

# APPLICATION SHEET

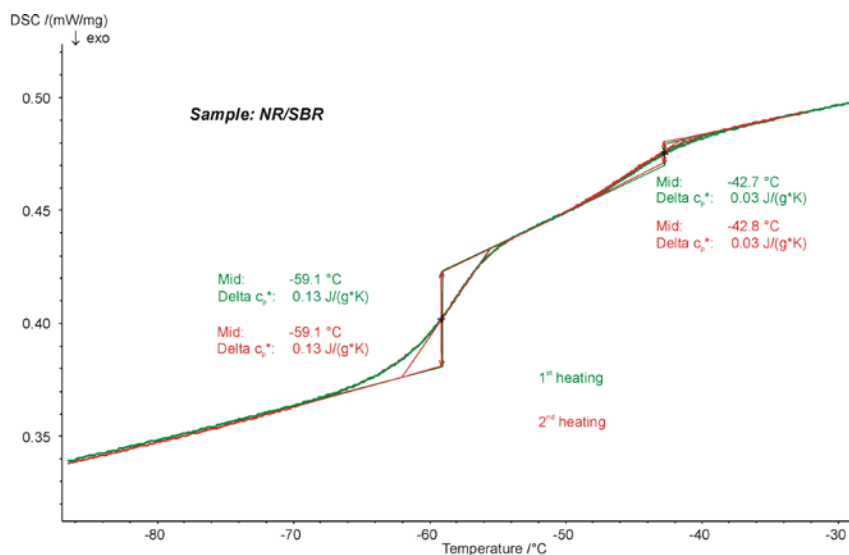
Polymers  
DSC 3500 *Sirius*

## Natural Rubber / Styrene Butadiene Rubber

### Introduction

Elastomers like natural rubber / styrene butadiene (NR/SBR) are materials with the mechanical property that can undergo elastic deformation under stress than most

materials and still return to its previous size without permanent deformation. Natural rubber (NR) is a polymer of isoprene units; styrene butadiene rubber (SBR) a copolymer of polystyrene and polybutadiene.



### Test Conditions

Temperature range: -120°C ... 50°C ... -120°C ... 50°C  
Heating rate: 20 K/min  
Atmosphere: Nitrogen (20 ml/min)  
Sample mass: 16.13 mg  
Crucible: Al, pierced lid

### Test Results

Two glass transitions were detected in both heatings. The first one at -59.1°C with a change in specific heat of 0.13 J/(g·K) can be attributed to NR. The second one at -42.7°C is most probably related to the glass transition of SBR.