Key Terminology

• **Fluorescent material**
  - Materials that use special pigments to appear brighter than other colors and enhance daytime visibility, especially in low light such as cloud cover, dusk, dawn, etc.
  - ANSI/ISEA 107-2015 specifies minimum performance characteristics for fluorescent lime, orange and red background materials

• **Retroreflective tape**
  - Tape that reflects light in the direction of the light’s source, so that it appears bright to a driver or machine operator when illuminated by a source of light

• **Combined-performance materials**
  - Tape that is retro-reflective and also fluorescent

• **Photometric performance**
  - How well a material reflects light

High-visibility apparel improves worker visibility during the day, in low-light conditions, and at night. Construction, maintenance, utility, emergency responders, airport personnel and many other off-road workers are routinely exposed to potential injury from low visibility on the job. High-visibility apparel helps keep them safe.

High-visibility standards are set forth by the American National Standard for High Visibility Safety Apparel and Accessories (ANSI/ISEA 107-2015). They were established by the American National Standards Institute. The ANSI 107-2015 standard focuses on the following elements:

**Garment Design**

There are three designated color options for background material to be considered high visibility: fluorescent lime, fluorescent orange, and fluorescent red. The goal is for you to choose the option that provides the greatest degree of contrast between your body and your surroundings. When selecting the most conspicuous color, take into consideration your environment: Will you be working in an urban or rural environment? In heavy foliage or in a desert? Are the work zone devices lime or orange?

The ANSI 107-2015 standard breaks Hi-Viz apparel into three garment types – types O, R and P – and into three performance classes – classes 1, 2 & 3. Types and classes are not discrete, they are co-dependent. Apparel must be designated with both a type and a class.
**Garment Types**

**Type O Garments**: Intended for occupational workers who are not required by the Manual on Uniform Traffic Control Devices 2009 (MUTCD 2009) to wear high-visibility safety apparel, but who may still work in an environment with moving equipment/vehicles and accompanying struck-by hazards, and where visibility is a concern.

**Type R Garments**: Intended for occupational workers who are exposed to roadway traffic and who work in an environment with moving equipment/vehicles. Protective apparel with Type R designations fulfill the federal mandate for workers required to wear high-visibility apparel by the Manual on Uniform Traffic Control Devices 2009 (MUTCD 2009).

**Type P Garments**: Intended for fire, police and EMS personnel who have other potential hazards that require them to access equipment on their person. Type P garments differ from type R garments mainly in the requirements for background material.

**Performance Classes**

The three performance classes of high-visibility safety apparel help the user to choose the proper garments based on expected risks in the work environment. The classes identify the minimum amount of background and retroreflective material required, and specify the placement of the retroreflective material on the garment.
Photometric and Physical Performance Requirements for Retroreflective Materials

- Background and Combined-Performance material needs to be tested for chromaticity/color and luminance and/or brightness.
- If the garment is intended to provide protection during rainfall, background materials also need to be tested as water repellant, water resistant, or waterproof.

<table>
<thead>
<tr>
<th>PERFORMANCE CLASS</th>
<th>CLASS I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garment Type</td>
<td>0</td>
</tr>
<tr>
<td>Degree of Visibility</td>
<td>180°</td>
</tr>
<tr>
<td>Tape Requirements</td>
<td>1&quot; wide tape</td>
</tr>
<tr>
<td>Background Fabric Requirements</td>
<td>217 in² of hi-vis background</td>
</tr>
<tr>
<td>Sleeve Type</td>
<td>Short-Sleeve Shirt/ Sleeveless Vest</td>
</tr>
<tr>
<td>Application</td>
<td>Non-roadway (i.e. parking lot attendant)</td>
</tr>
</tbody>
</table>

* Type R, Class 2 garments can have the smallest size in the size range compliant to the standard with a minimum of 540 in² in background material to accommodate smaller workers. All larger sizes must have a minimum of 775 in². No reduction in retro reflectivity is allowed, and 201 in² is still the required minimum.

** Type R, Class 3 garments can have the smallest size in the size range compliant to the standard with a minimum of 1000 in² in the background material to accommodate smaller workers. All larger sizes must have a minimum of 1,240 in². No reduction in retro reflectivity is allowed and 310 in² is still the required minimum.
<table>
<thead>
<tr>
<th>CLASS II</th>
<th>CLASS III</th>
</tr>
</thead>
<tbody>
<tr>
<td>R, P</td>
<td>R, P</td>
</tr>
<tr>
<td>360°</td>
<td>360°</td>
</tr>
<tr>
<td>2” wide tape</td>
<td>2” wide tape</td>
</tr>
<tr>
<td>775 in² of hi-vis background</td>
<td>1,240 in² of hi-vis background</td>
</tr>
<tr>
<td>Short-Sleeve Shirt/ Sleeveless Vest</td>
<td>Long- or Short-Sleeve Shirt/ Short-Sleeve Vest</td>
</tr>
<tr>
<td>Roadway, Public Safety (i.e. construction worker, EMS)</td>
<td>Public Safety, Roadway, Highway, Industrial (i.e. Roadway machinery operator, Traffic cop)</td>
</tr>
</tbody>
</table>

