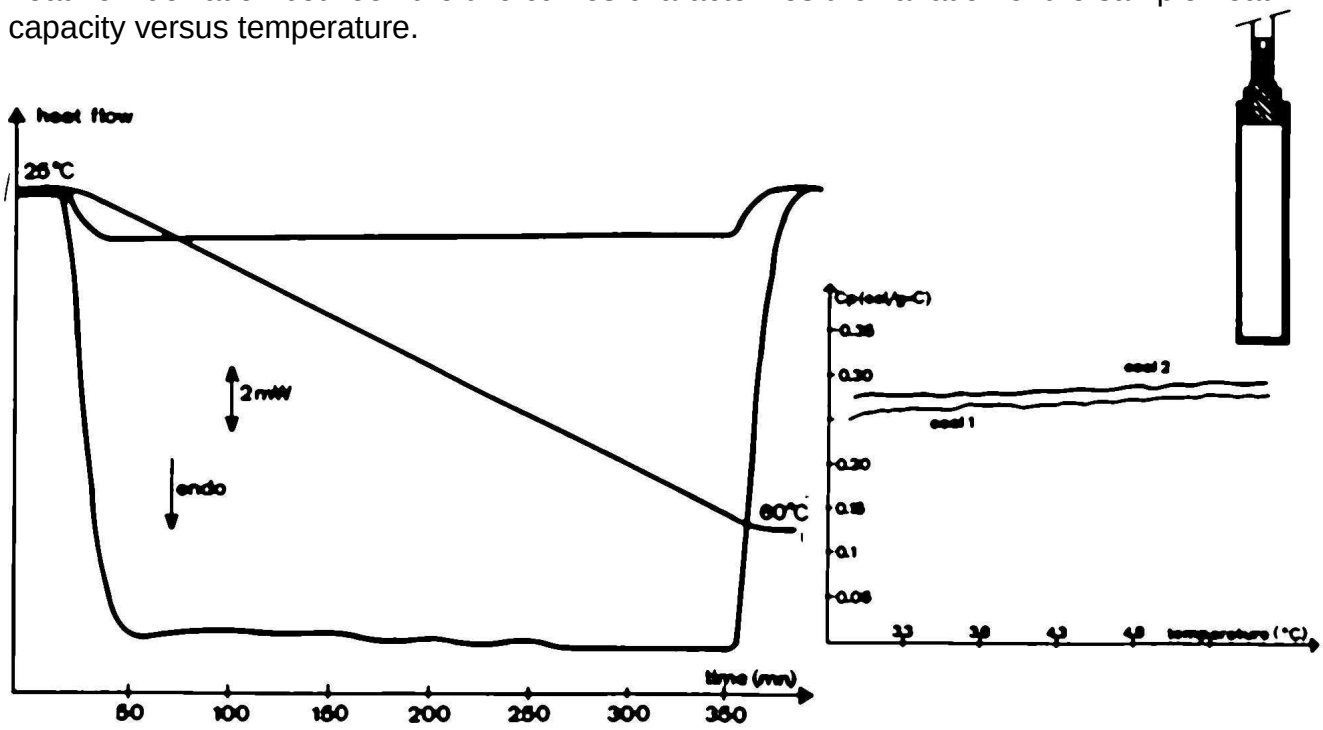
Heat capacity : coal

Introduction

The heat capacity determination by the calorimetric method is well known and very easy to run. The sample is heated in the calorimeter, and the heat flow detected by the heatflux transducer is directly proportional to its heat capacity. In practice, two successive tests are necessary : one test with empty vessels on both sides (measure and reference), and a second test with the sample in the "measure" vessel, the "reference" vessel remaining empty. The experimental conditions must be strictly identical for both experimentation. The heat flow deviation between the two curves characterizes the variation of the sample heat capacity versus temperature.



Experimental

Sample : Coal (powder)
Mass : 7.569 g
Vessel : standard vessel
Heating : 0.1 K.min^{-1}

Instrument

C80
(ambient to 300°C)

Conclusion

Coal, according to its origine, its grinding, has different structures. The heat capacity determination is used to characterize different types of coal.

The experimentation is run between 25°C and 60°C at 0.1 K.min^{-1} on a large amount of sample.

A relatively large difference between coals 1 and 2 is measured.