Heating and cooling curve up to 1200°C

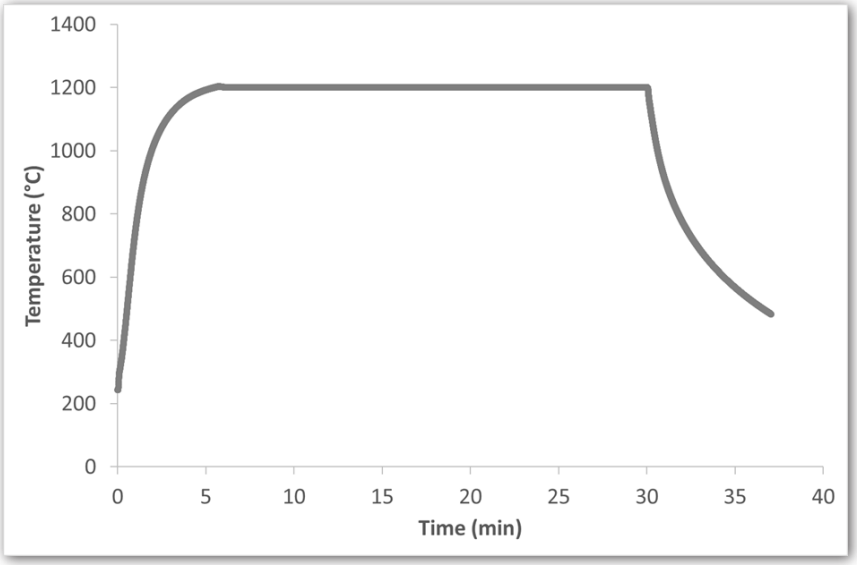
INTRODUCTION

The thermal characterization of materials can require fast heating and cooling cycles, so that it replicates the demanding conditions encountered in their lifespan. THEMYS FLASH is a Thermogravimetric Analyzer capable of replicating fast temperature cycles on samples of various materials, up to 600 °C/min..

EXPERIMENT

THEMYS FLASH is composed of 5 cavities equipped with a high-efficiency image furnace for accurate and responsive heating and cooling using infrared radiations. It was programmed to :

- heat up from 240°C to 1200°C
- stay isothermal during 25 minutes
- cool down to 480°C



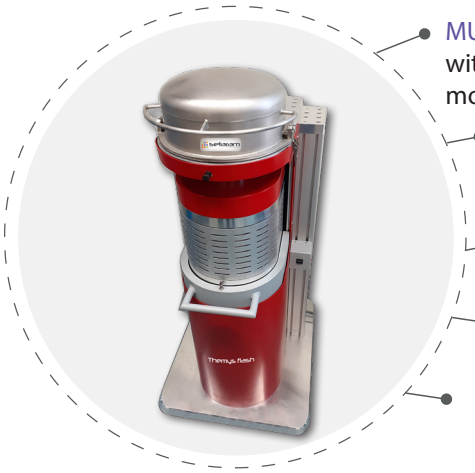
RESULTS AND CONCLUSION

It takes less than 2 minutes for the furnace to reach 1000°C and less than 5 minutes 30 seconds to hit the target of 1200°C.
During the 25 minutes isothermal sequence, the temperature is kept at the setpoint within +/- 0.15°C.
During the cooling phase, it takes less than 40 seconds for the furnace to reach 1000°C, and about 7 minutes to cool down to 480°C.

INSTRUMENT

THEMYS FLASH

Ambient to 1200°C



MULTIPLE SIMULTANEOUS MEASUREMENTS
with a flexible balance integrating up to 5 weighing modules

HIGH ACCURACY & VERSATILE
hang-down symmetrical beam balance specifically designed for TGA applications

FAST HEATING AND COOLING
thanks to its unique design of image furnace

FAST TEMPERATURE CYCLING CAPABILITY
to simulate some real materials' ageing conditions

A VARIETY OF ATMOSPHERE CONDITIONS
with the possibility of operating under oxidative gas, inert gas, or vacuum