



# COLD STRESS

Cold stress is a leading factor in injuries for employees working in cold environments such as outdoor construction activities. The factors that contribute to cold stress include:

- Cold air temperatures
- High velocity air movement
- Dampness of the air
- Contact with cold water or cold surfaces

When a person's internal temperature drops, the onset of Hypothermia symptoms may cause workers to lose coordination, have slurred speech, and fumble with items in the hand. If the body temperature continues to fall these symptoms will worsen and shivering will stop. Workers may be unable to walk or stand. Once the body temperature falls to around 85° F severe hypothermia will develop, and the person may become unconscious, and at 78°, the person could die.

## Prevention:

- Wear appropriate clothing: wool, silk and most synthetics retain their insulation even when wet.
- Avoid alcohol, certain medications and smoking.
- Wear at least three layers of clothing.
- Wear a hat or hood: up to 40% of body heat can be lost when the head is left exposed.
- Wear insulated boots or other footwear.
- Keep a change of dry clothing available in case work clothes become wet. Do not underestimate the wetting effects of perspiration: wicking and venting of the body's sweat and heat are more important than protecting from rain or snow.
- Drink plenty of liquids, avoiding caffeine and alcohol.
- Take breaks out of the cold.
- Try to work in pairs to keep an eye on each other and watch for signs of cold stress.
- Take frequent breaks and consume warm, high calorie food such as pasta to maintain energy reserves.

## Treatment:

- For cases of mild hypothermia move to warm area and stay active.
- Remove wet clothes and replace with dry clothes or blankets, cover the head.
- Drink a warm (not hot) sugary drink. Avoid drinks with caffeine.
- For more severe cases do all the above, plus contact emergency medical personnel (Call 911 for an ambulance), cover all extremities completely, place very warm objects, such as hot packs or water bottles on the victim's head, neck, chest and groin. Arms and legs should be warmed last.

- In cases of severe hypothermia treat the worker very gently and do not apply external heat to re-warm. Hospital treatment is required.
- If worker is in the water and unable to exit, secure collars, belts, hoods, etc. to maintain warmer water against the body. Move all extremities as close to the torso as possible to conserve body heat.

