

RDC-151/1 – Air Reactivity Anode – 1 Furnace

The test arrangement for the air reactivity is somewhat more sophisticated than that for the carboxy reaction. A test at constant temperature is not satisfactory for the many different anodes produced worldwide. This is due to possible ignition of the specimen before selective air burn occurs. The sample (diameter 50 mm and 60 mm length) is preheated in an inert atmosphere at 550 °C and then cooled with a gradient of 15 °C/h to 400 °C in an air flow of 200 l/h. In order to collect the dust in a cold area the sample is cyclically tapped. The results are expressed in the same manner as for the carboxy reactivity tests (ARL, ARD, ARR).

Typical ranges for the air reactivity are:

Residue ARR: 65 – 90 %

Dust ARD: 2 – 10 %

Loss ARL: 8 – 30 %

The RDC-151 is used for the determination of the Air Reactivity of anodes. It comprises of one furnace, microprocessor, temperature and gradient controller.



Electrical Connection	400 V 3/PE, 50/60Hz
Power	1.10 kW
Weight	180 kg
Dimensions	90 x 70 x 185 cm (LxWxH)
Measurement	Air reactivity: Residue [%] Air reactivity: Loss [%] Air reactivity: Dust [%]
Standard compatible	ISO 12989-1
Standard RDC	RDC-1151a
Required ventilation	Place under fume hood – CO ₂ fumes released
Required air pressure	Min 3 bar (200 l/h), inlet pressure not to exceed 7 bar
Gas quality	Air (N ₂ : 78%, O ₂ : 21%, Ar : 1%; H ₂ O < 150 mg/Nm ³) - Free of oil
Configuration	Free Standing
Number of sample / test	1
Process time	~ 12 hours

RDC-151/3 – Air Reactivity Anode – 3 Furnaces

The test arrangement for the air reactivity is somewhat more sophisticated than that for the carboxy reaction. A test at constant temperature is not satisfactory for the many different anodes produced worldwide. This is due to possible ignition of the specimen before selective air burn occurs. The sample (diameter 50 mm and 60 mm length) is preheated in an inert atmosphere at 550 °C and then cooled with a gradient of 15 °C/h to 400 °C in an air flow of 200 l/h. In order to collect the dust in a cold area the sample is cyclically tapped. The results are expressed in the same manner as for the carboxy reactivity tests (ARL, ARD, ARR).

Typical ranges for the air reactivity are:

Residue ARR: 65 – 90 %

Dust ARD: 2 – 10 %

Loss ARL: 8 – 30 %

The RDC-151 is used for the determination of the Air Reactivity of anodes. It comprises of one furnace, microprocessor, temperature and gradient controller.



Electrical Connection	400 V 3/PE, 50/60Hz
Power	3.30 kW
Weight	390 kg
Dimensions	175 x 70 x 200 cm (LxWxH)
Measurement	Air reactivity: Residue [%] Air reactivity: Loss [%] Air reactivity: Dust [%]
Standard compatible	ISO 12989-1
Standard RDC	RDC-1151a
Required ventilation	Place under fume hood – CO ₂ fumes released
Required air pressure	Min 3 bar (600 l/h), inlet pressure not to exceed 7 bar
Quality of gas	Air (N ₂ : 78%, O ₂ : 21%, Ar : 1%; H ₂ O < 150 mg/Nm ³) - Free of oil
Configuration	Free Standing
Number of sample / test	3
Test time	~ 12 hours