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Test Report # T17236-02-1e Issue 1
ANSI/ISEA Z89.1 - 2014 (R2019)
Shanghai Langfeng Industrial Co., Ltd.
W-003 – Industrial Safety Helmet
09 October 2025



Prepared & Approved by:

A handwritten signature in black ink, appearing to read 'Shelley Brady'.

Shelley Brady
Head Protection & Athletic Equipment –
Administrative Laboratory Manager

Reviewed by:

A handwritten signature in black ink, appearing to read 'Sarah Henderson'.

Sarah Henderson
Head Protection & Athletic Equipment –
Technical Advisor and Subject Matter Expert

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

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Objective:

Contract testing to ANSI/ISEA Z89.1-2014 (R2019) "American National Standard for Industrial Head Protection".

-Type I, Class E, G & C

Sample(s):

W-003 – Industrial Safety Helmet

Description	Qty	Date Code	Material	Date Received	Sample ID
Orange Shell (Front Brim Cap) w/ Ratchet Suspension (4 pt.), Non-Vented w/ Chin Strap	30	7/22	Not present on product	06 September 2022	6A-02-x

Procedures:

Testing protocols in accord with good laboratory practice were employed unless otherwise specified, for all tests.

Testing procedures as specified within Section 10 of ANSI/ISEA Z89.1-2014 (R2019) were followed.

Testing was performed at room temperature $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$ ($73.4^{\circ}\text{F} \pm 5.4^{\circ}\text{F}$) per ANSI/ISEA Z89.1 – 2014 (R2019).

Equipment:

Cadex Twin Wire Test Platform
Environmental Conditioning Chambers
Cadex Impact Software V6.9U
Hanco Dielectric Strength Chamber

Assessment Summary:

Date Tested: 04 October 2022 – 05 October 2022
Test Performed By: Joe McGreal – Engineering Technician

Requirements	Compliant	Non-Compliant
6 Instruction and Marking	<i>Excluded</i>	
7 Performance Requirements		
7.1 Requirements for Type I		
7.1.1 Flammability	X	
7.1.2 Force Transmission	X	
7.1.3 Apex Penetration	X	
7.1.4 Electrical Insulation Requirement		
7.1.4.3 Electrical Insulation Requirement - Class E	X	
7.3 Requirements for Optional Testing		
7.3.1 Reverse Wearing		
-Force Transmission	Not Applicable	
7.3.2 High-Visibility		
7.3.3 Higher Temperature		
7.3.4 Lower Temperature		

Samples as assessed meet the mechanical performance requirements of ANSI/ISEA Z89.1 2014 (R2019) for Type I, Class E, G & C.

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Results:

7.1.1 Flammability

Sample ID	Afterflame (sec)	Pass	Fail
6A-02-12	0	X	
Specification:	< 5		

7.1.2 Force Transmission

Sample ID	Conditioning (°C)	Velocity (m/s)	Force (N)	Specified Value (N)	Observations	Pass	Fail
6A-02-1	49 ± 2	5.51	2484	≤ 4450	-	X	
6A-02-2		5.51	2420		-	X	
6A-02-3		5.51	2484		-	X	
6A-02-4		5.50	2203		-	X	
6A-02-5		5.52	2095		-	X	
6A-02-6		5.50	2506		-	X	
6A-02-7		5.52	2527		-	X	
6A-02-8		5.52	2356		-	X	
6A-02-9		5.52	2398		-	X	
6A-02-10		5.52	2334		-	X	
6A-02-11		5.53	2398		-	X	
6A-02-12		5.52	2311		-	X	
Average			2376	≤ 3780		X	
6A-02-13	-18 ± 2	5.51	3238	≤ 4450	-	X	
6A-02-14		5.51	3179		-	X	
6A-02-15		5.52	3241		-	X	
6A-02-16		5.51	3282		-	X	
6A-02-17		5.52	3392		-	X	
6A-02-18		5.52	3477		-	X	
6A-02-19		5.52	3153		-	X	
6A-02-20		5.53	3217		-	X	
6A-02-21		5.51	3393		-	X	
6A-02-22		5.52	3242		-	X	
6A-02-23		5.52	3219		-	X	
6A-02-24		5.52	3283		-	X	
Average			3276	≤ 3780		X	
Specification:		5.50 ± 0.05					

Observations:
(-) No observation

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7.1.3 Apex Penetration

Sample ID	Conditioning (°C)	Velocity (m/s)	Electrical Contact (Yes/ No)	Observations	Pass	Fail
6A-02-25	49 ± 2	7.1	No	-	X	
6A-02-26		7.1	No	-	X	
6A-02-27		7.0	No	-	X	
6A-02-28	-18 ± 2	7.1	No	-	X	
6A-02-29		7.1	No	-	X	
6A-02-30		7.0	Nox	-	X	
Specification:		7.0 ± 0.1	No Electrical Contact Allowed			

Observations:
(-) No observation

7.1.4.3 Electrical Insulation Requirements (Class E)

Sample ID	Leakage (mA)	Burn Through (Yes/ No)	Observations	Pass	Fail
6A-02-1	4.3	No	-	X	
6A-02-13	4.3	No	-	X	
Specification:		Class E: ≤ 9 mA	No Burn Through Allowed		

Class E - 20,000 volts, 60 Hz, 3 minutes, 30,000 volts no burn through.

Note: Test line lowered to prevent flashover

Observations:
(-) No observation

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Sample Photographs:



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18. 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.
19. Standard quotations are valid for 30 days from date of issue. Quotations for STAT services are valid for 5 days from date of issue.
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