Temperature Stability and Cooling Performance of Double-Shot Pyrolyzer (PY-2020D)

In analysis with pyrolysis gas chromatography (Py-GC), because the pyrolysis temperature of a sample greatly influences the pyrogram obtained, the temperature control of the pyrolysis furnace is one of the most important performances. Fig. 1 shows a temperature profile of pyrolysis furnace of Double-Shot Pyrolyzer. When the set temperature of pyrolysis furnace was 600ºC, the temperature fluctuation was 600+/-0.5ºC, while the set temperature was 40ºC, it was 40+/-1ºC.

Also, in Evolved Gas Analysis in which heating and cooling are repeated, the cooling rate of the pyrolysis furnace greatly influences the efficiency in continuous analysis. Double-Shot Pyrolyzer employs a forced cooling of the pyrolysis furnace with cooling gas (nitrogen or air), and can achieve a rapid cooling from 600ºC down to 40ºC within 20 min.

1) *Double-Shot Pyrolyzer® Technical Note*, PYT-004

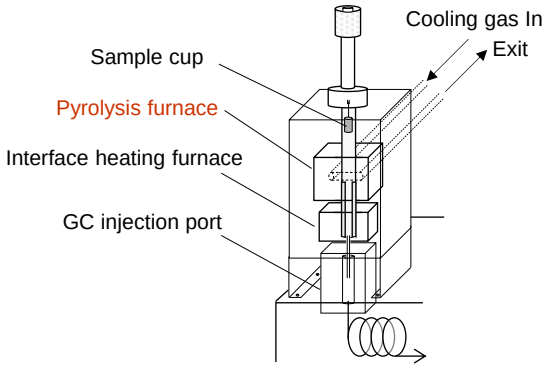

Fig. 1. Structure of Double-Shot Pyrolyzer

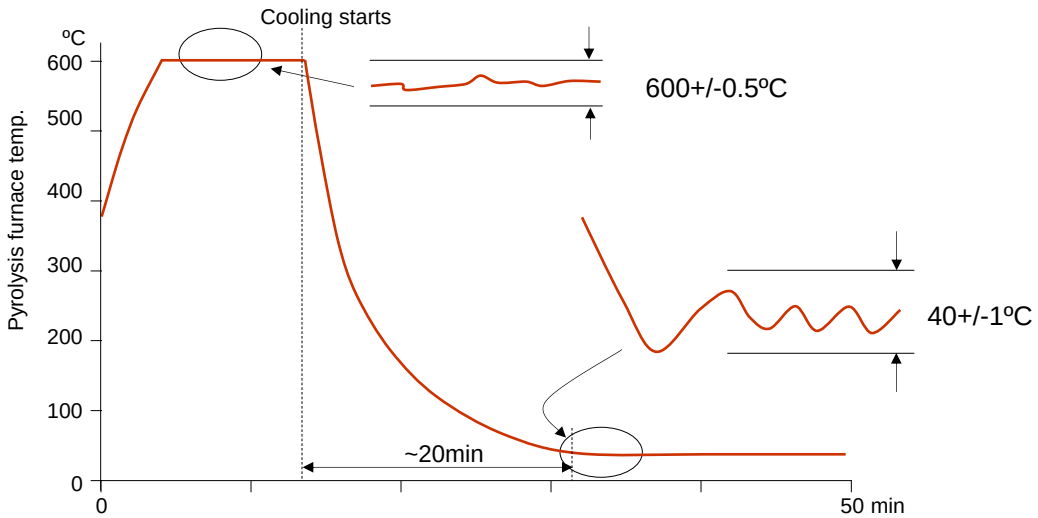

Fig. 2 Temperature Profile of Pyrolysis Furnace

Keywords : Heating Furnace, Cooling Rate, Temperature Control

Products used : Multi-functional pyrolyzer

Applications : General Polymer Analysis

Related technical notes :

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