

	material that intersects this band shall be permitted. This band may be divided by other materials but the gap with the band shall not exceed 50mm (2 in.).		
	Performance Class 2	Yes	
6.3.4.2	The band shall fully encircle the torso and shall be a minimum of 35 mm (1.38 in.) wide for Type R and 50mm (2 in.) for Type P. Additionally, a minimum of 150 cm2 (23.3 in2) shall be present in the shoulder area for HVSA where encircling bands are not present on sleeves. Identification of the shoulder area is specified in Section 6.3.6.	43mm (note: the band in the shoulder area is assessed in section 6.3.6)	Pass
	Material Use and Balance of Design	Background	
6.3.5	Garments shall be balanced in design so that not less than 40% of the minimum required amount of retroreflective or combined-performance and background materials specified in Table 1 is present on both the front and the back when laid flat. Additional retroreflective or combined- performance and background materials may be incorporated into garments as determined by the user.	Material Front 41 % Back 62 % Retroreflective or Combined- Performance Materials Front 48 % Back 53 %	Pass
	Shoulder Area		
6.3.6	HVSA without retroreflective or combined-performance material that encircles the arm shall have a minimum of 150 cm² (23.3 in²) of retroreflective material or combined-performance material in the shoulder area to provide 180° visibility of the wearer. See Figure 1. The shoulder area is most easily identified when the HVSA is folded flat with the front of the garment fully exposed and measuring 15 cm (5.9 in.) down from the shoulder high point, front and back.	NA	I

7	Criteria for Optional Features and Testing				
7.1	Pockets				
	Pockets of matching or contrasting compliant high-visibility materials shall not create gaps in retroreflective or combined-performance material of more than 50 mm (1.97 in.) horizontally.	0mm	Pass		
	Identification Panels, Lettering and Logos (Type R and P)				
7.2	Identification panels, lettering and logos shall not create gaps in retroreflective or combined-performance material of more than 50 mm (2 in.) horizontally.	NA	1		
	Identification panels, lettering and logos of contrasting non-compliant material shall not exceed a total of 465 cm² (72 in²) on the front and/or rear of the HVSA and such total amount may contribute to the minimum amount of visible background material specified in Table 1.	NA	1		
	Identification panels, lettering and logos of contrasting non-compliant material shall cover no more than 142 cm² (22 in²) of the minimum amount of visible retroreflective or combined-performance material specified in Table 1.	NA	1		





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Sample B Size: L

Clause 6.2.1 General

	Table Liv	Minimum Areas of Visible	Materials	
Garment Type	Performance Class	Background Material	Retroreflective or Combined- Performance Materials	Minimum Width Reflective Materia
Type O Off-road and Non- Roadway Use	Class 1	0.14 m ² (217 in ²)	0.10 m ² (155 in ²)	25 mm (1 in.)
Type R Roadway and	Class 2*	0.50 m ² (775 in ²)	0.13 m ² (201 in ²)	25 mm (1 in.) ## 35 mm (1.38 in.)
Temporary Traffic Control Zones	Class 3**	0.80 m ² (1240 in ²)	0.20 m ² (310 in ²)	25 mm (1 in.)## 50 mm (2 in.)
	subsequent larger siz	sterial may be used to ac es must use 0.50 m ² (77) e offered in Type R. Perfo	5 in²).	
	subsequent larger siz **For the smallest size (1000 in2) of backgro		5 in²). ormance Class 3, a mi d to accommodate sm	inimum of 0.65 m ²
Type P Emergency and	subsequent larger siz **For the smallest size (1000 in2) of backgro	es must use 0.50 m² (77) e offered in Type R, Perfo und material may be use	5 in²). ormance Class 3, a mi d to accommodate sm	inimum of 0.65 m²
	subsequent larger siz **For the smallest size (1000 in2) of backgro subsequent larger siz	es must use 0.50 m² (77) e offered in Type R, Perfund material may be use es must use 0.80 m² (12) 0.29 m²	5 in²). ormance Class 3, a mi d to accommodate sm 40 in²). 0.13 m²	inimum of 0.65 m² all-sized workers. All 25 mm (1 in.) ##

#When a Supplemental Class E item is worn with Performance Class 2 or 3, the overall classification for the ensemble shall be Performance Class 3.

For use with split-trim designs (See Section 6.3.1.2)

NOTE: Combined-performance materials can be counted toward the minimum area requirements for background material specified in Table 1.

