



HEAT STRESS MANAGEMENT SERVICES FOR HEALTHIER AND SAFER MINING

WORK WITH US

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The CSIR, in collaboration with the Mine Rescue Services South Africa and Sibanye-Stillwater Ltd, has undertaken a body cooling garment study to address heat stress as it is an occupational health and safety challenge in the mining sector. The project was conducted to assess the effectiveness of a preselected body cooling garment in extending users' tolerance times beyond the current upper limit of 30 minutes at an emergency heat stress index of above 38 °C.

BODY COOLING GARMENT CAPABILITIES

This innovation is specifically designed to mitigate the incidence of heat disorders such as heat stroke for South African mine employees working in abnormally hot environments. In the context of South African underground mines, an abnormally hot environment refers to any environment with a dry bulb temperature of 37.0 °C or higher, a globe temperature of 37.0 °C or higher, a wet bulb temperature of 32.5 °C or higher, or a wet bulb globe temperature index of 34 °C or higher. Where these limits are exceeded, no routine work should be undertaken.

Only emergency work, essentially directed at re-establishing an acceptable thermal environment, should be undertaken. In emergencies, mine rescue teams are required to work in abnormally hot environments for extended periods of time; therefore, protection is required against the thermal conditions encountered. Body cooling garments are a form of personal protective equipment that can assist in maintaining cooler and safer temperatures for the user.

CSIR'S OFFERING TO THE MINING SECTOR

The CSIR's Future Production: Mining cluster offers expertise and services to the South African mining industry for heat stress management and assessment. Additionally, the CSIR provides heat tolerance screening training, assessment and auditing services to the South African mining industry. This ensures compliance with the guidelines for the compilation of a mandatory code of practice for an occupational health programme on thermal stress issued by the Department of Mineral Resources.

The Body Cooling Garment is applicable for use in various industries such as sports, manufacturing, construction and any industry where individuals are exposed to environments that are conducive to heat stress.

CALL TO INDUSTRY

The mining industry is invited to explore the CSIR's capabilities in heat stress management, training, assessment and auditing, which aim to enhance the occupational health and safety of all mine workers in support of Zero Harm.

