

Screening for Heat Stress – Checklist *

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|--|--------------------|
| Job | Analyst |
| | Date |
| Description of Climate, Work Demands, Clothing | Special Conditions |

Complete the following checklist for each potential heat stress situation.

| Job Factor | Yes | No |
|---|------------|-----------|
| Obvious sweating | | |
| Environment perceived to be warm | | |
| Work requires a break at least every 2 hours | | |
| Wearing regular work clothes would be more comfortable | | |
| Reports of fatigue, weakness, loss of coordination, dizziness, headaches, nausea, heat exhaustion, cramps | | |
| Absenteeism, employee irritability or worsening employee relations can be associated with these work conditions | | |
| Increases in accidents and injuries and/or decreases in production and quality indices can be associated with these work conditions | | |

A “Yes” to the presence of any of these job factors would indicate that a further investigation and controls are appropriate.

* This checklist is a prototype based on the professional judgment of the author.

Screening for Thermal Stress -- Observational Analysis *

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|--|--------------------|
| Job | Analyst |
| | Date |
| Description of Climate, Work Demands, Clothing | Special Conditions |

Complete the following matrix by consensus of observers very familiar with the workplace and possible exposure situations. Table of scores and qualitative descriptors for each of the categories follows on the next page.

| Scores | -3 | -2 | -1 | 0 | +1 | +2 | +3 |
|-------------------|-------------------|----|----|---|----|----|----|
| | <i>Ideal Zone</i> | | | | | | |
| Air Temperature | | | | | | | |
| Humidity | | | | | | | |
| Thermal Radiation | | | | | | | |
| Air Movement | | | | | | | |
| Work Load | | | | | | | |
| Clothing | | | | | | | |
| Worker Opinion | | | | | | | |

Actions should be taken to bring scores outside of the ± 1 range into this range.

* This observational method is adapted from J. Malchaire, H. J. Gebhardt and A. Piette: Strategy for evaluation and prevention of risk due to work in thermal environments. *Annals of Occupational Hygiene* 43:367-376, 1999.

| Score | Qualitative Descriptors |
|--------------------------|---|
| Air Temperature | |
| -3 | Generally Freezing (Below 0 °C / 32 °F) |
| -2 | Generally between 0 and 10 °C (32 and 50 °F) |
| -1 | Generally between 10 and 18 °C (50 and 64 °F) |
| 0 | Generally between 18 and 25 °C (64 and 77 °F) |
| +1 | Generally between 25 and 32 °C (77 and 90 °F) |
| +2 | Generally between 32 and 40 °C (90 and 104 °F) |
| +3 | Generally greater than 40 °C (104 °F) |
| Humidity | |
| -1 | Dry Throat and/or Eyes after 2-3 hours |
| 0 | Normal |
| +1 | Moist Skin |
| +2 | Skin Completely Wet |
| Thermal Radiation | |
| -1 | Cold on the Face after 2-3 minutes |
| 0 | No Discernable Radiation |
| +1 | Warm on the Face after 2-3 minutes |
| +2 | Unbearable on the Face after more than 2 minutes |
| +3 | Immediate Burning Sensation |
| Air Movement | |
| -2 | Cold, Strong Air Movement |
| -1 | Cold, Light Air Movement |
| 0 | No Noticeable Air Movement |
| +1 | Warm, Light Air Movement |
| +2 | Warm, Strong Air Movement |
| Work Load | |
| 0 | Office Work; Easy, Low Muscular contractions; Occasional Movement at Normal Speed |
| +1 | Moderate Work with Arms and Legs; Use of Heavy Machines; Steadily Walking |
| +2 | Intense Work with Arms and Truck; Handling of Heavy Objects; Shoveling; Walking Rapidly; Carrying Heavy Loads |
| +3 | Very Intense Work at High Speed; Climbing Stairs or Ladders |
| Clothing | |
| 0 | Light, Flexible, No Interference with Work |
| +1 | Long, Heavier, Slight Interference with Work |
| +2 | Clumsy, Heavy, Specially-Designed Barrier for Radiation, Water Vapor, Cold |
| +3 | Special Coveralls with Gloves, Hoods, Shoes |
| Worker Opinion | |
| -3 | Shivering, Strong Discomfort for the Whole Body |
| -2 | Strong Local Discomfort; Overall Sensation of Coolness |
| -1 | Slight, Local Cool Discomfort |
| 0 | No Thermal Discomfort |
| +1 | Slight Sweating and Discomfort; Thirst |
| +2 | Heavy Sweating; Strong Thirst; Modified Work Pace |
| +3 | Excessive Sweating; Very Tiring Work; Special Clothing |