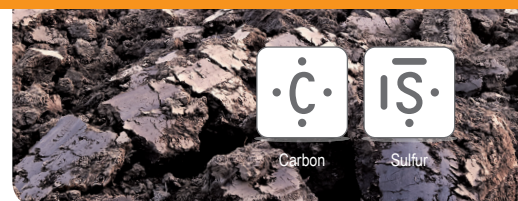


C, S determination in soil



Suitable analyzers

- ELEMENTRAC CS-*i*

Used accessories

- Ceramic crucibles (90149)
- Tungsten (90220)
- High purity iron accelerator (88600-0013)
- Suitable calibration material (NIST or other)



Application Settings

I) General

Sample type:	Dusty sample
Standby flow:	180 l/h
Open Furnace:	yes
Furnace purge time:	3 sec
Furnace purge flow:	180 l/h

Stabilizing

Stabilize by time:	on
Stabilize duration:	15 sec

II) Analysis

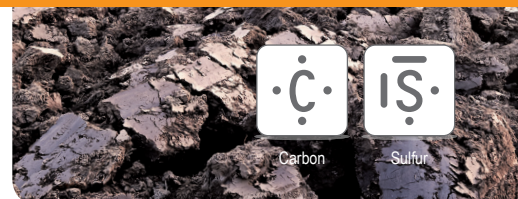
Voltage:	100 sec
Power duration:	60 sec
Flow:	180 l/h
Drift compensation:	on

Channel	Max time [sec]	Min time [sec]	Integration delay [sec]	Comparator factor [%]
High C	60	40	1	1
Low S	60	35	1	1

III) Postwaiting

Postwaiting time:	10 sec
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C, S determination in soil



Sample preparation

Make sure that your sample is free from contaminations and inclusions which could influence the carbon determination. Pre-heat the crucibles at least for 1 h at 1000 °C. Let the crucibles cool down in a desiccator.

Procedure

- Prepare ELTRA analyzer (e.g. exchange anhydron, sodium hydroxide, platin catalyst if necessary); clean the combustion tube, brush, heat shield, dust trap
- Run three warm up samples (e.g. steel samples (92400-3050) with a minimum weight of 500 mg; add 1.7 g tungsten)
- Calibrate the analyzer with suitable calibration material (NIST or other)

The procedure of analysis soil should be like this:

- (1) Weigh in approx. 150 mg of the sample into the ceramic crucible
- (2) Add 0.7 g of high purity iron accelerator (88600-0013)
- (3) Add 1.7 g of tungsten (90220)
- (4) Place the crucible on the pedestal (use tongs!) and start analysis

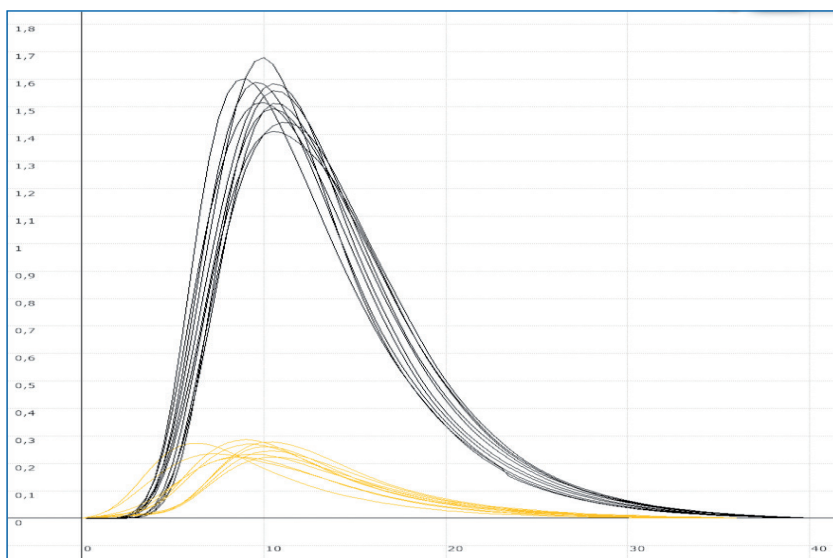
Repeat steps (1) – (4) at least three times;

Mark the results and use the calibration function in the software.

-> Now start with the actual analysis.



Typical results		
NCS ZC 73002 ¹⁾		
Weight (mg)	Carbon (%)	Sulfur (%)
152.9	1.122	0.022
150.7	1.125	0.021
150.2	1.118	0.024
152.3	1.117	0.024
153.4	1.122	0.020
152.9	1.118	0.021
154.9	1.115	0.021
151.2	1.120	0.020
151.6	1.123	0.022
153.5	1.121	0.023
Average values		
	1.120	0.022
Deviation / Relative deviation (%)		
	0.003/0.281	0.001/6.71



¹⁾ certified value: C: 1.12% ±0.11 (9.82%)
S: 0.0217% ±0.0023 (10.60%)