



Test Report T14786-01-2 Issue 1  
ANSI/ISEA Z87.1-2020  
Shanghai Langfeng Industrial Co., Ltd.  
SG001 Spectacles  
30 June 2020



Approved by:

Keith E. Whitten  
Laboratory Manager

Prepared by:

Cathy Wołoszyn  
Lab Administrator

- a) Reports are issued pursuant to the ICS standard Terms and Conditions agreement.
- b) The contents of this test report are confidential. Reproduction of the report is prohibited except in full, unless approved in writing by ICS Laboratories, Inc.
- c) Unless otherwise indicated, the test results contained in this report apply only to the samples tested and not to lots or batches from which they were taken.
- d) Where applicable, test data provided by subcontractor is uniquely identified in the test report.
- e) Where applicable, test data not covered under our ISO/IEC 17025 Accreditation is uniquely identified in the test report.

WARNING: This Test Report may contain technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S. C., Sec 2751, et seq.) or the Export Administration Act of 1979, as amended, Title 50, U.S.C., App. 2401 et seq. and which may not be exported, released or disclosed to non-U.S. persons (i.e. persons who are not U.S. citizens or lawful permanent residents ["green card" holders]) inside or outside the United States, without first obtaining an export license. Violations of these export laws are subject to severe civil, criminal and administrative penalties.

**ICS Laboratories, Inc. • 1072 Industrial Parkway North • Brunswick, Ohio 44212 USA**  
**Phone: 330.220.0515 Fax: 330.220.0516**

Issued to: Shanghai Langfeng Industrial Co., Ltd.  
Room 910, Building 6  
Luxiang Road 111, Shanghai  
China

Date: 30 June 2020  
Report: T14786-01-2  
Issue: 1  
Page: 1 of 5

**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

**Samples:**

SG001 Spectacles

Lens	Quantity	Sample ID
Clear	6	6A

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).

Issued to: Shanghai Langfeng Industrial Co., Ltd.  
 Room 910, Building 6  
 Luxiang Road 111, Shanghai  
 China

Date: 30 June 2020  
 Report: T14786-01-2  
 Issue: 1  
 Page: 2 of 5

**Assessment Summary:**

Date(s) tested: 04 through 05 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		
5.3.1 Required Protector Markings	X	
5.3.2 Placement of Markings	Not applicable	
5.3.3 Prescription Lens Carriers	Not applicable	
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.

Issued to: Shanghai Langfeng Industrial Co., Ltd.  
Room 910, Building 6  
Luxiang Road 111, Shanghai  
China

Date: 30 June 2020  
Report: T14786-01-2  
Issue: 1  
Page: 3 of 5

**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
6A-2	90.0	90.0	1.000	X	
Requirement:	$100 \geq T_L \geq 85$		N/A		

**5.1.3 Haze - Clear Lens Only**

Sample ID	Left (%)	Right (%)	Pass	Fail
6A-2	0.14	0.14	X	
Requirement:	$\leq 3$			

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		
6A-1	-0.01	0.03	-0.03	0.01	X	
Requirement:	+/- 0.06	$\leq 0.06$	+/- 0.06	$\leq 0.06$		

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

**Resolving Power**

Sample ID	Pattern Resolved (Yes/No)		Pass	Fail
	Left	Right		
6A-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				
6A-1	0.10	0.10	0.11	0.14 Base Out	X	
Requirement:	$\leq 0.50$		$\leq 0.25$	Base Out $\leq 0.50$ Base In $\leq 0.25$		

Issued to: Shanghai Langfeng Industrial Co., Ltd.  
Room 910, Building 6  
Luxiang Road 111, Shanghai  
China

Date: 30 June 2020  
Report: T14786-01-2  
Issue: 1  
Page: 4 of 5

### 5.3.1 Required Protector Markings

All protectors shall bear the permanent and legible markings in specified locations as shown in Table 3. Markings for lens type and use applications shall be required only when claims for protection against the hazard or indicated use are made by the manufacturer.

The components of frames that are intended for prescription protector use shall be marked for size in accordance with the system described in ANSI/ISO 7998/8624/12870. Fronts shall be marked with the A-dimension (eye size) and DBL (distance between lenses). Temples shall be marked with their overall length.

