



Test Report T14791-01-2 Issue 1
ANSI/ISEA Z87.1-2020
Shanghai Langfeng Industrial Co., Ltd.
SG035 Spectacles
30 June 2020



Approved by:

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Objective:

Contract testing to ANSI/ISEA Z87.1-2020 “American National Standard for Occupational and Educational Personal Eye and Face Protection Devices”.

Clause(s): 5. Fundamental Design Requirements for All Protectors
-excluding Markings

Samples:

SG035 Spectacles

Lens	Quantity	Sample ID
Clear	6	1A

Date(s) submitted: 26 May 2020

Procedures:

Testing protocols in accord with good laboratory practice were employed for all tests.

All tests were conducted in a standard laboratory atmosphere unless otherwise specified.

Samples were randomly selected from the quantity provided and tested in the as-received condition unless otherwise stated.

Testing procedures as specified within Section 9 of ANSI/ISEA Z87.1-2020 were followed unless noted in results.

When applicable, samples were assessed on medium headform (64mm PD).

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Assessment Summary:

Date(s) tested: 05 through 08 June 2020

ANSI/ISEA Z87.1-2020 Requirements	Compliant	Non-Compliant
5. Fundamental Design Requirements for All Protectors		
5.1 Optical Requirements		
5.1.1 Optical Quality	X	
5.1.2 Luminous Transmission (Clear Lenses)	X	
5.1.3 Haze - Clear Lenses Only	X	
5.1.4 Refractive Power, Astigmatism, Resolving Power, Prism and Prism Imbalance for Plano Protectors	X	
5.1.5 Refractive Power, Astigmatism, Prism and Prism Imbalance for Prescription Protectors and Magnifiers	Not applicable	
5.2 Physical Requirements	X	
5.2.1 Drop Ball Impact Resistance	X	
5.2.2 Ignition	X	
5.2.3 Corrosion Resistance of Metal Components	Not applicable	
5.2.4 Minimum Coverage Area	X	
5.3 Markings	Excluded	
5.4 Other Requirements	Not applicable	
5.5 Replaceable Lenses	Not applicable	
5.6 Aftermarket Components and Accessories	Not applicable	

Samples as assessed meet the requirements of ANSI/ISEA Z87.1-2020 for Standard (Non-Impact Rated) Spectacles.

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Results:

5.1.1 Optical Quality; Result: Pass

Lenses are free of striae, bubbles, waves and other visible defects which would impair their optical quality.

5.1.2 Luminous Transmittance (Tv) - ILLA (Clear Lenses)

Sample ID	Left (%)	Right (%)	Left/Right	Pass	Fail
1A-2	91.2	91.3	0.999	X	
Requirement:	$100 \geq T_L \geq 85$		N/A		

5.1.3 Haze - Clear Lens Only

Sample ID	Left (%)	Right (%)	Pass	Fail
1A-2	0.21	0.20	X	
Requirement:	≤ 3			

Measured relative to Illuminate A.

5.1.4 Refractive Power, Astigmatism, Resolving Power, Prism and Prism Imbalance for Plano Protectors

Refractive Power & Astigmatism

Sample ID	Left (m^{-1})		Right (m^{-1})		Pass	Fail
	Refractive Power	Astigmatism	Refractive Power	Astigmatism		
1A-1	-0.01	0.03	0.00	0.02	X	
Requirement:	+/- 0.06	≤ 0.06	+/- 0.06	≤ 0.06		

Tested in a simulated as worn position using a 19mm aperture.

Resolving Power

Sample ID	Pattern Resolved (Yes/No)		Pass	Fail
	Left	Right		
1A-1	Yes	Yes	X	
Requirement:	Resolve Pattern 20			

Tested in a simulated as worn position using a 19mm aperture.

Prism and Prism Imbalance

Sample ID	Prismatic Power (cm/m)		Vertical Imbalance(cm/m)	Horizontal Imbalance(cm/m)	Pass	Fail
	Left	Right				
1A-1	0.17	0.18	<0.05	<0.05 Base Out	X	
Requirement:	≤ 0.50		≤ 0.25	Base Out ≤ 0.50 Base In ≤ 0.25		

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5.2 Physical Requirements; Results: Pass

Protectors are free from projections, sharp edges or other defects which are likely to cause discomfort or injury during use.

5.2.1 Drop Ball Impact Resistance

Sample ID	Location	Pass	Fail
1A-3	Left	X	
1A-4	Right	X	
1A-5	Left	X	
1A-6	Right	X	
Protector shall fail if any of the following occur: <ul style="list-style-type: none"> • lens (lens only) fractures • piece fully detached from the inner surface • projectile penetrates the inner surface • lens not retained 			

5.2.2 Ignition; Results: Pass

Components tested (Lens and Temple) did not ignite or continue to glow once the rod is removed.

5.2.4 Minimum Coverage Area; Result: Pass

The frames, lens housings or carriers and lens(es) cover in plain view an area of not less than 40 mm (1.57 in.) in width and 33 mm (1.30 in.) in height (elliptical) in front of each eye, centered on the geometrical center of the lens.

Sample Photograph:



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15. Client agrees to pay any and all additional costs for work additional to the original scope of work as agreed to by Client.
16. Client understands and agrees that ICS, in entering into this Contract and by performing services hereunder, does not assume, abridge, abrogate or undertake to discharge any duty or responsibility of Client to any other party or parties. No one other than Client shall have any right to rely on any Report or other representation or conduct of ICS and ICS disclaims any obligations of any nature whatsoever with respect to such third parties.
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18. Client agrees, in consideration of ICS undertaking to perform the test(s) hereunder, to protect, defend and indemnify ICS from any and all claims, damages, expenses either direct or consequential for injuries to persons or property arising out of or in consequence of the performance of the testing, inspection and reporting hereunder and/or the performance of the products tested or inspected hereunder, unless caused by the negligence of ICS.
19. It is agreed that if ICS should be found liable for any losses or damages attributable to the services hereunder in any respect, its liability shall not exceed the amount of the fee paid by Client for services rendered and Client's sole remedy at law or in equity shall be the right to recover that sum.
20. Quotations are valid for 30 days from date of issue. Standard Terms: 30% Laboratory/Testing fees invoiced and payable upon acceptance of quotation. 15 days net. Any change to these terms requires written approval by the President, Executive Vice President or Accounting Manager. ICS retains the right to require prepayment in full at any time. Cancelled jobs will be invoiced for work performed and/or set-up costs incurred. Shipping costs incurred by ICS will be invoiced at cost +10% handling fee. A minimum USD \$25.00 handling fee will be invoiced on all sample returns. Shipping costs incurred by ICS will be invoiced \$25.00 or cost +10%, whichever amount is higher.
21. ICS hereby objects to any conflicting terms contained in any order, acceptance or other subsequent correspondence submitted by Client.
22. In the event that payment is not received within 15 days of invoice date, Client agrees to pay a late payment charge on the unpaid balance equal to 1-1/2% per month or the maximum charge allowed by law, whichever is less, and all costs and expenses, including attorney's fees where recovery of the same is not prohibited by law, incurred by ICS in collecting such invoices.
23. All costs associated with compliance with any subpoena (s) for documents, testimony in a court of law, or for any other purpose relating to work performed by ICS in connection with work performed for that Client, shall be paid by Client. Client shall also pay costs related to deposition and trial testimony.
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