



University of Massachusetts
Amherst

Physical Plant Division

policy and procedures manual

PP.09.E.008

January 16, 2009

From: Sondra Slesinski, Physical Plant EH&S Safety Officer

Subject: High Visibility Clothing

Purpose: The worker visibility standard issued by the Federal Highway Administration, DOT: 23 CFR 634 states: "All workers within the right-of-way of a Federal-aid highway who are exposed either to traffic (vehicles using the highway for purposes of travel) or to construction equipment within the work area shall wear high-visibility safety apparel".

This policy specifies different classes of high visibility safety garments based on wearer's activities; it was developed in response to workers who are exposed to low visibility conditions in hazardous work zones, color & complexity of work environments, task load of the worker, separation of the worker from moving equipment & vehicles, and other environmental variables.

The regulation is supported by OSHA (1) general duty clause – employer must provide & maintain a workplace which is free from hazards or potential hazards, (2) 29CFR 1926.651(d): workers exposed to vehicular traffic ("...employees exposed to public vehicular traffic shall be provided with, and shall wear, warning vests or other suitable garments marked with or made of reflectorized or high-visibility material"). OSHA refers to the ANSI standard.

US DOT Federal Highway Administration publishes the MUTCD (Manual on Uniform Traffic Control Devices): all state-level DOT's are required to adhere to it. The manual specifies high visibility clothing for flaggers.

Physical Plant management issued our safety directive – we will wear hi-visibility clothing on and around roadways.

Definitions:

High visibility safety apparel - personal protective safety clothing that is intended to provide conspicuity during both daytime and nighttime usage, and meets the Performance Class 2 or 3 requirements of ANSI/ISEA 107-2004 publication, entitled "American National Standard for High-Visibility Safety Apparel and Headwear". A garment isn't considered ANSI compliant unless it has 360 degree visibility retro-reflective material encircling the torso of the garment.

ANSI - American National Standards Institute (involved with voluntary industry consensus standards)

ISEA - International Safety Equipment Association

Retro-reflective Material - a type of reflective material; retro-reflection occurs when light bounces from a surface that is engineered to return light in the direction of its source (i.e. a driver in a vehicle near the light source – headlights).

Diffuse reflection – light strikes a rough surface
Mirror reflection – light strikes a smooth surface

in both cases the light isn't reflected directly back, but instead at angles, or is scattered

An example is 3M Scotch-Lite.

Class of Garments – based on the amount of background material & retroreflective material, and type of worker activity.

CLASS 1 – Provides the minimum amount of necessary material to differentiate the wearer from the work environment. Intended for use in activities that permit the wearer's full and undivided attention to approaching traffic. There should be ample separation of the worker from traffic.

Generally worn by:

- parking lot attendants
- people retrieving shopping carts from parking lots
- workers exposed to warehouse equipment traffic
- roadside "right of way" or sidewalk maintenance workers

23CFR 634 does not allow Class 1 apparel

CLASS 2 – Provides superior visibility by the additional coverage of the torso, and is more conspicuous than Class 1; Intended for activities where greater visibility is necessary during inclement weather conditions or in work environments with risks that exceed those for Class 1. Garments in this class also cover workers who perform tasks that divert their attention from approaching traffic.

Generally worn by:

- Roadway construction workers
- Utility workers
- Survey crews
- Railway workers
- Forestry workers
- School-crossing guards
- Parking and/or toll gate personnel
- Emergency response personnel
- Airport baggage handlers/ground crew
- Law enforcement personnel
- Accident site investigators

Physical Plant must use at least Class 2 apparel, depending on activities & environment

CLASS 3 – Intended to offer greater visibility to the wearer in both complex backgrounds and through a full range of body motions. Class 3 visibility is achieved with the addition of background and retro-reflective material to the apparel's arms and/or legs. Provide the highest level of visibility, and are intended for workers who face serious hazards and often have high task loads that require attention away from their work.

Generally worn by:

- Roadway construction personnel and flaggers
- Utility workers
- Survey crews
- Emergency response personnel

A vest by itself is not Class 3

CLASS E – Applies to trousers or shorts that are used to create a high-visibility ensemble. When CLASS E bottoms are worn with a CLASS 2 or 3 upper-body garment, the overall classification is CLASS 3.

Garment Labels – all clothing meeting the ANSI/ISEA standard requires a label designating the class of the garment, as well as a pictogram, showing the performance class and retroreflective taping level of the garment. The label will state that the garment meets the ANSI/ISEA 107-2004 standard.

Color-enhanced – fluorescent (color-enhanced) garments do not contain any amount of retroreflective material, and therefore do not meet the ANSI/ISEA standard. They may, however, be used as an auxiliary garment worn in conjunction with a ANSI/ISEA high visibility garment.

Action: All Physical Plant workers within the right-of-way of a Federal-aid highway who are exposed either to traffic (vehicles using the highway for purposes of travel) or to construction equipment within the work area shall wear high-visibility safety apparel. Apparel shall meet the Performance Class 2 or 3 requirements of ANSI/ISEA 107-2004 publication, entitled “American National Standard for High-Visibility Safety Apparel and Headwear”.

A garment isn't considered ANSI compliant unless it has 360 degree visibility retro-reflective material encircling the torso of the garment. The amount of retro-reflective material must indicate/delineate the shape of a person.

Clothing (vest, jacket) must be closed/fastened in the front in order to be fully compliant; must also fit properly (obtain the right size for the right body).

Enclosures: (1)
(2)

Distribution:

Director

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All Managers

All Supervisors