

# RDC-141

## Name CO<sub>2</sub> REACTIVITY COKE

Material type  
**GRANULAR  
PITCH  
ELECTRODES  
LINING**

Utilization  
**R&D  
IN-PLANT  
LAB**

General description  
To minimize the net anode consumption in the electrolysis cells, it is important to use anodes with low reactivity to CO<sub>2</sub> gas, which can be measured by the RDC-146 apparatus. This allows increasing the quantity of carbon available for the production of aluminium and decreasing the excess carbon consumption, which reduces the aluminium production cost. As the CO<sub>2</sub> reactivity of the baked anodes is strongly impacted by the reactivity of the calcined cokes, it is worthwhile to measure it on a routine basis to predict and anticipate any anode quality variations. The measurement is conducted with the RDC-141 apparatus, where a calcined coke sample is heated at 1000°C during a given period of time while it is exposed to a saturated CO<sub>2</sub> atmosphere. At the end of the heating cycle, the sample is weighed and the mass loss, in percent, is used to express the CO<sub>2</sub> reactivity of the sample.

Standard Method:	ISO 12981-1
Property:	CO <sub>2</sub> Reactivity Coke [%]
Sample:	5 g of coke (1.4-1 mm)
Process Time:	~ 3 hours
Installation:	Workbench under fume hood
Dimensions (LxWxH):	60 x 40 x 68 cm
Weight:	53 kg
Electrical Property:	230 V 1/N/PE, 50 Hz 0.90 kW, 4 A
Fluid Property:	CO <sub>2</sub> , 50 l/h, 3-7 bar
Certified Reference Material:	RDC-1141
Database Connection:	Yes

### Additional Recommended Equipment:

Oil content (RDC-176 or RDC-208)  
Drying oven (min. temperature 110°C)  
Weighing scale with an accuracy of 0.001 g  
Crusher (< 1.5 mm)  
Sieving machine (1.4 mm and 1 mm sieves)



## RDC 1141

Weight per unit:	180 g
Number of tests:	36

Technical information

