

## Stress Relaxation & Thermal Recovery Sequence

This is a relatively short duration physical testing sequence designed to provide insight into the early effects of elevated temperature on compressed elastomers. The effects of time and temperature on the reaction force can be measured by compressing an elastomeric material specimen (or actual elastomeric part) and holding it at a constant strain. In particular, the reaction force at sub-ambient temperatures after first being subjected to an elevated temperature can be indicative of the material degradation that occurs in the elastomer while at the elevated temperature.

### TEST SEQUENCE

At laboratory temperature (23 C), the specimen is slowly compressed to a strain relevant to the intended application (a typical strain might be between 10% and 20% compressive strain). This strain is maintained throughout the remainder of the sequence. The reaction force is continually measured throughout the remainder of the sequence:

- The specimen is allowed to relax for 1 hour at laboratory temperature
- The specimen is heated to a pre-determined elevated temperature and the temperature is maintained for 4 hours
- The specimen is cooled to laboratory temperature for 1 hour
- The specimen is cooled to a selected sub-ambient temperature and held until the reaction force stabilizes
- Pricing is based on a sequence that is completed within 24 hours; custom extended experiments require custom pricing.

### Single Day Stress Relaxation & Thermal Recovery Sequence \_\_\_\_\_ \$400 Each

March 2009. Pricing subject to change.

#### Notes:

- a) These are typical stress relaxation & Thermal Recovery creep experiments. Feel free to request a proposal for other interests or specifications.
- b) Data is delivered via e-mail in an ASCII format.
- c) Customer data and materials will be retained for 1 year after initial data delivery.

Purchase Order, VISA, MasterCard, AMEX, and Discover Card are acceptable methods of payment.  
Terms: NET 30 Days after Delivery of Data