



Fermilab
ES&H Section

INDUSTRIAL HYGIENE INSTRUMENT PROCEDURES

Reuter/Stokes Heat Stress Monitor

10/92

PURPOSE

DISCUSSION

The Reuter/Stokes RSS-213 Heat Stress Monitor (a.k.a. mini Wibget) is a portable wet bulb globe temperature (WBGT) meter. The mini Wibget provides a WBGT output derived from the formula: $0.7 \text{ Wet Bulb Temperature (WB)} + 0.2 \text{ Globe Temperature (GT)} + 0.1 \text{ Dry Bulb Temperature (DB)}$. Its operating temperature range is from 40 -131 degrees Fahrenheit. Accuracy is +/- 0.6 degrees Fahrenheit (0.3 degrees Celsius).

EQUIPMENT

- Mini-Wibget
- IH Sampling Notes Form
- Distilled Water
- ACGIH TLV Book (latest version)
- IH Sampling Notes Form

PROCEDURE

NOTE: The batteries must be recharged prior to use if the unit has not been used for 3 months. There should be a sticker on the unit which indicates when it was last used.

1. In areas where a heat stress evaluation will be made, establish the work load categories for each job in the area. Use the ACGIH TLV booklet (Section IIa) as a guide. Record the work load categories on the IH Sampling Notes form.
2. Wet the wick with distilled water and fill the reservoir.
3. Mount the meter 3-4 feet above the ground. Isolate it from large objects.

4. The mini Wibget requires 3 minutes exposure to a change in environment prior to taking readings.
5. Push in the ON/OFF button. Allow 2 seconds for the unit to stabilize. If "LO BAT" is displayed, the batteries must be recharged. Record that if the batteries were operable on the IH Sampling Notes form.
6. Read the WBGT on the display and record the information. Compare results to the TLV based on the work load category.
7. When finished, turn the unit off and place a sticker on the unit which indicates the date the unit was used.
8. For more information, consult ES&H Chapter 5064.