**CATALOG ICONS**

- MESH
- MESH/SOLID
- SOLID
- POCKETS IN 2 OUT 3
- POCKETS 3
- SNAPS
- ZIPPER
- HOOK & LOOP

YOUR HI-VIZ, YOUR WAY - CUSTOMIZABLE
GENERAL USE VEST

46100 / 46101
Hi-Viz General Use Safety Vest

ONE SIZE FITS MOST
- Adjustable straps at waist
- Interior phone pocket on chest
- 1” reflective tape

46200 / 46201
Hi-Viz Breakaway Safety Vest

ONE SIZE FITS MOST
- 5-point breakaway
- Adjustable straps at waist
- 2 Interior oversized pockets
- Interior square pocket on chest
ANSI CLASS 2 VEST

46300 / 46301
Hi-Viz Economy Safety Vest

- Mic tab on left shoulder
- 2 Interior oversized pockets
- Exterior phone pocket with sealable flap
- Interior pen-slot pocket

46205 / 46206
Hi-Viz Economy Safety Vest

- Interior oversized pocket
- Exterior patch pocket on chest

46205NP / 46206NP
Version With No Pockets

46205Z / 46206Z
Version With Zipper
ANSI CLASS 2 VEST

46207 / 46208
Hi-Viz Ladies Fitted Safety Vest

- Drawstring on the interior waistband provides a custom fit
- 2 Exterior square pockets

SIZE: SM & LXL

46207 46208

ANSI CLASS 2 VEST

46209 / 46210
Hi-Viz Classic Safety Vest

- Mic tabs on both shoulders
- 2 Interior oversized pockets
- Exterior phone pocket with sealable flap

SIZE: M - 4XL

46209 46210
ANSI CLASS 2 VEST

46211 / 46212
Hi-Viz Color Blocking Surveyor’s Safety Vest

SIZE: M - 4XL
- Color-block black bottoms hide dirt and grime
- Mic tabs on both shoulders
- Double pockets on chest with two compartments for storage
- Exterior sealable phone pocket
- 2 Exterior oversized pockets
- Pen-slot pocket on chest

46211 46212

ANSI CLASS 2 VEST

46213 / 46214
Hi-Viz Two-Tone Breakaway Safety Vest

SIZE: M - 4XL
- 5-point breakaway
- Two-toned contrast tape, silver with colored border
- D-ring slot
- 2 Exterior patch pockets on chest
- Exterior square pocket

46213 46214
ANSI CLASS 2 VEST

46215 / 46216
Hi-Viz Two-Tone Surveyor’s Safety Vest

- Two-toned contrast tape
- D-ring slot
- Mic tabs on both shoulders
- Exterior phone pocket with sealable flap
- 2 Exterior oversized pockets
- Pen-slot pocket on chest

SIZE: M - 4XL

46215 46216

ANSI CLASS 2 VEST

46217 / 46218
Hi-Viz Self-Extinguishing Safety Vest

- Treated mesh fabric self extinguishes when exposed to flame
- 2 Interior oversized pockets
- Exterior sealable phone pocket
- ASTM D6413 tested

SIZE: M - 4XL

46217 46218
ANSI CLASS 3 VEST

**46310 / 46311**
Hi-Viz Economy Safety Vest

**SIZE: M - 4XL**
- 2 Interior oversized pockets
- Exterior chest pocket

**463000**
46310

**46301**
46311

ANSI CLASS 3 VEST

**46302 / 46303**
Hi-Viz Classic Safety Vest

**SIZE: M - 4XL**
- Mic tabs on both shoulders
- 2 Interior oversized pockets
- Exterior double chest pocket with pen-slot pocket

**46302**

**46303**
ANSI CLASS 3 VEST

**46306 / 46307**

Hi-Viz Two-Tone Surveyor’s Safety Vest

- Two-toned contrast tape
- D-ring slot
- Mic tabs on both shoulders
- Exterior phone pocket with sealable flap
- 2 Exterior oversized pockets
- Pen-slot pocket on chest

**SIZE: M - 4XL**

**46308 / 46309**

Hi-Viz Self-Extinguishing Safety Vest

- Treated mesh fabric
  - self-extinguishes when exposed to flame
- 2 Interior oversized pockets
- Exterior patch pocket on chest
- ASTM D6413 Tested

**SIZE: M - 4XL**
T-SHIRT

46400 / 46401
Hi-Viz Economy Short-Sleeved Safety Shirt

- Short sleeves keep you cool in the heat
- Wider neck opening for comfort and breathability
- Exterior chest pocket
- Performance wicking material

SIZE: M - 4XL

46400 46401

ANSI CLASS 2 T-SHIRT

46402 / 46403
Hi-Viz Standard Short-Sleeved Safety Shirt

- Short sleeves keep you cool in the heat
- Wider neck opening for comfort and breathability
- Exterior chest pocket
- Breaks in reflective tape at side seams allow for extra stretch
- Performance wicking material
- ANSI / ISEA 107-2015 Class 2

