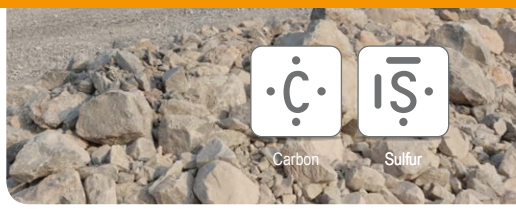
ELTRA®
ELEMENTAL ANALYZERS

C/S determination in limestone



Suitable analyzers

- ELEMENTRAC CS-*d* (Resistance Furnace)

Used accessories

- Disposable porcelain boats (90160)
- Suitable calibration material

ELEMENTRAC CS-*d*

Application Settings

I) General

Temperature:	1450 °C (±20 °C tolerance)
Stabilize baseline:	Enable
Stability:	0.01 V
Minimum time:	20 sec
Maximum time:	60 sec
Flow:	180 l/h
Drift compensation:	Disable

II) Analysis

Channel	Min time [sec]	Max time [sec]	Integration delay [sec]	Peak max [V]	Comperator level [mv]	Comperator peak [%]
High Carbon	90	300	5	8	20	1
Low Sulfur	200	300	5	8	5	1

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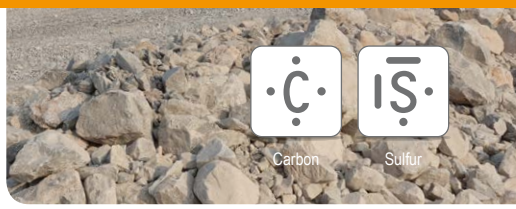


Sample preparation
Dry the sample to constant mass at 105 °C (at least 1 hour).

Procedure
- Prepare and clean the ELTRA analyzer (e.g. exchange anhydrone, filter, boat stop) and set the furnace temperature to 1450 °C
- Run at least three warm up samples (e.g. ELTRA 92511-3020) with a medium sample weight of 250 mg until the results are consistent
- Calibrate the system with a suitable calibration material (NIST or other):

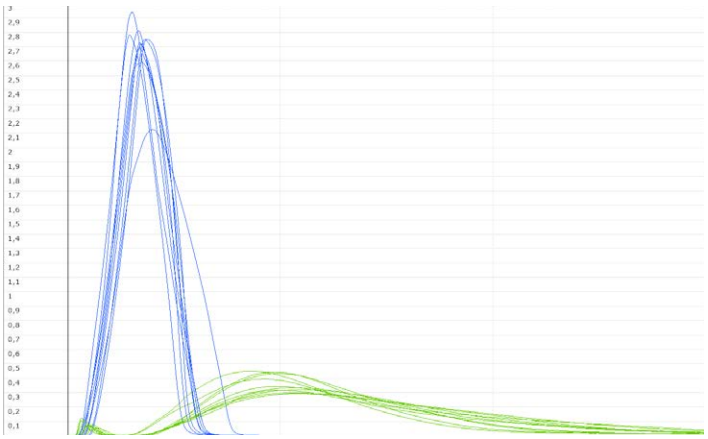
(1) Weigh in 250 mg of sample in a porcelain boat (90160)
(2) Start analysis (F5 Button)
(3) Wait until baseline is stable
(Look at message in ELEMENTS software and wait for green light at the resistance furnace)
(4) Load the sample into the furnace and wait until the PC calculates results
(5) Remove combustion boat

Repeat steps (1) – (5) at least three times;
Mark the results and use the calibration function in the software.

-> Now start with the actual analysis.

ELEMENTRAC CS-*d*

Typical results		
ELTRA 90812-3002 (LOT 101602) *1		
Weight (mg)	**Carbon (%)**	**Sulfur (%)**
258.6	11.6	0.44
252.6	11.6	0.43
271.6	11.6	0.43
269.5	11.9	0.41
280.6	11.6	0.42
251.7	11.6	0.40
269.7	11.6	0.40
275.7	11.7	0.40
273.2	11.7	0.40
289.7	11.7	0.40
Average Values		
	11.70	0.41
Deviation / Relative deviation (%)		
	0.09 (0.8 %)	0.01 (3.4 %)



*1 certified values: C: 11.72 % ±0.40 ; S: 0.418 % ±0.04

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