

APPLICATION SHEET

Thermoplastics – DSC 214 *Polyma*

Influence of the Heating Rate on the Glass Transition of EPDM

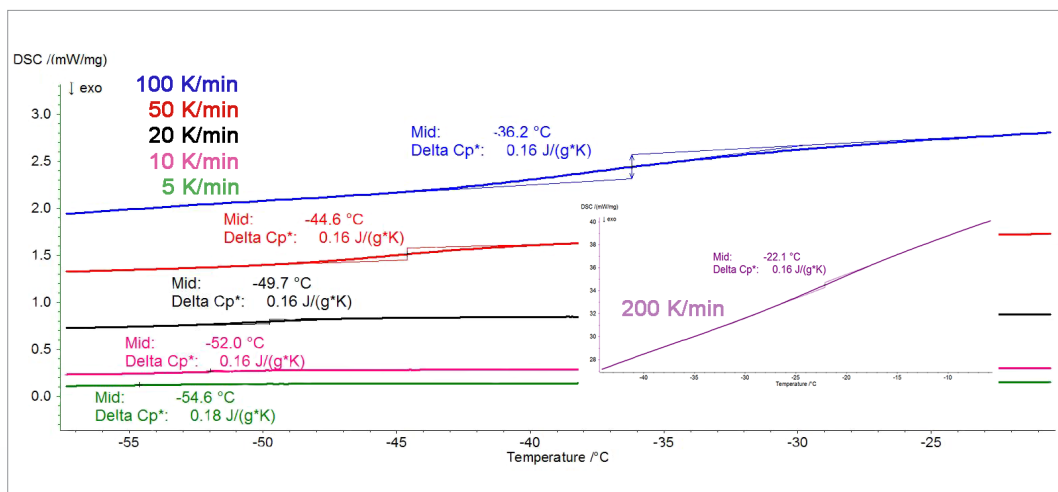
Claire Strasser and Jie Xiao

Test Conditions

A 5.38-mg EPDM sample was measured with the DSC 214 *Polyma* between 5 K/min and 200 K/min. Between the heating segments, the rubber was cooled at a controlled rate of 20 K/min.

Test Results

The DSC curves for all 6 heating segments are displayed in figure 1. The endothermic step detected in each of the measurements is due to the glass transition of EPDM. An increase in the heating rate has two consequences for the glass transition: it becomes more pronounced, and shifts to higher temperatures: from -55°C for the measurement at 5 K/min to -22°C for the measurement at 200 K/min.



1 DSC curves for EPDM with different heating rates between 5 and 200 K/min