



Test Report # T17278-01-1 Issue 1  
ANSI/ISEA Z89.1 – 2014 (R2019)  
Venus Safety & Health Pvt., Ltd.  
Venus H-2010 – Industrial Safety Helmet  
19 August 2022



Approved by:

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Head Protection, Hand Protection &  
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Prepared by:

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 L-76 Talaja  
 Navi Mumbai, MIDC 410208  
 India

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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):**

Venus H-2010 - Industrial Safety Helmet

Description	Qty	Date Code	Material	Date Received	Sample ID
Blue Shell (Front Brim Cap) Non-Vented w/ Chin Strap	6	6/22	HDPE	26 July 2022	8A-x
Yellow Shell (Front Brim Cap) Non-Vented w/ Chin Strap	6				8B-x
White Shell (Front Brim Cap) Non-Vented w/ Chin Strap	8				8C-x
Green Shell (Front Brim Cap) Non-Vented w/ Chin Strap	6				8D-x
Red Shell (Front Brim Cap) Non-Vented w/ Chin Strap	6				8E-x
Ratchet Suspension (4 pt.)	32	-	-	-	-

**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).

Suspensions attached to helmets by ICS Laboratories technician.

**Equipment:**

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

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**Assessment Summary:**

Date Tested: 18 August 2022 – 19 August 2022  
 Test Performed By: Joe McGreal – Engineering Technician


Requirements	Compliant	Non-Compliant
6 Instructions and Marking	X	
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		
7.3.2 High-Visibility		Not Applicable
7.3.3 Higher Temperature		
7.3.4 Lower Temperature		

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

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**Results:**

6	Instructions and Marking	Pass	Fail
	6.1 Instructions Provided	X	
	6.2 Marking:		
	a. The name or identification mark of the manufacturer	X	
	b. The date of manufacture	X	
	c. The American National Standard designation, ANSI/ISEA Z89.1-2014*	X	
	d. The applicable Type and Class followed by optional criteria markings (if applicable)	X	
	e. The approximate headband size range	X	
	6.3 Optional Performance:		
	 – Reverse Donning LT – Lower Temperature HV – High Visibility HT – Higher Temperature	Not Applicable	

Note: All markings under clause 6.2 shall be at least 1.5 mm (0.06 in.) in height.

\*Artwork provided

**7.1.1 Flammability**

Sample ID	Afterflame (sec)	Pass	Fail
8B-12	0	X	
Specification:	< 5		

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### 7.1.2 Force Transmission

Sample ID	Conditioning (°C)	Velocity (m/s)	Force (N)	Specified Value (N)	Observations	Pass	Fail
8A-1	49 ± 2	5.52	1621	≤ 4450	-	X	
8B-2		5.50	1837		-	X	
8C-3		5.48	1922		-	X	
8D-4		5.51	1837		-	X	
8E-5		5.49	1837		-	X	
8A-6		5.51	1836		-	X	
8B-7		5.51	1879		-	X	
8C-8		5.48	1750		-	X	
8D-9		5.48	1815		-	X	
8E-10		5.53	1859		-	X	
8A-11		5.49	1923		-	X	
8B-12		5.47	1793		-	X	
Average			1826	≤ 3780		X	
8C-13	-18 ± 2	5.48	2355	≤ 4450	-	X	
8D-14		5.48	2205		-	X	
8E-15		5.49	2420		-	X	
8A-16		5.47	2204		-	X	
8B-17		5.47	2376		-	X	
8C-18		5.47	2268		-	X	
8D-19		5.48	2246		-	X	
8E-20		5.51	2334		-	X	
8A-21		5.48	2183		-	X	
8B-22		5.48	2658		-	X	
8C-23		5.47	2421		-	X	
8D-24		5.51	2205		-	X	
Average			2323	≤ 3780		X	
Specification:		5.50 ± 0.05					

Observations:  
(-) No observation

### 7.1.3 Apex Penetration

Sample ID	Conditioning (°C)	Velocity (m/s)	Electrical Contact (Yes/ No)	Observations	Pass	Fail
8E-25	49 ± 2	7.0	No	-	X	
8A-26		7.0	No	-	X	
8B-27		7.0	No	-	X	
8C-28	-18 ± 2	7.0	No	-	X	
8D-29		7.0	No	-	X	
8E-30		7.0	No	-	X	
Specification:		7.0 ± 0.1	No Electrical Contact Allowed			

Observations:  
(-) No observation

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**7.1.4.3 Electrical Insulation Requirements (Class E)**

Sample ID	Leakage (mA)	Burn Through (Yes/ No)	Observations	Pass	Fail
8A-1	4.1	No	-	X	
8C-13	4.1	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

**Sample Photographs:**



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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. All jobs will be assessed a \$25 sample disposition fee. Shipping costs over \$25 incurred by ICS for sample returns will be invoiced at cost +10%.
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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