

APPLICATION SHEET

Polymers – Automotive

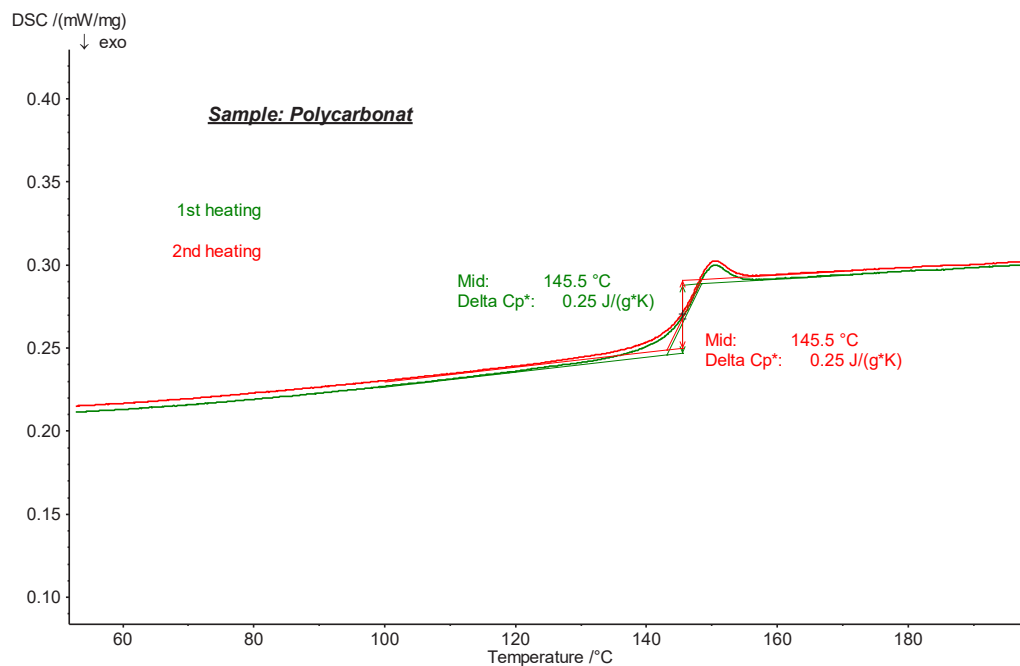
DSC 3500 *Sirius*

Polycarbonate

Introduction

Polycarbonates are a particular group of thermoplastics. They are easily worked, molded, and thermoformed; as such, these plastics are very widely used in modern manufacturing. The most common type of polycarbonate plastic

is one made of Bisphenol A, in which groups of Bisphenol A are linked together by carbonate groups in a polymer chain. This polymer is highly transparent to visible light and has better light transmission characteristics than many kinds of inorganic glasses.



Test Conditions

Temperature range: 25 ... 200 ... 25 ... 200°C
Heating/cooling rate: 10 K/min
Atmosphere: Nitrogen at 20 ml/min
Sample mass: 9.86 mg
Crucible: Al, pierce lid

Test Results

In both heatings, an endothermic step at 145.5°C (mid-point) with a change in specific heat of 0.25 J/(g·K) was detected. It is due to the glass transition of polycarbonate. The increase in the measured specific heat flow rate outside the transition range is due to the increase in specific heat of the material versus temperature.