

# Isothermal Stability

## Why isothermal stability?

A stable signal under isothermal conditions is required for many gas-solid experiments like oxidation, reduction, adsorption, and more particularly when looking for kinetics data.

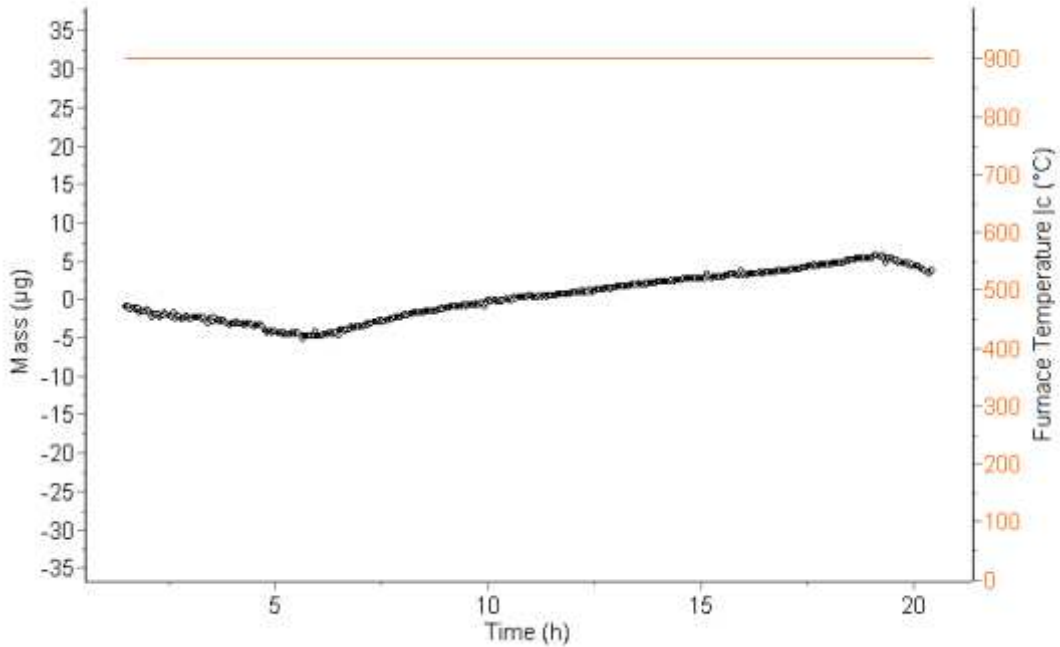


Figure 1

## Experimental conditions

A THEMYS equipped with the High Sensitivity balance was heated up to 900°C under nitrogen with a flow rate of 20 ml/min. The temperature was then kept at 900°C for 20 hours under the same nitrogen flow conditions. An empty 170 µl alumina crucible was used.

## Results

The variations in TGA signal did were not more than +/- 5 µg over a period of 20 hours. This means that the average is 0.5 µg/h and the maximum value of the isothermal drift is less than 2 µg/h.

## Conclusion

The High Sensitivity balance exhibits ground breaking stability. With its 35 g loading capacity, it is still possible to characterize heavy samples. This balance is typically the ideal choice for high temperature, long term corrosion kinetics.

SETARAM Instrumentation thermobalances are designed specifically for thermal analysis applications, and not just adapted from existing laboratory balances.

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