

APPLICATION SHEET

Polymers · Polymer Manufacturing
TG 209 **F1 Iris**® – FT-IR

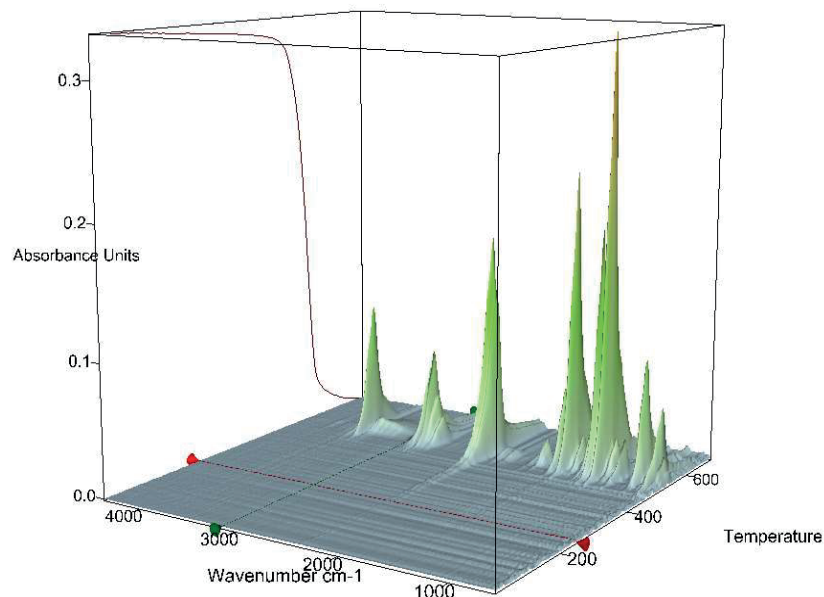
Polycarbonate (PC)

Introduction

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 made of Bisphenol A, in which groups from Bisphenol A are

linked together by carbonate groups in a polymer chain. Polycarbonate is becoming more common in housewares as well as laboratories and in 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 of polycarbonate include sunglass/eyeglass lenses, compact discs, DVDs, and automotive headlamp lenses.



Test Conditions

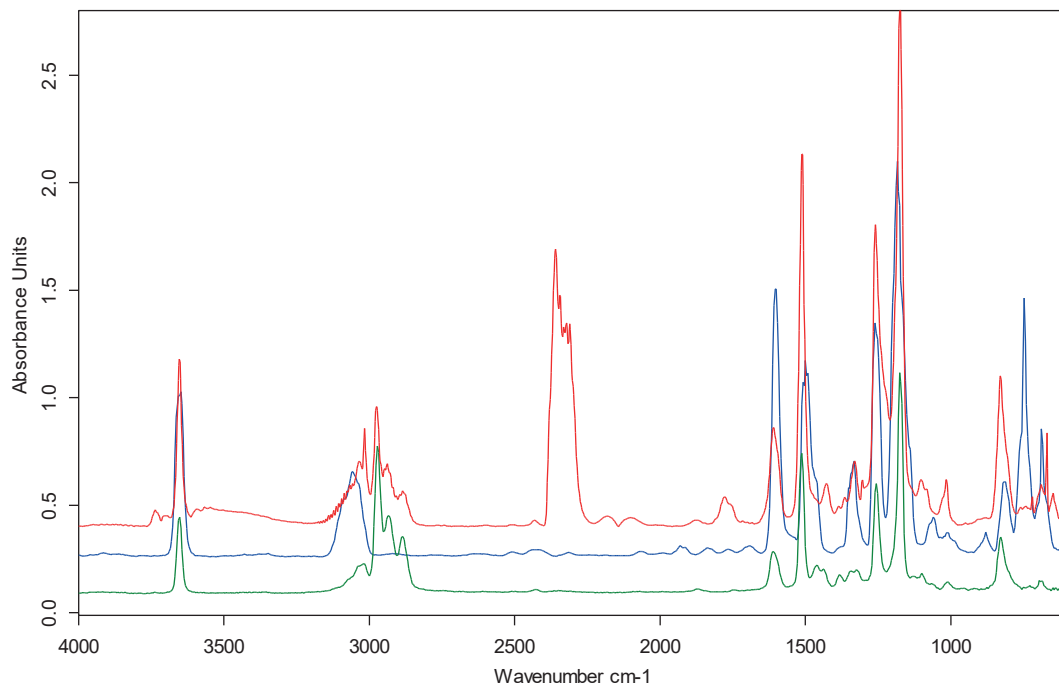
Temperature range:	RT ... 700°C
Heating/cooling rates:	20 K/min
Atmosphere:	Nitrogen at 40 ml/min
Sample mass:	7.3 mg
Crucible:	Alumina
Sensor:	Platinel

Test Results

During the pyrolysis of PC, the polymer chain decomposes and the fragments of bisphenol can be detected, indicated, for example, by phenol and buthyl-phenol IR spectra (library search).

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C:\OPUS\search\Hit1424.0	PHENOL, P-SEC-BUTYL-		
C:\OPUS\search\Hit1212.0	PHENOL		