VINATRONICS™ High Visibility Apparel
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www.Vinatronics.com

Made In The USA

VINATRONICS TECHNICAL BRIEF : ANSI / ISEA 107-2004, The MUTCD, and OSHA General Safety and Health Provisions Page 1 of 2

The MUTCD: In December 2003 the Federal Highway Administration published the most recent **Manual on Uniform Traffic Control Devices (The MUTCD)**. For the first time, the **MUTCD** specified the **ANSI-ISEA 107-1999 "or subsequent revisions"** as the standard for High Visibility Apparel in work zones that include traffic, and gave all states a 3-year period from December 2003 to December 2006 to "codify" the Standard into State Law.

Specifically, the **MUTCD section 6E and 6D** deals with High Visibility Safety Apparel use for Workers exposed to Roadway and Construction Hazards. Flaggers are to wear a minimum of a Class 2 garment at all times, and "should" wear Class 3 for night time and inclement conditions. The General Worker Safety Provisions covers **ALL WORKERS** exposed to traffic of any kind. This section references the ANSI standard by name as Best Practices, with a Competent Person assigned to determine the minimum ANSI Class 1, 2, or 3 garment that is most appropriate as part of the **Employers Hazard Assessment and Worker Safety Plan**. The **ANSI** standard is now used to provide guidance to employers to determine the Best Practices in High Visibility Apparel.

The OSHA General Duty Clause:. Under Section 5 of the **Occupational Safety and Health Act**, all companies are required to provide a safe and healthy work environment. The employer is responsible for identifying hazards and for implementing appropriate (Best Practices) remedies such as Personal Protective Equipment (including ANSI Class 1, 2, or 3 High Visibility Apparel). Like the MUTCD, **OSHA General Safety and Health Provisions** 29CFR requires employers to conduct a Hazard Assessment each year to identify and mitigate Hazards. Since 1999, the first year of the ANSI standard for High Visibility Apparel, OSHA inspectors have begun referencing the ANSI standard as Best Practices, and under OSHA regulation 1926.28, fines as high as $7000 per incident have been issued. Taken together, **The MUTCD** and the **OSHA General Duty Clause** both now use ANSI 107-2004 or ANSI Public Safety 207-2006 High Visibility Class 1, 2, and 3 as the standard.

The ANSI 107-2004 Standard:

In late 2010, the **American National Standard Institute** (**ANSI**) updated the High Visibility Safety Apparel standards for the 2nd time in 10 years. Based on recommendations presented by the **International Safety Equipment Standards Association** (**ISEA**), the new **ANSI** Standard maintained **minimum** background material and reflective tape, but strengthened design and test requirements for Class 1, 2, and 3 garments. Independent 3rd party fabric and reflective tests must now be conducted by USA accredited test labs to avoid misrepresentation as "ANSI". Apparel Manufacturers must then verify ANSI Class 1, 2, or 3 design requirements are met. As a "Made in the USA" Manufacturer, Vinatronics takes responsibility for insuring the test documents referenced above are met and on file, and design criteria are followed. **Test and design information are a phone call away by calling Vinatronics**. In short, if you cannot verify ANSI product was produced and tested in the USA, buyer beware. See the "Good Manufacturing Practices" Technical Brief.

New, tougher, design changes are part of the revised ANSI standard. Design changes now require 360 degree reflective on all apparel classes, including **ANSI Class 1.** Reflective must completely encircle the body to meet the clarified encirclement requirement. All Vinatronics Class 1 vests have been upgraded with designs for 360 degree of reflective.

ANSI Class 2 garments have the option of any combination of Yellow or Orange Fabrics; combined with yellow, orange, white, or silver reflective. Class 2 allows the greatest flexibility in design. As the **MUTCD** and **OSHA** General Duty clause suggests, most employers will use Class 2 as the "Best Practices" minimum, and select fabrics, reflective, and pocket configurations designed specifically for their work in Survey, Construction, Public Works, Electrical, **Department of Transportation** and other specific types of work. Accordingly, Vinatronics offers Class 2 vests in multiple color and pocket configurations to work in a variety of industries and job assignments from low cost temporary labor to Pro's Choice multi-pocket designs. Many designs were developed with industry professionals to meet specific needs, including adding Company Silk-Screen Logos front and back. If you must work in a vest, make the vest work for you.