Result	Result	Background Material	Retroreflective or Combined- Performance Materials	Minimum Width Reflective Material
	0.85m ²	0.203m ²	44mm	
Recommended classification	Type R Class 2			

Clause	Requirements	Results	Pass/Fail
6.2.3	Type R HVSA		
	Type R Class 2		
6.2.3.1	Type R Class 2 HVSA shall utilize at least one horizontal band of retroreflective or combined- performance material around the torso, and shall include at least the minimum amounts of retroreflective or combined-performance material in the shoulder area if encircling bands are not present on sleeves.	Yes	Pass



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6.3	Construction Requirements		
6.3.1	Retroreflective and Combined-Performance Materials		
	Minimum Widths		
6.3.1.1	The width of the retroreflective or combined-performance materials incorporated into the HVSA shall not be less than the dimensions specified in Table 1.	44mm	Pass
	Split-trim designs		
6.3.1.2	Retroreflective or combined-performance material may be utilized in a split-trim design. The split-trim design shall consist of two stripes of retroreflective or combined-performance material with minimum width of 25 mm (1 in.) that are positioned as a parallel pair on compliant fluorescent background material of the same or contrasting color, or on a non-compliant material of any color. The two paired stripes of retroreflective or combined-performance material shall not be separated by more than 50 mm (2 in.).	NA	i
	Spacing between Multiple Bands		
6.3.1.3	Whenever multiple bands are placed on the HVSA, the minimum distance between bands of retroreflective or combined-performance material shall be at least equal to the width of the band.	Yes	Pass
6.3.2	Placement of Retroreflective and Combined-Performance Materials		
	Distance from Bottom Edge of HVSA		
6.3.2.1	Horizontal retroreflective or combined-performance materials shall be placed at least 50 mm (2 in.) above the bottom of the hem of the torso, long sleeve and long pant HVSA styles.	210mm	Pass
	Encircling Arms and Legs		
6.3,2.2	Horizontal retroreflective or combined-performance materials placed on arms or legs shall encircle them in such a manner to provide 360° visibility of the wearer at all viewing angles in a horizontal plane.	Yes	Pass
	Long Sleeves		
6.3.2.3	If upper bands of retroreflective or combined-performance materials are placed on long sleeves, the bands shall be placed between the elbow and the shoulder. Lower bands can be placed between the elbow and wrist but shall be at least 50 mm (2 in.) above the bottom of the sleeve.	210mm	Pass
	Gaps		
6.3.3	Gaps in retroreflective, combined-performance, and background materials shall not be more than 50 mm (2 in.) horizontally to enable fastening or for seam allowance.	0mm	Pass
	360° Visibility		
634	Retroreflective or combined-performance and background materials for all garment types and performance classes and headwear shall be positioned on items in such a way as to provide 360° visibility of the wearer at all viewing angles in a horizontal plane.	Yes	Pass
6.3.4	A contiguous band of background or combined-performance material shall fully encircle the wearer. Retroreflective or combined-performance material that intersects this band shall be permitted. This band may be divided by other materials but the gap with the band shall not exceed 50mm (2 in.).	Yes 0mm	Pass
	Performance Class 2	Yes	
6.3.4.2	The band shall fully encircle the torso and shall be a minimum of 35 mm (1.38 in.) wide for Type R and 50mm (2 in.) for Type P. Additionally, a minimum of 150 cm2 (23.3 in2) shall be present in the shoulder area for HVSA where encircling bands are not present on sleeves. Identification of the shoulder area is specified in Section 6.3.6.	44mm (note: the band in the shoulder area is assessed in	Pass



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Test F	eport SL52305288437301TX Date:May 23,202	section 6.3.6)	e 7 of 8
6.3.5	Material Use and Balance of Design Garments shall be balanced in design so that not less than 40% of the minimum required amount of retroreflective or combined-performance and background materials specified in Table 1 is present on both the front and the back when laid flat. Additional retroreflective or combined- performance and background materials may be incorporated into garments as determined by the user.	Background Material Front 41 % Back 65 % Retroreflective or Combined- Performance Materials Front 48 % Back 52 %	Pass
6.3.6	Shoulder Area HVSA without retroreflective or combined-performance material that encircles the arm shall have a minimum of 150 cm² (23.3 in²) of retroreflective material or combined-performance material in the shoulder area to provide 180° visibility of the wearer. See Figure 1. The shoulder area is most easily identified when the HVSA is folded flat with the front of the garment fully exposed and measuring 15 cm (5.9 in.) down from the shoulder high point, front and back.	NA	1

7	Criteria for Optional Features and Testing		
7.1	Pockets		
	Pockets of matching or contrasting compliant high-visibility materials shall not create gaps in retroreflective or combined-performance material of more than 50 mm (1.97 in.) horizontally.	0mm	Pass
	Identification Panels, Lettering and Logos (Type R and P)		
7.2	Identification panels, lettering and logos shall not create gaps in retroreflective or combined-performance material of more than 50 mm (2 in.) horizontally.	NA	1
	Identification panels, lettering and logos of contrasting non-compliant material shall not exceed a total of 465 cm² (72 in²) on the front and/or rear of the HVSA and such total amount may contribute to the minimum amount of visible background material specified in Table 1.	NA	1
	Identification panels, lettering and logos of contrasting non-compliant material shall cover no more than 142 cm² (22 in²) of the minimum amount of visible retroreflective or combined-performance material specified in Table 1.	NA	1



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Product information is provided by applicant without verification or authentication of the brand.

