Temperature Effects and Joule Heating in Capillary Electrophoresis.

When the temperature of your CZE method changes, the following can be expected. Changing anyone of these parameters in CZE can reduce your coefficient of variation therefore it is important to control your temperature accurately.

pH: High temperatures resulting from Joule heating can shift the pH.
Viscosity: Higher temperatures can decrease your viscosity.
Conductivity: With higher temperatures in your capillary, the buffer conductivity will increase.
Migration Time: Increases in temperature can bring reductions in migration time.
Resolution: High temperatures usually reduce selectivity but if the heat is dissipated, column efficiency will be improved.
Electrophoretic Mobility: An increase in temperature can bring an increase in your analytes electrophoretic mobility.