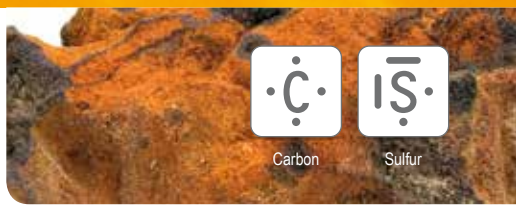
ELTRA
ELEMENTAL ANALYZERS

C, S determination in ore samples



Suitable analyzers

- CS-800
- CS-2000 (induction furnace)

Induction furnace

Used accessories

- Ceramic crucibles (90150)
- Tungsten (90220)
- Iron accelerator (90260)
- Suitable calibration material (NIST or other)

CS-800

CS-2000 (induction furnace)

Settings

- Comparator level: 20 mV
- Minimum time: 40 sec
- Maximum time: 3:00 min
- Integration delay: 6 sec
- Post-waiting: 15 sec
- Pre-purging: 10 sec
- Base line deviation: 10 mV
  Base line time: 15 sec
- T1 - Pre-purging: 5 sec
- T2 - Chamber only: 5 sec
- T3 - Chamber and lance: 3 sec
- T4 - Generator: 45 sec

Sample preparation

For best results grind the sample down to a particle size of approx. 200 µm.
Dry the sample to constant mass at 105 °C (at least 1 hour).
Pre-heating the crucibles (1 h; 1000 °C) could improve the precision.

Procedure

- Prepare ELTRA analyzer (e.g. exchange anhydrone, sodium hydroxide, copper oxide when necessary); clean the combustions tube
- Run three warm up samples (e.g. steel samples (92400-3050) with a minimum weight of 500 mg; add 1.5 g tungsten)
- Calibrate the analyzer with suitable calibration material (NIST or other)
  (1) Weigh in 150 mg of sample in the ceramic crucibles (90150)
  (2) Add 0.7 (±0.1) g of iron accelerator (90260) and 2.0 (±0.1) g of tungsten (90220)
  (3) Place the crucible on the pedestal and start analysis

Repeat Step (1) – (3) at least three times;
Mark the results and use the calibration function in the software.

-> Now start with the actual analysis.

Typical results

AR 4006 : Iron ore		
Weight (mg)	**%C**	**%S**
162.8	4.18	4.14
172.3	4.13	4.12
196.4	4.14	3.94
159.8	4.16	4.14
163.1	4.21	3.97
169.2	4.20	4.04
174.3	4.24	4.10
168.4	4.24	4.04
167.6	4.23	4.14
170.9	4.17	4.08
Average values		
	4.19	4.07
Deviation		
	0.04 / 0.95 %	0.07 / 1.77 %

Eltra GmbH | Retsch-Allee 1-5 | 42781 Haan | Germany | Phone: +49 2104/2333-400 | E-Mail:info@eltra.com | **www.eltra.com**