

Polyamide 6

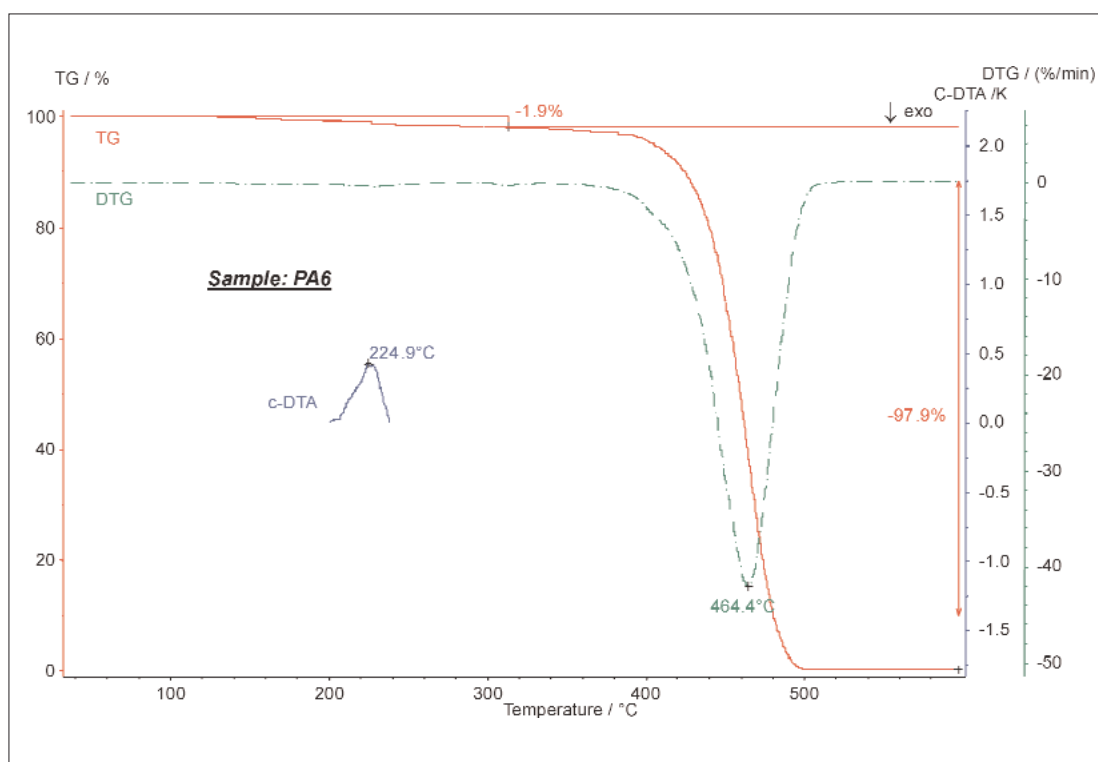
AS-053-2006

Polyamide is a polymer containing the amid group (–NHCO–) in the repeat unit. Polyamide 6 is one of the most important nylons commercially, being a major fibre-forming polymer, as well as a useful engineering plastic. Polyamides can absorb the atmospheric moisture what affects their mechanical properties.

Test Conditions:

Temperature range: 35 ... 600°C
Heating rate: 20 K/min
Atmosphere: Nitrogen at 20 ml/min

Sample mass: 9.94 mg
Crucible: Al₂O₃



Results:

The first mass loss of 1.9% is most probably due to the evaporation of water. The calculated DTA signal shows an endothermic effect at 224.9°C (peak temperature). It is due to melting of the sample. As comparison, a DSC measurement was carried out on the same sample (see application sheet polyamide 6, DSC 200 F3 Maia®). The peak temperature of the melting was detected at 224.5°C. The second mass-loss step of 97.9% is due to degradation of the polymer.