

HEAT STRESS MONITOR

The Calor Heat Stress Monitor is a portable environmental monitoring instrument, designed to provide accurate information relating to the environmental parameters of its location, and health and safety information relating to work load. It produces two sets of results based on two internationally recognised algorithms:

The Heat Strain Model algorithm is based on the Wet Bulb Globe Temperature (WBGT) and the Air Cooling Power (ACP) which is recommended by the industry standard ISO 7243 for assessing the level of heat stress within a given environment.

The Thermal Work Limit algorithm developed by Dr G. Bates produces a rating of the measured environment.

Applications

The small and convenient Heat Stress Monitor has applications in military combat and training exercises, mining, foundries, agriculture, offshore oil and gas operations, endurance sports, and many industrial work situations particularly in harsh, hot, tropical and arid environments. It is an essential tool for Occupation Health and Safety officers to evaluate work locations to verify that environmental conditions including temperature, humidity, air flow, work clothing and personal hydration practices are appropriate and effective for the prevention of heat stress.

The Heat Stress Monitor is used by engineers and architects to measure airflow and other environmental parameters in industrial and commercial buildings where the thermal stress balance is the priority. In addition, health inspectors can assess food outlets for compliance with local health regulations.

The Dangers of Heat Stress

Heat Stress reduces productivity and can lead to accidents, illness, and even death.

Prolonged exposure to high temperatures alone can lead to excessive fluid loss, shock, and heat stroke. High humidity compounds the effects of temperature by reducing the cooling effects of sweating. Extended and strenuous exercise, or labour that increases the heat produced by muscles, also contributes to the risk of illness in the form of cramps, exhaustion, and possibly heat stroke. Internal body temperatures is normally 37°C and is considered hazardous between 39-41°C. Death is likely to occur at 42°C and above.

