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Letter Report No.: G101902393CRT-001
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Libus
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BA Argentina

Ph: NA
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Subject: Milenium Protective Helmet/Full Brim – Quote 500559589

Dear Miguel Caro,

This letter represents the test result of the Milenium Protective Helmet/Full Brim with in-body Lamp Bracket submitted by Libus, Inc. received in pristine condition on 11/14/14. The specimens were conditioned and tested on 12/15/14.

Standard Used: *ANSI Z89.1 Issued:2014 ed. Requirements for Industrial Head Protection*

Authorization: This evaluation was authorized by signed quote # 500559589.

Specimen description: Milenium Protective Helmet/Full Brim with in-body Lamp Bracket Type 1, Class E

Performance: The following tests were conducted on specimens of Hard Hats per the client request covered in the test matrix below per *ANSI Z89.1/2014 ed.*


Section	Test Method
Section 6	Instructions and Marking
Section 7.1.1	Flammability
Section 7.1.2	Force Transmission
Section 7.1.3	Apex Penetration
Section 7.1.4	Electrical Insulation

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Performance Data:

Section 6 - Instructions and Marking

Section	Compliant
6.1 – Each helmet shall be accompanied by manufacturers’ instructions explaining the proper method of size adjustment, use, care, useful service life guidelines and, if applicable, reverse wearing.	YES
6.2 Each helmet shall bear permanent markings in at least 1.5 mm (0.06 in.) high letters stating the following information:	
6.2 – name or identification mark of the manufacturer;	YES
6.2 – the date of manufacture;	YES
6.2 – the American National Standard Designation, ANSI/ISEA Z89.1;	YES
6.2 – the applicable Type and Class Designations, followed by optional criteria markings, if applicable;	YES
6.2 – the approximate headsize range (see Table 2).	YES
If optional criteria are applied, the appropriate markings shall follow the sequence as specified below:	<u>Applicable?</u>
 - Reverse donning	NO
LT – Lower temperature	NO
HV – High visibility	NO

7.1.1 Flammability

Helmets shall be tested in accordance with section 9.1 anywhere above the Static Test Line (STL). No flame shall be visible 5 seconds after removal of the test flame.

Specimen	Location	After Flame (sec.)
12	Rear	0.0



7.1.2 Force Transmission

Helmets shall be tested in accordance with section 9.2 and shall not transmit a force to the test headform that exceeds 4450 N (1000 lbs.). Additionally, for each test condition specified, the maximum transmitted force of individual test samples shall be averaged. The averaged values shall not exceed 3780 N (850 lbs.).

Velocity Range: 5.45-5.55 m/s (5.50 +/- 0.05 m/s)

Drop Height: 60.7 inches

Hot Conditioning				Cold Conditioning			
Specimen	Date Code	Velocity (m/s)	Force (lbs.)	Specimen	Date Code	Velocity (m/s)	Force (lbs.)
1	8/14	5.51	512.97	13	8/14	5.51	735.90
2	8/14	5.51	528.52	14	8/14	5.51	700.82
3	8/14	5.51	442.21	15	8/14	5.49	733.33
4	8/14	5.51	528.85	16	8/14	5.50	748.22
5	8/14	5.50	430.87	17	8/14	5.50	780.72
6	8/14	5.48	488.89	18	8/14	5.51	709.55
7	8/14	5.51	481.84	19	8/14	5.51	684.25
8	8/14	5.50	441.62	20	8/14	5.51	701.18
9	8/14	5.50	487.57	21	8/14	5.50	780.79
10	8/14	5.49	465.53	22	8/14	5.49	782.78
11	8/14	5.49	475.59	23	8/14	5.51	760.53
12	8/14	5.50	559.18	24	8/14	5.51	685.97
		Average	486.97			Average	733.67



7.1.3 Apex Penetration

Helmets shall be tested in accordance with section 9.3 .The penetrator shall not make contact with the top of the test headform.

Velocity Range: 6.9-7.1 m/s (7.0 +/- 0.1 m/s)

Drop Height: 98.3 inches

Hot Conditioning			Cold Conditioning		
Specimen	Velocity (m/s)	Compliant	Specimen	Velocity (m/s)	Compliant
25	6.96	Yes	28	6.99	Yes
26	6.99	Yes	29	7.01	Yes
27	6.96	Yes	30	7.00	Yes

7.1.4.2 Electrical Insulation - Class E Requirements

Each helmet that meets Class E requirements for electrical insulation shall first pass the force transmission test specified in section 7.1.2.

Class E helmets shall be tested in accordance with section 9.7 and shall withstand 20,000 volts (root mean square), AC, 60 Hertz, for 3 minutes. Leakage shall not exceed 9 mliamperes. At 30,000 volts, the test sample shall not burn through.

Specimen #	Color	Leakage (ma)	Burn Through
1	Yellow	3.68	No
13	Yellow	3.86	No



CONCLUSION

The Hard Hats, submitted by Libus, were tested per the performance requirements per the above table in accordance to ANSI Z89.1/2014 ed.

Report Prepared by:

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