### 5.3.1 Required Protector Markings

Component	Marking Present	Requirement	Pass	Fail
Lens	None	Complete Device (no replaceable components) shall have at least one set of markings. The marking may be on the lens or the frames or both the lens and the frame. Requirement:		
L Temple	“SAFEYEAR” “ANSI Z87.1”	Non-Impact Rated “MFGZ87” Lens Type (if applicable): Welding Filter Shade “W#” Ultraviolet Filter Scale “U#” Infrared Filter Scale “R#” Visible Light Filter Scale “L#” Variable Tint “V” Special Purpose Lens “S”	X	
R Temple	None			

### 5.3.2 Placement of Markings

Protector markings shall be placed in relatable proximity to each other on the product in the sequence specified below:

- Manufacturer’s marks or logos
- Designation of standard (Z87 or Z87-2, for prescription devices)
- Coverage (See 5.2.4)
- Optical level (See 6.1)
- Optional Hazard-Specific Mark, as applicable:
  - impact-rated marking (+) (See 7.1)
  - optical radiation marking (See 7.2)
  - droplet and splash marking (See 7.3)
  - dust marking (See 7.4)
  - fine dust marking (See 7.5)
- Optional Design Marks, as applicable:
  - Anti-fog treatment (See 6.2)

Manufacturer’s marks or logos are exempt from the proximity requirement if they are clearly present elsewhere on the product. Markings representative of other standards shall not interfere with or be intermixed with the markings required by this standard.

Issued to: Shanghai Langfeng Industrial Co., Ltd.  
 Room 910, Building 6  
 Luxiang Road 111, Shanghai  
 China

Date: 30 June 2020  
 Report: T14786-01-2  
 Issue: 1  
 Page: 5 of 5

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

**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:**



## TERMS AND CONDITIONS

1. Client acknowledges that ICS Laboratories (ICS) performs testing services only as specified by Client. ICS does not design, warrant, supervise or monitor compliance of products or services except as specifically agreed to in writing. By their very nature, testing, analysis, and other ICS services are limited in scope and subject to expected measurement variability.
2. Client retains the right to clarify test requests and reasonable access to monitor test work, with reference to test queue and obligations regarding the confidentiality of other clients.
3. ICS shall keep documents and information related to Client confidential and will not disclose any such information to third parties without written consent. ICS will disclose such information in response to compulsory legal process, (only after providing Client with notice-of and/or a copy of such process).
4. ICS Reports apply only to the standards or procedures identified therein and to the sample(s) assessed. Test results are not indicative of the qualities of the lot from which the sample was taken or of apparently identical or similar products.
5. ICS Test Reports and their insignia are for the exclusive use of the Client. Reports, in their entirety, may be utilized at the discretion of Clients and/or their authorized agents for purposes including, but not limited to, research & development, recordkeeping, product packaging, educational and promotional materials in various formats, certification, and compliance. As an accredited independent testing laboratory, ICS maintains an interest in preventing the misrepresentation of the contents of its test reports. As such, Clients may NOT use, reproduce or otherwise disseminate excerpted, partial, redacted or otherwise altered ICS test reports without the prior review of such use by ICS and the granting of its written approval. Further, Clients are prohibited from manipulating data and/or extrapolating-from-it statistics or conclusions that contradict or eclipse the empirical results of testing as reflected by the totality of the report. Clients are to refrain from utilizing ICS Test Reports and/or the ICS logo in a manner that suggests any extra-report conclusions are provided and/or endorsed by ICS Laboratories.
6. The name(s) listed as the "Issued to" party on test reports may not reflect the actual entity submitting and/or contracting the assessment.
7. ICS shall retain copies of testing job files (including reports) for a period of at least six (6) years and when applicable, evidentiary test samples for a length of time agreed to or deemed appropriate. If Client requests additional copies of Reports during this period, an additional charge will apply for the preparation and delivery of such reports.
8. Test reports are valid for certification purposes for one year from date of issue, inclusive of retest or variant additions, which must be performed within one year of date of issue to avoid full retest.
9. Client is responsible for procuring, at its cost, insurance protecting the value of its property, extending to provided samples.
10. For the safety of our personnel, Client must advise if samples are known or suspected to contain hazardous substances. Safety Data Sheets must be provided upon request.
11. ICS represents that Services shall be performed according to terms and specification agreed to by Client, and in a manner consistent with good laboratory practice. No other Representations to client, express or implied, and no warranty or guarantee is included or intended in this agreement, or in any other report or document related to the services. ICS does not guarantee product performance or compliance.
12. Schedules are confirmed upon acceptance of quotation. All reasonable efforts will be made to comply with provided timeline. Guarantees are neither implied nor promised.
13. Certain work may be subcontracted to ICS-approved laboratories as required or applicable. Client will be notified of this in advance.
14. Client agrees to pay any and all additional costs associated with unexpected or above-standard communications and/or consultations with Client or third parties as designated by Client.
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.
17. For statements of conformity (pass/fail/"meets") regarding qualitative test results, ICS utilizes simple acceptance as its basis. For most statements of conformity relating to quantitative test results, the decision rule and associated uncertainty is inherent in the standard method. As such, simple acceptance is typically applied. Results on or near pass/fail thresholds or otherwise upon Client request or appeal will be evaluated with reference to the measurement uncertainty of relevant testing practices, equipment and other inputs/variables.
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.
24. Cancelled/discontinued orders: Client responsible for all administrative and testing charges up to point of cancellation.