

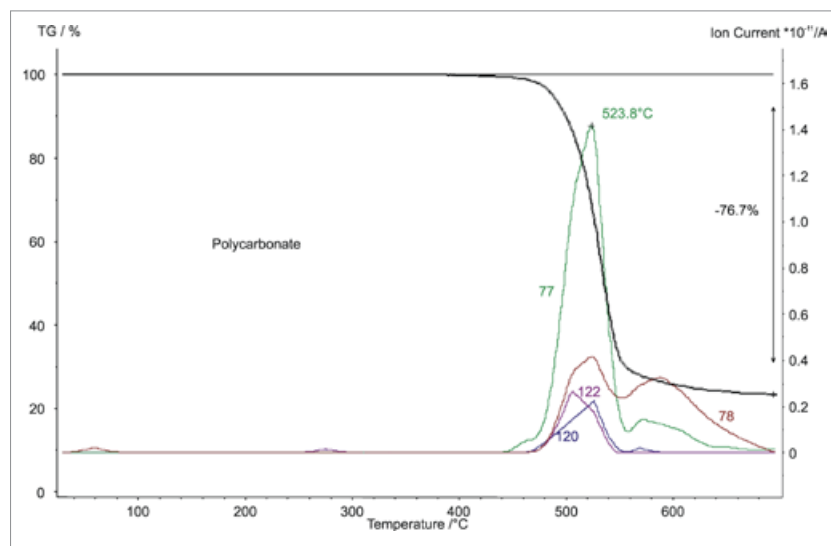
APPLICATION SHEET

POLYMERS – POLYMER MANUFACTURING

POLYCARBONATE (PC)

Polycarbonates are a particular group of thermoplastics. They are easily worked, molded, and thermoformed. They are called polycarbonates because these polymers have functional groups linked together by carbonate groups (-O-CO-O-) in a long molecular chain. The most common type of polycarbonate plastic is one made from Bisphenol A, in which groups from Bisphenol A are linked together by car-

bonate groups in a polymer chain. Polycarbonate is becoming more common in house wares as well as laboratories and industry. It is often used to create protective features, for example, in banks as well as vandal-proof windows and lighting lenses for many buildings. Other products made from polycarbonate include sunglass/eyeglass lenses, compact discs, DVDs, and automotive headlamp lenses.



Instrument

TG 209 F1 *Iris*[®] – QMS 403 *Aeolos*[®]

Test Conditions

Temperature range	RT ... 700°C
Heating/cooling rates	20 K/min
Atmosphere	Nitrogen at 40 ml/min
Sample mass	7.3 mg
Crucible	Alumina
Sensor	Platinel

Results

During the decomposition of PC under inert conditions, the polymer chains, of course, decompose and fragments of Bisphenol can be detected indicated i.e. by mass numbers 77 and 78, representing benzene. But also higher mass numbers occur, for example, 120 and 122 amu.