

Safety Vests, High-Visibility, Flame-Resistant, Lightweight, with Zipper Closure



1. Scope

This standard covers the requirements for lightweight, flame-resistant, high-visibility safety vests with a zipper closure.

This standard applies to the following Seattle City Light (SCL) stock numbers:

Stock No.	Size
015033	SM
015034	MD
015035	LG
015036	XL
015037	2X
015038	3X
015039	4X
015040	5X

The requirements for lightweight, flame-resistant, high-visibility safety vests with a Velcro closure are covered in SCL 4015.15.

The requirements for *standard weight*, flame-resistant, high-visibility safety vests with a zipper closure are covered in SCL 4015.18.

Standard Coordinator
Laura Vanderpool

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2. Application

Safety vests are intended to enhance visibility of the user in hazardous situations under any light conditions by day and under illumination by vehicle headlights in the dark.

Safety vests are also designed and manufactured with flame-resistant textile. This means that, when the vest is layered over AR-compliant daily wear, it will, at a minimum, not contribute to the injuries of an electrical worker exposed to an arc flash.

Safety vests are intended to be layered over other flame-resistant personal protective equipment (PPE). Safety vests alone shall not be expected to offer protection against momentary electric arcs.

Standard-weight safety vests with a zipper closure, specified in SCL 4015.18, serve the same need as lightweight weight safety vests, except that they offer the wearer a more durable option in cooler weather.

3. Industry Standards

Safety vests shall meet the applicable requirements of the latest revision of the following industry standards:

ANSI/ISEA 107; American National Standard for High-Visibility Safety Apparel and Headwear

ASTM F1506-10a; Standard Performance Specification for Flame Resistant Textile Material for Wearing Apparel for Use by Electrical Workers Exposed to Momentary Electric Arc and Related Thermal Hazards

NFPA 70E; Standards for Electrical Safety in the Workplace, Annex D

OSHA 1910.269; Protection from Flame and Electrical Arcs, Appendix A

Zipper only:

NFPA 2112; Standard on Flame-Resistant Clothing for Protection of Industrial Personnel Against Short-Duration Thermal Exposures from Fire

4. Requirements

4.1 General

Safety vest minimum areas of visible material shall meet the requirements of ANSI/ISEA 107-2015, Table 1, as clarified below:

Performance class	2
Type	R
Arc performance category	CAT 1 (4 cal/cm ² –7.9 cal/cm ²)

4.2 Fabric

Safety vest fabric shall meet the following requirements:

Type	94% modacrylic, 5% aramid, 1% anti-stat
Color	Yellow
Weight, nominal	6 oz/yd ²

4.3 Binding

Binding shall meet the following requirements:

Material	48% lyocell, 40 % modacrylic, 12% aramid
Color	Bright Yellow
Weight, nominal	6.5 oz/yd ²

4.4 Retroreflective Tape

Retroreflective tape shall meet the following requirements:

Coverage	All vest sizes will have a minimum of 201 square inches of tape coverage as required by ANSI/SEA 107
Width	2 in
Fabric	3M 5545 Industrial wash Segmented FR trim

4.5 Zippers

Zippers shall be flame resistant and tested to NFPA 2112.

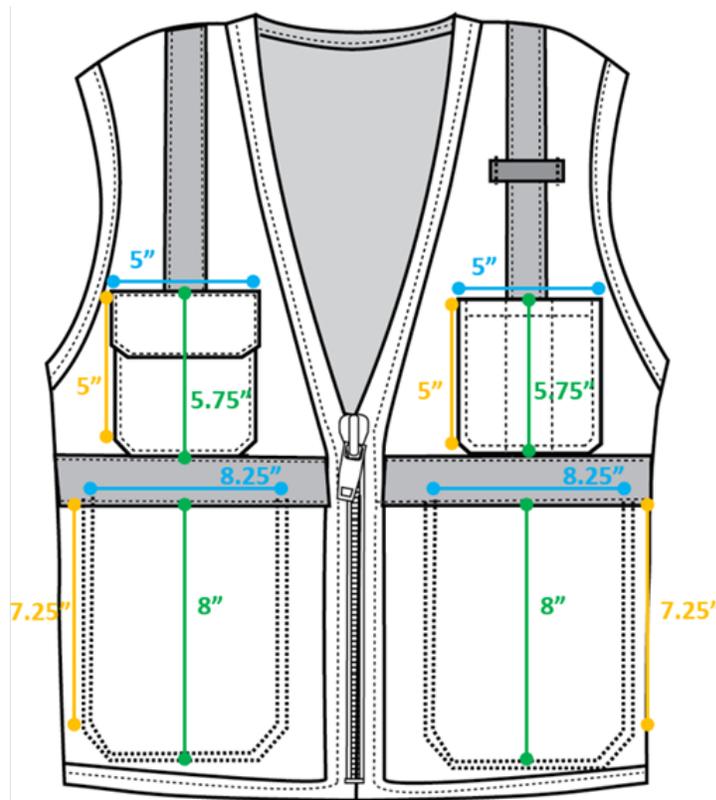
Zippers shall meet the following requirements:

Material	Black Nomex tape with dielectric slider
Width	5/8 in
Length	10 in

4.6 Pockets

Safety vest pockets shall have four pockets: a cell phone pocket with flap on the right chest, a single-layer pencil pocket on the left chest, and two inside waist pockets.

Figure 4.6. Safety Vest Pocket Dimensions



4.7 Laundering

Safety vest reflective performance shall be certified to 100 industrial wash cycles.

See Figure 5 for laundering instructions.

