HEAT STRESS

When workers are exposed to hot environments, this can be both unproductive and unhealthy. When working in mines, temperatures can become quite hot. Exposure to hot and humid environments puts workers at risk of heat exhaustion and heat stroke. It is important to monitor these conditions to ensure workers remain safe. The chart below shows the Humidex rating based on temperature and relative humidity.

| | | Η | um | ide | ex f | rom | Te | mp | eral | ture | e ar | ıd R | ela | tiv | e H | un | idi | ty F | łea | din | gs | | | |
|---|---|--|--|-----|----------------------------------|--|--|--|--|--|--|--|--|--|--|----------------------------|--|--|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------|
| Relative Humidity (%) | 100 95 85 85 75 65 55 55 | 29 28 28 27 26 25 24 24 24 23 22 | 31 30 29 28 27 27 26 25 24 24 | | 35 34 33 32 32 31 | 37 36 35 34 33 32 31 30 29 28 | 39 38 37 36 35 34 33 32 32 31 30 | 41 40 39 38 37 36 35 34 33 32 31 | 43 42 41 40 39 38 37 36 35 34 33 | 45 44 43 42 41 40 39 38 37 36 34 | 48 47 45 44 43 42 41 40 38 37 36 | 50 49 48 46 45 44 43 42 40 39 38 | 53 51 50 49 47 46 45 43 42 41 40 | 55 54 52 51 50 48 47 45 44 43 41 | 58 55 53 52 50 49 47 46 45 43 | 59 57 56 54 53 | 60 58 57 55 53 52 50 48 47 | 59 57 56 54 52 50 49 | 58 56 54 52 51 | 57 55 53 | 57 55 | 57 | | |
| Re | 45 40 35 30 25 20 | 22 | 23 | | 26 25 24 | 27 26 26 | 28 28 27 | 30 29 28 27 | 32 31 30 28 | 33 32 31 30 | 35 34 33 31 30 | 37 35 34 33 32 | 38 37 36 34 33 | 40 39 37 36 34 | 42 40 39 37 36 | 43 42 40 39 37 | 45 44 42 40 39 | 47 45 43 42 40 | 49 47 45 43 42 40 | 51 49 47 45 43 41 | 53 51 49 47 45 43 | 55 53 50 48 46 46 | 57 54 52 50 48 45 | 56 54 52 49 47 |
| 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 Temperature (C) | | | | | | | | | | | | | | | | | | | | | | | | |
| | LEGEND HUMIDEX RANGE Less than 29 30 - 39 40 - 45 Above 45 Above 54 Source: Environment Canada: website <htp: td="" www.wu<=""><td colspan="13">DEGREE OF COMFORT No discomfort Some discomfort; avoid exertion Great discomfort; avoid exertion Dangerous Heat Stroke imminent</td></htp:> | | | | | | | | | DEGREE OF COMFORT No discomfort Some discomfort; avoid exertion Great discomfort; avoid exertion Dangerous Heat Stroke imminent | | | | | | | | | | | | | | |



The human body can function properly in a very limited range of core body temperature. Enzyme activity is reduced at high temperature, and at low temperatures there is not enough energy available to continue metabolic processes. The range of tolerable core temperature is between 35°C and 41°C. When the core is heated beyond this temperature, there is a very high risk of heat stroke and death. Therefore, it is critical to monitor the temperature of your working environment and alert workers of unsafe conditions.



WBGT SENSOR

The Globe Temperature Sensor helps mitigate the risks of heat stress by monitoring wet bulb globe temperature. Monitoring can be set for the Heat index or Humidex values and can alert when conditions change.