



Test Report # T15337-01-1 Issue 1
ANSI/ISEA Z89.1-2014

23 October 2020



Approved by:

A handwritten signature in black ink that reads "Sarah Henderson".

Sarah Henderson
Head Protection, Hand Protection &
Athletic Equipment - Laboratory Manager

Prepared by:

A handwritten signature in black ink that reads "Shelley Brady".

Shelley Brady
Head Protection & Athletic Equipment -
Laboratory Administrator

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Date: 23 October 2020
Report: T15337-01-1
Issue: 1
Page: 1 of 4

Objective:

Contract testing to ANSI/ ISEA Z89.1-2014 “American National Standard for Industrial Head Protection”.

-Type I, Class E & C

Sample(s):

NTA-H* - Industrial Safety Helmet

Description	Qty	Date Code	Material	Date Received	Sample ID
White Cap w/ Ratchet Suspension (6 pt.), Non-vented w/ Chin Strap	30	9/20	-	05 October 2020	7A-x

*NTA-H not present on product

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 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.

Equipment:

Cadex Twin Wire Test Platform
Envirotronics Model FLX900 Environmental Conditioning Chamber
Cadex Impact Software V6.9U
Hanco Dielectric Strength Chamber

Assessment Summary:

Date Tested: 22 October 2020 – 23 October 2020
Test Performed By: Joe McGreal – Engineering Technician

Requirements	Compliant	Non-Compliant
6 Instruction and Marking	Excluded	
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	Not Applicable	
7.3.1 Reverse Wearing		
-Force Transmission		
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 for Type I, Class E & C.

Date: 23 October 2020
Report: T15337-01-1
Issue: 1
Page: 2 of 4

Results:

7.1.1 Flammability

Sample ID	Afterflame (sec)	Pass	Fail
7A-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
7A-1	49 ± 2	5.49	1970	≤ 4450	1	X	
7A-2		5.50	2131		-	X	
7A-3		5.49	2069		-	X	
7A-4		5.49	2067		1	X	
7A-5		5.49	2120		-	X	
7A-6		5.51	2082		-	X	
7A-7		5.50	1993		-	X	
7A-8		5.51	2069		-	X	
7A-9		5.50	2120		-	X	
7A-10		5.51	2110		-	X	
7A-11		5.50	2154		-	X	
7A-12		5.50	2082		-	X	
Average			2080	≤ 3780		X	
7A-13	-18 ± 2	5.50	3175	≤ 4450	1	X	
7A-14		5.50	3167		-	X	
7A-15		5.50	3231		-	X	
7A-16		5.50	3093		-	X	
7A-17		5.50	3281		1	X	
7A-18		5.50	3165		-	X	
7A-19		5.50	3156		-	X	
7A-20		5.50	3268		-	X	
7A-21		5.51	3268		-	X	
7A-22		5.51	3338		-	X	
7A-23		5.50	3302		-	X	
7A-24		5.51	3342		-	X	
Average			3232	≤ 3780		X	
Specification:		5.50 ± 0.05					

Observations:

(-) No observation

1 – Middle suspension tab released

Date: 23 October 2020
Report: T15337-01-1
Issue: 1
Page: 3 of 4

7.1.3 Apex Penetration

Sample ID	Conditioning (°C)	Velocity (m/s)	Electrical Contact (Yes/ No)	Observations	Pass	Fail
7A-25	49 ± 2	7.0	No	-	X	
7A-26		7.0	No	1	X	
7A-27		7.0	No	1	X	
7A-28	-18 ± 2	7.0	No	-	X	
7A-29		7.0	No	1	X	
7A-30		7.0	No	1	X	
Specification:		7.0 ± 0.1	No Electrical Contact Allowed			

Observations:

(-) No observation

1 – Middle suspension tab released

7.1.4.3 Electrical Insulation Requirements (Class E)

Sample ID	Leakage (mA)	Burn Through (Yes/ No)	Observations	Pass	Fail
7A-1	3.7	No	-	X	
7A-13	3.9	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.

Observations:

(-) No observation

Note: Test line was lowered to prevent flashover during ramp up and if filled to static test line water would connect through side accessory slots and would fail a Class G test

Date: 23 October 2020
Report: T15337-01-1
Issue: 1
Page: 4 of 4

Sample Photographs:



Observation Photographs:



Middle suspension tab released

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