, as it directly affects the voltage drop and, thus, the metal production cost. Measuring the electrical resistance of the coke also provides an indication of the heat treatment that the material has undergone during calcination. Its information is, therefore, valuable for the process control of coke calciners.

The measurement is conducted with the RDC-147 apparatus, where a given weight of sample from a specific fraction is pressed in a chamber where a constant direct current is applied. The voltage drop, combined with the height of the sample, is measured to calculate its specific electrical resistance in $\mu\Omega\text{m}$. By measuring the height of the sample, the pressed density in kg/dm^3 can be calculated at the same time.



Technical Information

Standard Method	ISO 10143
Property	Specific Electrical Resistance [$\mu\Omega\text{m}$] Pressed Density [kg/dm^3]
Sample	15 g of granular carbon (1.4 - 1 mm)
Process Time	~ 2 minutes
Installation	Workbench
Dimensions (LxWxH)	60 x 67 x 73 cm
Weight	100 kg
Electrical Property	230 V 1/N/PE, 50 Hz 0.5 kW, 2.2 A
Certified Reference Material	RDC 1147
Database Connection	Yes

Additional Recommended Equipment

Oil Content Heating Method (RDC-208)
Drying oven (min. temperature 110°C)
Weighing scale with an accuracy of 0.01 g
Crusher (< 1.5 mm)
Sieving machine (1.4 mm and 1 mm sieves)

Certified Reference Material



RDC 1147

Weight per unit	180 g
Number of tests	12

Video

