

Safety Vests, High-Visibility, Flame-Resistant, Standard Weight, with Zipper Closure



1. Scope

This standard covers the requirements for standard weight, 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
015013	SM
015014	MD
015015	LG
015016	XL
015017	2X
015018	3X
015019	4X
015020	5X

The requirements for *lightweight*, flame resistant, high-visibility safety vests with a zipper closure are covered in SCL 4015.21.

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.

Standard Coordinator
Laura Vanderpool

Handwritten signature of Laura Vanderpool in black ink.

Standards Engineering Supervisor
Brett Hanson

Handwritten signature of Brett Hanson in black ink.

Division Director
Bob Risch

Handwritten signature of Bob Risch in black ink.

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 have an arc thermal performance value (ATPV) rating of 6.5 cal/cm² and 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.

Lightweight safety vests, as specified in SCL 4015.21, are for use in warmer 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 F 1506-10a; 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

CSA Z96, Canadian Standards Association Standard for High-Visibility Safety Apparel

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

4.2 Fabric

Safety vest fabric shall meet the following requirements:

Type	Modacrylic blend
Color	Orange
Weight, nominal	6.8 oz
Energy Breakopen Threshold (EBT) (arc rating)	6.5 cal/cm ²

4.3 Binding

Binding shall meet the following requirements:

Material	Ultrasoft 88% cotton/12% nylon blend
Color	Bright Orange
Weight, nominal	7 oz/yd ²
Arc Thermal Performance Value (ATPV)	8.7 cal/cm ² (min)

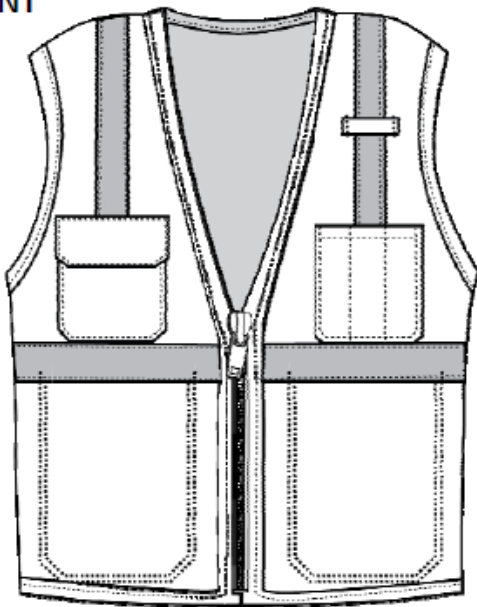
4.4 Retroreflective Tape

Retroreflective tape shall meet the following requirements:

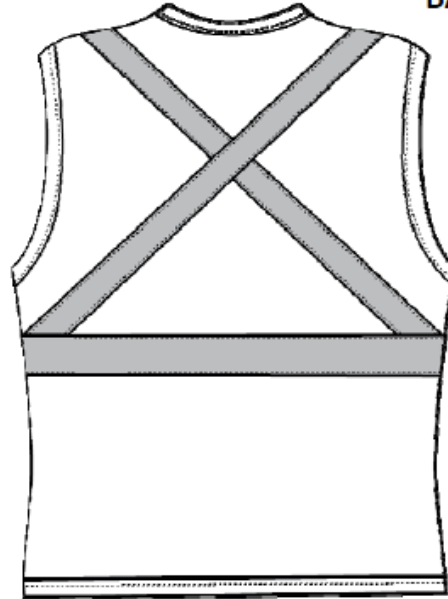
Coverage	All vest sizes will have a minimum of 201 square inches of tape coverage as required by ANSI/SEA 107
Width	2 in
Fabric	Silver Industrial Wash Flame Resistant Fabric, 100% FR-treated cotton, FR Reflective
Tape pattern	H pattern on vest front; X pattern on vest back (see Figure 4.4)
Weight, nominal	7 oz/yd ²
Arc Thermal Performance Value (ATPV)	8.7 cal/cm ² (min)

Figure 4.4. Reflective Tape Pattern

FRONT



BACK



4.5 Zippers

Zippers shall be flame resistant according to the requirements of NFPA 2112.

Zippers shall meet the following requirements:

Material	Black Nomex tape with dielectric slider
Width	5/8 in
Length	12 in

4.6 Pockets

Safety vest pockets shall have the following placement and dimensions:

Front right chest	5 in (W) x 5.75 in (H), with flap
Front left chest	5 in (W) x 5 in (H), with two dividers
Lower inside front	8.25 in (W) x 8 in (H)

4.7 Laundering

Safety vest reflective performance is certified to 50 washes.

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.

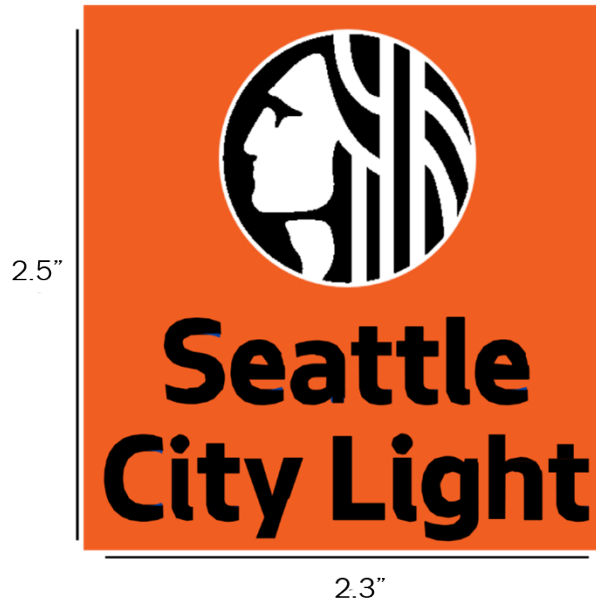
The logo shall be embroidered in black and white using FR thread, as specified below and depicted in Fig. 4.8b.