ANSI Class 3 garments now require both background fabric and reflective on arms or legs to fully define the body. This new Class 3 defined body requirement is in support of the **MUTCD** definition of night time and inclement conditions. Anyone who has suddenly come upon a pedestrian at night knows the importance of increased response time. To meet the new defined body requirement, there are 2 options for customers to choose from as follows: **First, Class 2 vests may be combined with Class E (Ensemble) shorts or pants to obtain Class 3 Combination**. This option allows employers and their workers

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to choose Class 2 for their normal hazards, and add pants or shorts for Class 3 compliance in the night time or inclement weather conditions per the MUTCD. As a second option, where a Competent Person has identified a Class 3 garment is needed at all times, a stand alone Class 3 vest with short sleeve shirt design meets the new standard. For practical design, "Combined Performance" Orange or Yellow contrasting reflective is most used in short sleeve designs. Stand Alone Class 3 short & long T-Shirts, Sweatshirts, and Jackets meet Class 3 requirements with various combinations of fabrics and reflective. Vinatronics offers multiple Class 3 Stand Alone Shirt or Vest/Pant Ensembles for Flaggers and DOT workers exposed to interstate speeds in Day/Night conditions. Vinatronics then adds multiple pocket configurations to meet the working needs of Class 3 customers.

The NFPA & ASTM for Fire/Flame/Arc:

The Forward section of the ANSI 107-2010 acknowledges fluorescent dye may be incompatible with National Fire Protection Association (NFPA) and American Society for Testing and Materials (ASTM) Fire/Arc Resistant fabrics and reflective. Examples of workers that may need "FR" fabrics include Fire, Emergency, Utility, Metals and Petroleum industry. "FR" and "Arc" ratings will vary depending on the fabric and industry needs. Combined ANSI & FR "Best Practices" may include NFPA FR fabrics, ASTM FR fabrics, and 70E arc fabrics. FR reflective, Velcro, and dielectric snaps are then added. Vinatronics "FR" products are labeled as meeting NFPA, ASTM, 70E Arc and/or "ANSI" To assist in product selection, each product page identifies the specific FR rating of the products. For FR definitions and detailed information on the standards and fabrics used, see the separate "FR Technical Brief" in this catalogue.

ANSI, NFPA & ASTM Labeling

Why "Made in the USA" Matters: High Visibility Apparel must now have multiple Garment labels to protect workers from misrepresentation. Labels will include "ANSI" labels, "FR" labels, "Warning/Instructions for Use" labels, and "Country of Origin" labels. Each of these labels is required, and protects you, the user, from purchasing Non Compliant High Visibility Apparel. ANSI labels will include information on the Fabric, Reflective, Design, Class, Level, Size, Number of washings, and Washing/Care instructions. In addition, as a USA manufacturer, Vinatronics includes a telephone number to contact us directly for questions on compliance, design, or 3rd party test documentation.

An additional label is required if an ANSI garment is Fire Resistant. The ANSI label may state ANSI or ANSI Style based on FR coating compatibility. Specific "FR" labels will clearly identify the Garment as meeting Fire Resistant NFPA 701, the higher Fire Resistant ASTM standard; and/or NFPA 70E Arc. These ANSI and FR definitions appear at the top of every catalogue page. Vinatronics also includes "Technical Briefs" to provide clear information on ALL ANSI and FR standards, MUTCD and OSHA requirements, and compliance 3rd party test methods and protocols. Vinatronics Technical Briefs include ANSI 107, ANSI 207, FR Technical Briefs, specific Nomex Technical Briefs, "Personal Protective Equipment (PPE) Warning, Care and Limitations of Use", 'Made in the USA" Compliance, ANSI required "Compliance Certificate" and "Good Manufacturing Practices. These Technical Briefs appear in this catalogue; and help our customers understand High Visibility Apparel options and avoid compliance misrepresentation..

As a USA manufacturer, Vinatronics believes the "Country of Origin" (Made in the USA) tag is one of the best ways to insure purchasing a properly produced and labeled garment. A garment made with 3rd party tested materials and Good Manufacturing Practices will simply last longer than non-compliant import products. USA Manufacturers must meet OSHA work rules in production of ANSI Garments. The factory must be safe, well lit, well ventilated, and clear of hazards. Workers are paid by the hour a fair wage, with contributions by employers to life, health, and benefit plans. In turn, these workers contribute to our communities as consumers and taxpayers themselves. In addition, USA companies carry product liability insurance, based on demonstrating products being produced meet the appropriate ANSI, NFPA, and ASTM standards. Look for the Made in the USA label. It matters to us all.

Vinatronics creates ANSI High Visibility Apparel designed to meet or exceed the performance needed by working men and women. To help you select the appropriate products for your work environment, see the complete Vinatronics product listing on our website at www.vinatronics.com, or call us at **1-206-762-7410** for a free catalogue and a Distributor near you.