The statement of conformity in this test report is only based on measured values by the laboratory and does not take their uncertainties into consideration.

End of Report





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Test Result

American National Standard for High-Visibility Safety Apparel and Accessories

ANSI/ISEA 107-2020

Section 6 Design (ANSI/ISEA 107-2020 Section 6)

Sample A Size: M

Clause 6.2.1 General

	Table 1.1	Minimum Areas of Visible	Materials	
Garment Type	Performance Class	Background Material	Retroreflective or Combined- Performance Materials	Minimum Width Reflective Materia
Type O Off-road and Non- Roadway Use	Class 1	0.14 m ² (217 in ²)	0.10 m ² (155 in ²)	25 mm (1 in.)
Type R Roadway and	Class 2*	0.50 m ² (775 in ²)	0.13 m ² (201 in ²)	25 mm (1 in.) ## 35 mm (1.38 in.)
Temporary Traffic Control Zones	Class 3**	0.80 m ² (1240 in ²)	0.20 m ² (310 in ²)	25 mm (1 in.)## 50 mm (2 in.)
		e offered in Type R, Perf	ormance Class 3, a m	nimum of 0 65 m2
		und material may be use	d to accommodate sm	
Type P Emergency and		und material may be use ses must use 0.80 m² (12 0.29 m² (450 in²)	d to accommodate sm	all-sized workers. All 25 mm (1 in.) ##
Type P Emergency and Incident Responders and Law Enforcement Personnel	subsequent larger siz	es must use 0.80 m² (12 0.29 m²	d to accommodate sm 40 in²). 0.13 m²	all-sized workers. All

#When a Supplemental Class E item is worn with Performance Class 2 or 3, the overall classification for the ensemble shall be Performance Class 3.
For use with split-trim designs (See Section 6.3.1.2)

NOTE: Combined-performance materials can be counted toward the minimum area requirements for background material specified in Table 1.

Result	Background Material	Retroreflective or Combined- Performance Materials	Minimum Width Reflective Material
	0.83m ²	0.203m ²	43mm
Recommended classification	Type R Class 2		



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Clause	Requirements	Results	Pass/Fail
6.2.3	Type R HVSA		
6.2.3.1	Type R Class 2 Type R Class 2 HVSA shall utilize at least one horizontal band of retroreflective or combined- performance material around the torso, and shall include at least the minimum amounts of retroreflective or combined-performance material in the shoulder area if encircling bands are not present on sleeves.	Yes	Pass
6.3	Construction Requirements		•
6.3.1	Retroreflective and Combined-Performance Materials		
6.3.1.1	Minimum Widths The width of the retroreflective or combined-performance materials incorporated into the HVSA shall not be less than the dimensions specified in Table 1.	43mm	Pass
6.3.1.2	Split-trim designs Retroreflective or combined-performance material may be utilized in a split-trim design. The split-trim design shall consist of two stripes of retroreflective or combined-performance material with minimum width of 25 mm (1 in.) that are positioned as a parallel pair on compliant fluorescent background material of the same or contrasting color, or on a non-compliant material of any color. The two paired stripes of retroreflective or combined-performance material shall not be separated by more than 50 mm (2 in.).	NA	1
6.3.1.3	Spacing between Multiple Bands Whenever multiple bands are placed on the HVSA, the minimum distance between bands of retroreflective or combined-performance material shall be at least equal to the width of the band.	Yes	Pass
6.3.2	Placement of Retroreflective and Combined-Performance Materials		
6.3.2.1	Distance from Bottom Edge of HVSA Horizontal retroreflective or combined-performance materials shall be placed at least 50 mm (2 in.) above the bottom of the hem of the torso, long sleeve and long pant HVSA styles.	220mm	Pass
6.3.2.2	Encircling Arms and Legs Horizontal retroreflective or combined-performance materials placed on arms or legs shall encircle them in such a manner to provide 360° visibility of the wearer at all viewing angles in a horizontal plane.	Yes	Pass
6.3.2.3	Long Sleeves If upper bands of retroreflective or combined-performance materials are placed on long sleeves, the bands shall be placed between the elbow and the shoulder. Lower bands can be placed between the elbow and wrist but shall be at least 50 mm (2 in.) above the bottom of the sleeve.	220mm	Pass
6.3.3	Gaps Gaps in retroreflective, combined-performance, and background materials shall not be more than 50 mm (2 in.) horizontally to enable fastening or for seam allowance.	0mm	Pass
6,3.4	360° Visibility Retroreflective or combined-performance and background materials for all garment types and performance classes and headwear shall be positioned on items in such a way as to provide 360° visibility of the wearer at all viewing angles in a horizontal plane.	Yes	Pass
	A contiguous band of background or combined-performance material shall fully encircle the wearer. Retroreflective or combined-performance	Yes 0mm	Pass



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