

**Date:** February 26, 2009

**Subject:** Clarification of Section 6, Table 3 "Thermal cycle testing conditions", *NIJ Standard-0101.06 Ballistic Resistance of Body Armor*

Each two hour (120 minutes) period specified in Table 3 is intended to include the time required to transition to the new temperature as specified below:

- The thermal cycle test shall last a total of 24 hours  $\pm$  20 minutes.
- The tolerance on each two hour (120 minutes) interval is  $\pm$  5 minutes.
- The environmental chamber shall transition to the new temperature in ten minutes plus or minus five minutes (10 minutes  $\pm$  5 minutes).
- The duration of each step starts at the time from when the ramp (transition) to that temperature begins and ends either at the time that the ramp to the next temperature begins or at the time that the test is completed.
- If one step is longer than 2 hours (120 minutes), another step may need to be shortened so that the total test duration requirements are met. If one step is shorter than 2 hours (120 minutes), then another step may need to be lengthened so that the total test duration requirements are met.
- In order to effectively track this transition period, measurements of chamber temperature and relative humidity shall be performed at intervals of one minute or less for the 24 hour thermal cycle.
- Temperature shall be measured and recorded to 0.1 °C or better.
- Relative humidity shall be measured and recorded to 1 % or better.
- Digital measurement of temperature and relative humidity is preferred as analog measurement and recording may not meet the requirements discussed above. Analog chart recordings of temperature and humidity may not provide sufficient resolution to determine conformance with these specifications.