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

Figure 4.8a. Chief Seattle Logo



Figure 4.8b. Chief Seattle Logo, Dimensions



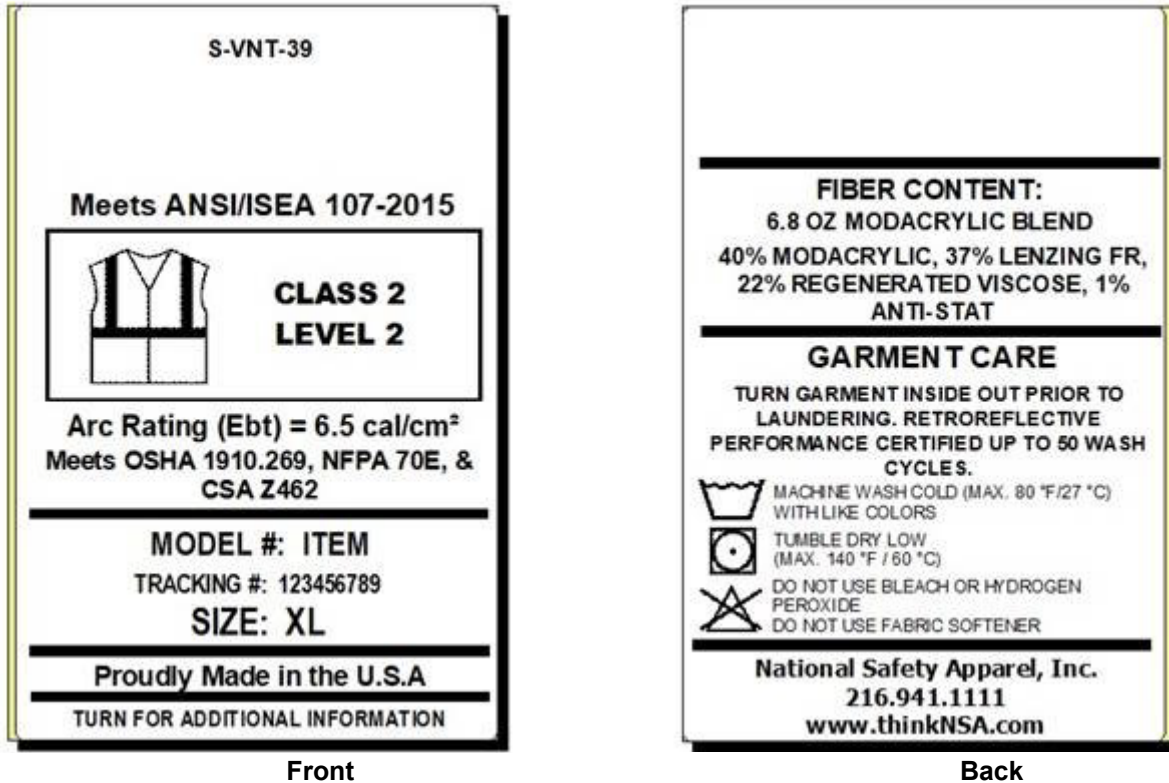
5. Marking

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's name or symbol
- Product type, commercial name, or code
- Size
- ANSI/ISEA 107-2015
- Performance class
- Washing or cleaning instructions
- 5A A label pictogram is required 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. Labels



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
- Third-party test for FR Declaration of Conformity.

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

8. Issuance

EA

9. Approved Manufacturers

Stock No.	Size	Chest Range (in)	Center Back Length (in)	National Safety Apparel Product No.
015013	SM	34–38	27.5	VNT99222XB-SM
015014	MD	38–42	27.5	VNT99222XB-MD
015015	LG	42–46	27.5	VNT99222XB-LG
015016	XL	46–50	27.5	VNT99222XB-XL
015017	2X	50–54	28	VNT99222XB-2X
015018	3X	54–60	28.5	VNT99222XB-3X
015019	4X	60–64	29	VNT99222XB-4X
015020	5X	64–68	29.5	VNT99222XB-5X

10. References

SCL Material Standard 4015.21; Safety Vests, High-Visibility, Flame-Resistant, Lightweight, With Zipper Closure”

11. Sources

Johnson, Rich; Line Operations Sr. Manager and subject matter expert for 4015.18

Kibler, Levi; SR Safety & Health Specialist and subject matter expert for 4015.18

SCL Material Standard 4015.10 (canceled); “High-Visibility, Flame-Resistant Safety Vests, Standard Weight”

Vanderpool, Laura; SCL Technical Writer, originator, and subject matter expert for 4015.18.

WAC 296-45-906, Personal Protective Equipment (PPE), Core Rules; State of Washington Administrative Code