

DATA BULLETIN

solis TOC cube – typical sample weights

The soli TOC cube is a dynamic combustion analyzer for the differentiation of carbon fractions in solids by using a temperature ramp or TOC/TC determination compliant with DIN EN 15936. The choice of the sample weight is the first important step to achieve optimum results.

The default calibration, which is delivered by Elementar, ranges from 20 µg to 15 mg C absolute. For special applications, it is possible to re-calibrate the instrument down to 10–15 µg C absolute, using sterilized crucibles, or up to 25 mg C absolute. For standard applications, we recommend a sample weight which produces between 1 and 3 million peak areas. This corresponds to an absolute carbon content between 1 and 4 mg.

| SAMPLE | WEIGHT | SAMPLE | WEIGHT |
|---|------------|-----------------------|--------------|
| Graphite | < 10 mg | soil / waste < 1 % C | 150 – 200 mg |
| activated charcoal | < 10 mg | soil / waste < 5 % C | 100 – 150 mg |
| CaCO ₃ | 50 – 70 mg | soil / waste < 10 % C | 70 – 100 mg |
| control standard according to DIN 19539 | 100 mg | soil / waste < 15 % C | 50 – 70 mg |
| | | soil / waste > 15 % C | < 50 mg |

An additional consideration for optimum sample weight is sample homogeneity. For heterogeneous samples, higher sample weights lead to more representative results. At sample weights > 150 mg, it should be visually checked if the sample is well distributed in the crucible and completely combusted after the analysis.

For certain applications, the optimum sample size cannot be used, e.g. when only limited sample is available, only a macro balance is available, or the sample contains components that react exothermically and affect the results of the temperature ramping method. In these cases, the wide measurement range of the soli TOC cube allows the use of different sample weights.

INSTRUMENT:

solis TOC cube

DETAILS:

maximum sample weight in standard
20 mm crucibles: 3 g



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