



Test Report # T15749-01-1 Issue 1
ANSI/ISEA Z89.1-2014 (R2019)
Oberon Company
Oberon HC-6P – Industrial Safety Helmet
19 May 2021



Approved by:

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Prepared by:

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 375 Faunce Corner Rd., Unit E
 North Dartmouth, MA 02743
 USA

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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):

Oberon HC-6P (HC/OB/PC/RS/RED) - Industrial Safety Helmet

Description	Qty	Date Code	Material	Date Received	Sample ID
Red Shell (Cap) w/ Ratchet Suspension (6 pt.), Non-vented	32	1/21	ABS	09 March 2021	9A-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°C ± 3°C (73.4°F ± 5.4°F) per ANSI/ISEA Z89.1 – 2014 (R2019).

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: 01 April 2021 – 05 April 2021
 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		
7.3.1 Reverse Wearing		
-Force Transmission	Not Applicable	
7.3.2 High-Visibility		
7.3.3 Higher Temperature		
7.3.4 Lower Temperature	(see 7.1.2 & 7.1.3 results)	

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
9A-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
9A-1	60 ± 2	5.51	2323	≤ 4450	-	X	
9A-2		5.51	2353		-	X	
9A-3		5.52	2333		-	X	
9A-4		5.52	2317		-	X	
9A-5		5.51	2335		-	X	
9A-6		5.52	2333		-	X	
9A-7		5.51	2376		-	X	
9A-8		5.51	2340		-	X	
9A-9		5.53	2353		-	X	
9A-10		5.51	2374		1	X	
9A-11		5.53	2371		-	X	
9A-12		5.53	2347		-	X	
Average			2346	≤ 3780		X	
9A-13	-30 ± 2	5.52	3742	≤ 4450	-	X	
9A-14		5.51	3447		-	X	
9A-15		5.51	3643		-	X	
9A-16		5.52	3502		-	X	
9A-17		5.51	3511		-	X	
9A-18		5.52	3317		-	X	
9A-19		5.52	3473		-	X	
9A-20		5.53	3539		-	X	
9A-21		5.52	3586		-	X	
9A-22		5.52	3563		-	X	
9A-23		5.52	3571		-	X	
9A-24		5.52	3530		-	X	
Average			3535	≤ 3780		X	
Specification:		5.50 ± 0.05					

Observations:

(-) No observation

1 – Cradle released at two connections

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7.1.3 Apex Penetration

Sample ID	Conditioning (°C)	Velocity (m/s)	Electrical Contact (Yes/ No)	Observations	Pass	Fail
9A-25	60 ± 2	7.0	No	-	X	
9A-26		7.0	No	-	X	
9A-27		7.0	No	-	X	
9A-28	-30 ± 2	7.0	No	-	X	
9A-29		7.0	No	-	X	
9A-30		7.0	No	-	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
9A-1	4.9	No	-	X	
9A- 13	4.9	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.

Note: Test line lowered to prevent flashover

Observations:
(-) No observation

Sample Photographs:



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