

Safety Vests - Frequently Asked Questions

1. I see in publications a requirement to wear high visibility apparel meeting a specific standard titled ANSI/ISEA 107. What is “ANSI” and ISEA”?

“ANSI” stands for American Standards Institute and “ISEA” for International Safety Equipment Association. ANSI/ISEA 107-2004 is a voluntary industry standard that specifies requirements for high-visibility safety apparel.

2. Does ANSI or ISEA make and enforce laws?

No. ANSI is not a government agency. ANSI helps coordinate, accredits and publishes voluntary standards such as ISEA-107. ISEA brings together manufactures and other share holders to draft a voluntary standard through a consensus process. This process assures a method where all opinions and voices are heard, and then they publish these standards based on industry specific needs. The standard sets forth specific performance criteria for safety garments labeled as class I, Class II, class III for safety vests and other high visibility clothing. An agency such as Federal Highway, local department of transportation agencies, or OSHA may adopt the standards as regulation. Go to this link for more information:

<http://www.safetysafetyequipment.org/c/highvis.cfm>

3. Why do we have these new standards?

Every year there are numerous workers struck by vehicles in work zones. These include flaggers, ground crews, landscape and utility workers, and even incident response persons such as fire fighters. With the large number of vehicles on the road, increased distractions such as cell phones, and a large number of inexperienced drivers, workers need to be increasingly visible to oncoming motorists. Workers need to be not only more visible but also more quickly recognizable as a human torso. Before the 107 standard there was no nationally recognized standard in the design, performance, or function of high visibility clothing.

4. Where can I order current ANSI/ISEA documents for high –visibility apparel?

<http://www.safetysafetyequipment.org/c/highvis.cfm>

5. What is the difference between a class II and Class III garment?

Under the standard there are multiple possible garments including headwear, safety vests, and pants. Classes of high visibility garments have varying amounts of back ground (the cloth base fabric of the garment) and retro-reflective material. The higher class numbers have higher amounts of each. For example a class III safety vest must have at least 1240 square inches of background material and 310 square inches of retro-reflective material compared to a class II's requirements of 775 and 201. See item 7 below as well.

6. I was told if you work on a road that is 55 MPH you have to use a class III vest, is this true?

No, though there was a reference to posted speeds at the back of the original 1999 standard, it was to be used for a reference only. In the updated 2004 standard it was removed. A person selecting high-visibility garments should evaluate all the conditions of the work space. This includes things such as time of day, weather, traffic patterns, traffic volumes, road conditions, as well as speed. For example a person working in the proximity of large and noisy heavy equipment may have an increased risk since equipment operators may not see them, even though the work site might have very low traffic speeds?

7. I have heard a class III vest must have sleeves. Is this true?

Partly. Though not specifically stated in the original ISEA107-1999 standard, it was never the intent of the document to have a class III garment stand alone as a safety vest. A class III would be met by adding sleeves with retro-reflective tape. A class III ensemble can be met by a class II safety vest worn with class “E” pants. This was clarified in the ANSI-ISEA107-2004 document.

8. Does it matter which color of fabric I use?

This varies. There is some science, opinion, and trends on each.

Some studies indicate the florescent yellow green is more conspicuous during hours of low light, such as dusk and dawn. Yellow green is also known as a “pedestrian” color as indicated by school approach signs etc. This color is also a high contrast against traditional orange work zone devices such as traffic cones and construction signs. Conversely, orange may appear to show less dirt, and some reports indicate it fades a little less quickly. Orange is also traditionally known as “the” safety color in work zones. It has a high contrast to background foliage and trees where workers may be present. Local jurisdictions and corporate policies may require a particular color even though neither the Federal ruling nor ANSI/ISEA do not. Whichever color you choose, evaluate your workspaces and make a decision that best provides for the safety of the worker.



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9. understand November 2008 workers must be in ANSI certified garments. Is this true, and where can I find a copy of this ruling.

Yes, effective November 24, 2008. Posted as final rule to the Federal Register 23 CFR 634 (FHWA Docket No. 2005-23200): Workers who are working within the rights-of-way of Federal –aid highways must use high visibility safety apparel.

You can find this document here:

http://www.workzonesafety.org/files/documents/laws_regulations/federal/nov_24_06.pdf

10. Does the MUTCD (Manual of Uniform Traffic Control Devices) refer to the ANSI/ISEA 107 standard?

Yes, in at least 2 places in the 2003 edition. Section 6D for worker safety and also 6E for flagger safety. The worker safety section requires a minimum ANSI-ISEA107 garment, chosen by a safety professional or competent person who would evaluate risks and hazards and then pick a garment that would best serve the safety of the workers. On the flagger standard the minimum is a Class II garment with flaggers working at night to consider a class III. Remember this is a minimum standard and other states and jurisdictions may require something additional. See this document for details:

<http://mutcd.fhwa.dot.gov/htm/2009/part6/part6d.htm>

<http://mutcd.fhwa.dot.gov/htm/2009/part6/part6e.htm>

11. What is combined performance retro-reflective tape?

The background fabric must meet a specific level of florescent color. Also it must have a specific amount of surface area. For example a class II vest has to have 775 sq inches. If you cover up the fabric with silver or white tape, or colors that don't meet the same criteria as the fabric, you would have to deduct it from your totals, such as the 775 sq inches. Combined performance tape meets both the requirements for the retro-reflective tape as well as the background material, maximizing the amount of fluorescence visible on the garment and reducing the possibility of having too few square inches of fabric.

12. What is the difference between silver glass bead and vinyl or prismatic tape?

Silver glass bead tape generally costs less than the vinyl tapes. It is lighter weight, and appears to perform well in extreme temperature conditions. The vinyl prismatic tapes reflect light by thousands of little embedded prisms. This tape retains a greater percentage of its light returned to the viewer when it is wet. Some vinyl tapes may have a color that can be considered "combined performance", This not only adds to the daytime visibility of the worker, but reduces the likelihood of having to little background material since you have to deduct reflective tape that is not "combined performance" from fabric totals

13. What is the difference between level 1 and level 2 reflective tapes?

The level 2 tape is higher performing and must have at least 330 candle power measured at specific angles.

14. Can I cut off my label in the garment?

This is NOT recommended. Labeling is part of the standard and would indicate specific information such as who the manufacture is and care instructions. Be cautious choosing a safety vest and supplier. Unfortunately there are high visibility garments with labels that are deceptive making the garment appear to be "compliant" when it is not. For example a garment labeled as ANSI-107 class II "Design" or "style" may not be compliant. A reputable manufacture will always have available third party testing of the background fabric and the retro-reflective tape readily available to anyone who requests it. If you are unsure ask for the certificates.

15. Isn't ANSI/ISEA 207-2006 the newest standard and not 107-2004?

The 207-2006 specifically addresses high visibility vests for public safety workers. This standard should not be confused with ANSI/ISEA 107-2004. While a garment meeting the 107 standard may meet the total square inch requirements of the 207 standard, there are other considerations specifically added to the 207 standard, such as identification and ergonomics, that were designed with the specific needs of public safety personnel in mind. With the new November '08 requirement for incident responders to wear high visibility clothing (see item 9 above) there was an immediate need to recognize the limitations of the 107 standard when applied to public safety personnel. The 207 standard allows items such as breakaway features, shorter fronts, and tapered backs, to allow users better access to tool belts, weapons, or other gear, and identifying components such as colored tape and patches. (These design options are not a mandate, just options). For example, a police department may have blue checkered tape, fire red, and EMS green, helping identify them at a large incident scene. The 207 PSV standard does not replace the ANSI-ISEA 107-2004 standard, It is in addition to it.



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