4.8 Logo

Safety vests shall be furnished with the Seattle City Light Chief Seattle logo as depicted in figures 4.8a and 4.8b. The logo shall be located over the left breast and shall be placed to allow separation of approximately 1/4-in from the binding tape on fabric front opening and from the retroreflective tape.

The logo shall be a heat-transfer application, using a two-color process as specified below and depicted in Fig. 4.8b.

- Black: Logo lettering and Chief Seattle profile portion of medallion
- White: Background of Chief Seattle medallion

Figure 4.8a. Chief Seattle Logo



Seattle City Light

Figure 4.8b. Chief Seattle Logo, Dimensions



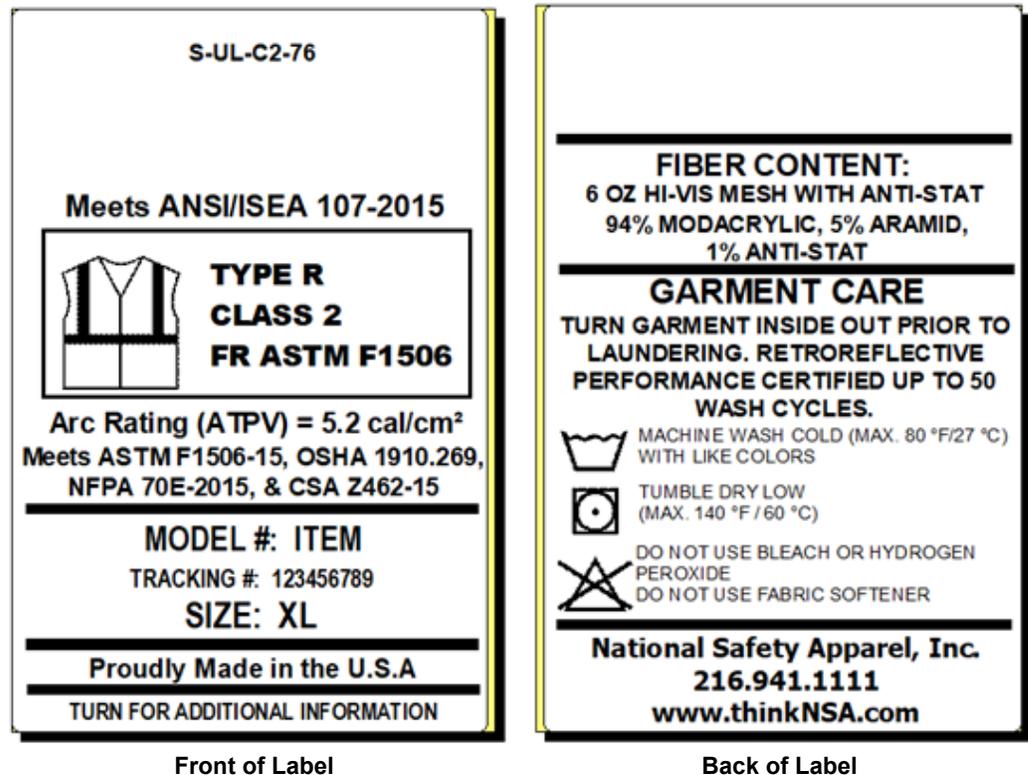
5. Marking

Safety vests shall be marked according to the requirements of ANSI/ISEA 107-2015, Sections 10 and 11, where this information includes, but is not limited to:

- Manufacturer name or symbol
- Product type, commercial name, or code
- Size
- ANSI/ISEA 107-2015
- Performance class
- Washing or cleaning instructions
- A label pictogram designating Z–FR or non-FR garment
- X type of garment
- Y class of garment

Labels shall be attached to the vest in accordance with ANSI/ISEA 107-2015. See Figure 5.

Figure 5. Label Example



6. Testing

The following third-party tests and certifications shall be conducted that establish compliance with the requirements of ANSI/ISEA 107-2015 for flame resistance:

- Third-party certification for base material
- Third-party certification for retroreflective tape

7. Packaging

Each standard package should be legibly marked with the following information:

- Manufacturer identification
- Product description
- Manufacturer catalog number
- Quantity

Each shipping container shall be marked with:

- Seattle City Light purchase order number
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8. Issuance

EA

9. Approved Manufacturers

Stock No.	Size	Chest Range (in)	Minimum Length (in)	National Safety Apparel Product No.
015033	SM	34–38	27.5	VNT99509M
015034	MD	38–42	27.5	VNT99509S
015035	LG	42–46	27.5	VNT99509L
015036	XL	46–50	27.5	VNT99509XL
015037	2X	50–54	28	VNT99509XXL
015038	3X	54–60	28.5	VNT99509XXXL
015039	4X	60–64	29	VNT99509XXXXL
015040	5X	64–68	29.5	VNT99509XXXXXL

10. References

SCL Material Standard 4015.15; “Safety Vests, High-Visibility, Flame-Resistant, Lightweight, with Velcro Closure”

SCL Material Standard 4015.18; “Safety Vests, High-Visibility, Flame-Resistant, Standard Weight, with Zipper Closure”

11. Sources

Code of Federal Regulations Title 23 (Highways) Part 634: “Use of High-Visibility Apparel When Working on Federal-Aid Highways;” US Federal Highway Administration, DOT; 2006

Vanderpool, Laura; SCL Standards Engineering Technical Writer, originator, and subject matter expert for 4015.21

WAC 296-800-160; Personal Protective Equipment (PPE), Core Rules; State of Washington Administrative Code; 2009

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