SIZE: M - 4XL

46402 46403
ANSI CLASS 2 T-SHIRT

46404 / 46405
Hi-Viz Color-Block Short-Sleeved Shirt
SIZE: M - 4XL
- Color block – black bottom hides dirt and grime
- Short sleeves keep you cool in the heat
- Wider neck opening for comfort and breathability
- Exterior chest pocket
- Breaks in reflective tape at side seams allow for extra stretch
- ANSI / ISEA 107-2015 Class 2

46406 / 46407
Hi-Viz Long-Sleeved Safety Shirt
SIZE: M - 4XL
- Long sleeves for greater visibility and warmth
- Wider neck opening for comfort and breathability
- Exterior chest pocket
- Performance wicking material
ANSI CLASS 3 T-SHIRT

46408 / 46409
Hi-Viz Standard Long-Sleeved Safety Shirt

- Long sleeves for greater visibility and warmth
- Wider neck opening for comfort and breathability
- Exterior chest pocket
- Breaks in reflective tape at side seams allow for extra stretch
- Performance wicking material
- ANSI / ISEA 107-2015 Class 3

46408 46409

ANSI CLASS 3 T-SHIRT

46410 / 46411
Hi-Viz Color-Block Long-Sleeved Shirt

- Color block – black bottom hides dirt and grime
- Long sleeves for greater visibility and warmth
- Wider neck opening for comfort and breathability
- Exterior chest pocket
- Breaks in reflective tape at side seams allow for extra stretch
- ANSI / ISEA 107-2015 Class 3

46410 46411
OUTERWEAR

46500 / 46501
Hi-Viz Color-Block Zip Hooded Sweatshirt

- Heavyweight fleece with brushed interior
- Oversized front pockets
- Color block – black bottom hides dirt and grime
- Toggle drawstring
- Rib knit cuffs fit snug to keep out dirt and retain warmth
- ANSI / ISEA 107-2015 Class 3

OUTERWEAR

46502 / 46503
Hi-Viz Color-Block Bomber Jacket

- Heavy duty oxford exterior
- Insulated Positherm® lining
- Mic tabs on both shoulders
- Oversized front pockets
- Interior zipper pocket with mesh
- Interior oversized chest pocket
- Exterior phone pocket with sealable flap
- ANSI / ISEA 107-2015 Class 3
YOUR HI-VIZ, YOUR WAY - CUSTOMIZABLE

Don’t settle for standard. Get your hi-viz apparel customized, with your logo where you want it, how you want it. Promote your company name or private label. Our in-house customization shop will customize your apparel to get you moving quickly. Viz up and stand out – your way.

* Dashed outlined boxes represent available space for customization
**HH62WHR & HH62YLR**
Vented cap style hard hat with Flex-Gear® ratchet suspension
- Vents in the ridged top enhance ventilation and air flow
- Flex-Gear® ratchet suspension adjusts for size while wearing the hard hat for the perfect fit

**HH71WHR & HH71YLR**
Full brim hard hat with Flex-Gear® ratchet suspension
- Full brim increases protection from sun and rain
- Flex-Gear® ratchet suspension adjusts for size while wearing the hard hat for the perfect fit

**HH61WHR & HH61YLR**
Cap style hard hat with Flex-Gear® ratchet suspension
- Lightweight and trim with a low center of gravity for exceptional balance
- Flex-Gear® ratchet suspension adjusts for size while wearing the hard hat for the perfect fit

**HHAHYRC & HHAHYRC**
Above View full brim style hard hat with pinlock suspension
- Patented see-through visor offers visibility to see hazards overhead
- Full-brim increases protection from sun and rain
- Pinlock suspension is removable to be self-sizing for the perfect fit
HH62WHP & HH62YLP
Vented cap style hard hat with pinlock suspension
- Vents in the ridged top enhance ventilation and airflow
- Pinlock suspension is removable to be self-sizing for the perfect fit

HH71WHP & HH71YLP
Full brim style hard hat with pinlock suspension
- Full brim increases protection from sun and rain
- Pinlock suspension is removable to be self-sizing for the perfect fit

HH61WHP & HH61YLP
Cap style hard hat with pinlock suspension
- Lightweight and trim with a low center of gravity for exceptional balance
- Pinlock suspension is removable to be self-sizing for the perfect fit

ALL HARD HATS FEATURE:
• Adjustable to hat sizes 6 1/2” – 8”
• Replaceable brow pad is pillowed for maximum comfort
• Attached slots for accessories such as earmuffs and face protection
• Logo printing capability in up to eight different locations

MADE IN THE USA

YOUR HI-VIZ, YOUR WAY - CUSTOMIZABLE
Since 1978, West Chester Protective Gear has provided you with leading solutions that improve your performance and safety on the job and at home. From gloves to rainwear to disposable clothing, West Chester equips you with a wide range of quality products to meet your protection needs.

• GEAR THAT WORKS •