BODY PROTECTION - **ANSI/ISEA STANDARDS**

Types: High Visibility Safety Apparel (HVSA) types are designated by the work environment in which the wearer is performing a task. Apparel includes, but is not limited to, clothing such as vests, jackets, pants, shirts, rain wear and coveralls.

Type O (Off-road): Type O HVSA provides daytime and nighttime visual conspicuity enhancement for workers in occupational environments which pose struck-by hazards from moving vehicles, equipment and machinery, but which will not include exposure to traffic on public access roadway rights-of-way or roadway temporary traffic control (TTC) zones.

Type R (Roadway): Type R HVSA provides daytime and nighttime visual conspicuity enhancement for workers in occupational environments which include exposure to traffic (Vehicles using the roadway for purposes of travel) from public access roadway rights-of-way, or roadway temporary traffic control (TTC) zones or from work vehicles and construction equipment within a roadway temporary traffic control (TTC) zone.

Performance Classes: Performance Classes present within each type of HVSA are specified in terms of the minimum area of high visibiity materials to be incorporated. Performance Classes provide a range of design options corresponding with the needs of the user in the expected risk environment.

Performance Class 1 (Type O): Provides the minimum amount of high visibility materials required to differentiate the wearer visually from non-complex work environments, in scenarios in which the struck-by-hazards will not be approaching at roadway speeds, and therefore operative detection and identification distances in the work environment can be shorter than in other situations without compromising safety.

Performance Class 2 (Type R): Provides for the use of additional amounts of high-visibility materials, which may allow design opportunities to define the human form more effectively. Performance Class 2 HVSA have the potential to provide longer detection and identification distances, and increased conspicuity performance compared to Performance Class 1 HVSA. **NOTE: Performance Class 2 HVSA is considered a minimum practice for HVSA in roadway rights-of-way and temporary traffic control (TTC) zones.**

Performance Class 3 (Type R): Offers the greater visibility to the wearer in both complex backgrounds and through a full range of body movements by mandatory placement of background, retroreflective and combines-performance materials on sleeves and pant legs (if present). Regardless of the area of materials used, a sleevelesss garment or vest alone shall not be considered Performance Class 3.

Supplemental Class E: Pants, bib overalls, shorts, and gaiters shall be designated Class E. Class E items shall not be worn alone for the purposes of meeting HVSA PPE requirements. When a Class E item is worn with Performance Class 2 of Class 3, the overall classification shall be Performance Class 3.

Minimum Areas of Visible Materials

Garment Type	Performance Class	Background Material	Retroreflective or combined Performance Materials	Minimum Width Retroreflective Material
Type O Off-road and Non-Roadway Use	Class 1	0.14 m^2 (217 in^2)	0.10 m^2 (155 in^2)	25 mm (1 in.)
Type R Roadway and Temporary Traffic Control Zones	Class 2	0.50 m^2 (775 in^2)	0.13 m^2 (201 in^2)	25 mm (1 in.) 35 mm (1.38 in.)
	Class 3	0.80 m^2 (1240 in^2)	0.20 m^2 (301 in^2)	25 mm (1 in.) 50 mm (2 in.)
Supplemental Items Pants, Overalls, Shorts, Rain Pants, Gaiters	Class E	0.30 m^2 (465 in^2)	0.07 m^2 (109 in^2)	25 mm (1 in.) 50 mm (2 in.)

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