

# DATA BULLETIN

## *Oxygen determination in coal and graphite with the rapid OXY cube*

Oxygen concentration in coal is an important parameter for coal quality and calorific value. In the past, oxygen concentrations have often been derived from indirect calculation by difference (e.g., according to ASTM D3176), but this method suffers from cumulative errors associated with the measurement of C, H, N and S and the determination of ash content. In contrast, direct analytical determination of oxygen concentration (e.g., according to ASTM D5622) can deliver accurate, unbiased oxygen concentration data.

Samples were weighed into tin boats and analyzed six times at a pyrolysis temperature of 1450°C. The average oxygen concentrations and absolute standard deviations are given below.

SAMPLE	O [%]	SD [%]
lignite	24.11	0.12
sub-bituminous coal	12.49	0.08
bituminous coal	10.72	0.07
activated carbon	3.92	0.05
graphite	0.69	0.02

In the coal industry, regulations as well as current market demands, require more and more precise direct analytical determination of oxygen concentrations. Thanks to innovative furnace and gas handling technology, the rapid OXY cube offers highly precise, blank-free and matrix-independent oxygen concentration analysis with highest precision and convenience.

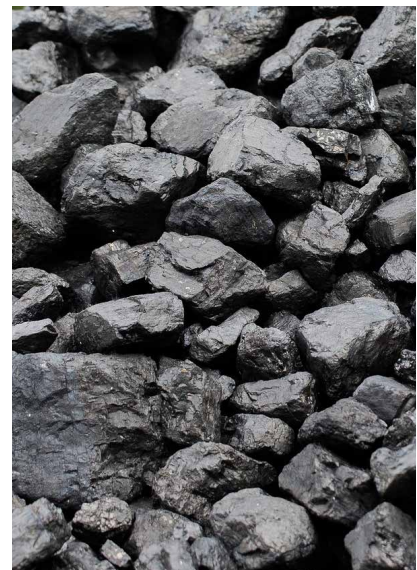
### INSTRUMENT:

rapid OXY cube

### DETAILS:

mode: 0

sample: 10 – 50 mg coal



### STANDARD:

ASTM D5622

**Elementar Analysensysteme GmbH**

Elementar-Straße 1

63505 Langenselbold (Germany)

phone: +49 (0) 6184 9393-0

info@elementar.de | www.elementar.de

