

June 2010

What temperature constitutes HOT under NJPEOSH standards?

Thermal and burn hazards can be extremely dangerous. But the potential for injury may not be clear or visible from merely looking at a piece of equipment or product. If there is a potential for injury PEOSHA considers the exposed heated surfaces, to be a hazard and issue a citation if employees can come into contact the surface.

The necrosis (the death of cells in a tissue) of skin starts when the temperature of the epidermal cells reaches 80°F. This constitutes the pain threshold. The human response to pain is rapid as it attempts to distance the part of body experiencing pain from the source of the heat. However, in many instances, the heat transfer rate is fast enough to cause irreversible damage in the short duration of the contact. ASTM recommends the use of a design parameter that is centered on the surface temperature of any material not exceeding 120° F because this provides a contact exposure limit of eight minutes before 2nd degree burns are probable and 3rd degree burns can be expected in ten minutes. Insulation calculations should aim to keep the outside temperature of the insulation around 140 °F.



The hazard warning symbol, at left, indicates a potential personal injury hazard. The hazard warning symbol can be used alone or in conjunction with other symbols and written information. Fixed warnings indicate the presence of a hazard at all times whereas responsive warnings indicate the presence of a hazard when it is actually present.



The word "Hot" appears when a given temperature has been reached. These self-adhesive warning labels help protect against skin burns when affixed to potentially hazardous surfaces. When the bright yellow, self-adhesive temperature indicator reaches its calibrated temperature of about 122⁰ F, which is skin burn temperature, a bright red hand appears that reads "HOT." Also available is a bright red temperature indicator which at 157⁰ F displays a black legend.

When the temperature cools to normal, the written warning will disappear and change back to its original solid non-indicating position. Typically used on pipes, ovens, and other objects where an individual maybe unaware that hot contents is present.

Temperature change labels are available from:

Cole-Parmer

625 East Bunker Court, Vernon Hills, Illinois 60061

Phone: 1-800-323-4340, Fax: 1-847-247-2929, E-Mail: info@Coleparmer.com

This bulletin is intended for general information purposes only. It should not be construed as legal advice or legal opinion regarding any specific or factual situation. Always follow your organization's policies and procedures as presented by your manager or supervisor. For further information regarding this bulletin, please contact your Safety Director at 877.398.3046.