

Test Report

ANSI/ISEA Z89.1–2014

Industrial Head Protection

Report no: 1.19.07.04

Client: Vicsa Safety Comercial Limitada
Presidente Eduardo Frei Montalva 5151
Conchali
Santiago
Chile

Client order: Andrea Fresard

Order(s) received: 26 October 2018 to 18 June 2019

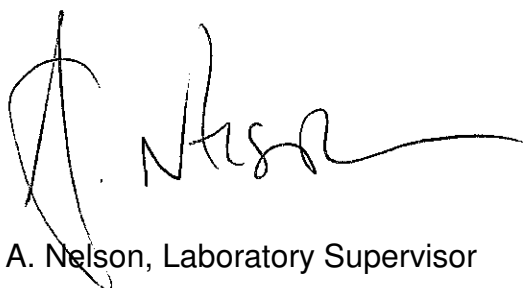
Manufacturer: STEELPRO SAFETY

Model(s): MTA

Brand: STEELPRO

Date(s) of tests: 5 June to 18 July 2019

Signed:



A. Nelson, Laboratory Supervisor

Issued: 30 July 2019

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Conditions

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Unless stated otherwise, the testing is accredited under the laboratory's ISO/IEC 17025 accreditation issued by ANSI National Accreditation Board. Refer to certificate and scope of accreditation AT-1933.

Tests marked ☒ are not included in our ISO/IEC 17025 accreditation.

Opinions, comments and interpretations expressed in this report are shown in italics.

Copies of INSPEC interpretations referenced in this report are available upon request.

Specimens will be disposed of four weeks from the date of this report, unless otherwise instructed.

This report has been provided in accordance with our standard Terms of Business, which can be viewed at, and printed from:

<http://inspec-international.com/ToB.pdf>

If you have difficulty accessing the Terms of Business, you may contact us for a copy.

Summary of assessment*

Clause	Requirement	Assessment (see Key)
5	Accessories and Replacement Components	Pass
6.1	Instructions	Fail
6.2	Marking	Fail
6.3	Optional performance marking	Fail
7.1.1	Flammability	Pass
7.1.2	Force Transmission	Pass
7.1.3	Apex Penetration	Pass
7.1.4.2	Electrical Insulation Requirements – Class G	
7.1.4.3	Electrical Insulation Requirements – Class E ☒	Pass
7.2.1	Impact Energy Attenuation	
7.2.2	Off-center Penetration	
7.2.3	Chin Strap	
7.3.1	Reverse Wearing	Pass
7.3.2	High-Visibility ☒	
7.3.3	Higher temperature	
7.3.4	Lower temperature	

Key

	Shading shows the clauses requested. Any other clauses were not requested.
Pass	Requirement satisfied.
Ltd	Testing requested was insufficient completely to verify compliance with the clause. Refer to the “Result details” section for more information.
Fail	Requirement not satisfied. Refer to the “Result details” section for more information.
NAs	Assessment not carried out.
NAp	Requirement not applicable.
NT	Requested but not tested due to early termination following failure.

* Assessment relates only to those specimens which were tested and are the subject of this report.

Product characteristics

Clause	Option	Claims (relevant to testing performed)
Types and Classes:		
4.1	Impact type	I
4.2	Electrical Class	E
Optional performance features:		
7.3.1	Reverse Wearing	Claimed
7.3.2	High-Visibility	Not claimed
7.3.3	Higher temperature	Not claimed
7.3.4	Lower temperature	Not claimed

Clause	Accessories and Replacement components installed:	
5	Accessories	None supplied
	Replacement components	None declared

Submission details

Product	Claimed size (cm)	Quantity	Date received	INSPEC specimen no. (1G0262+)
MTA safety helmet, white shell	52-64	40	24 Apr. 19	01 to 37

Procedures

The specimens detailed within the submissions above were used for the tests covered by this report.

Specimens were selected at random from the submission(s) detailed above.

Testing was performed in accordance with ANSI/ISEA Z89.1-2014 unless otherwise specified below. Reference should be made to the standard when reading this report.

Unless stated otherwise, specimens were tested in the condition as received by INSPEC.

7.1.4.3 ☒ Testing was performed by Intertek Testing Services. Details of the tests are given in their Test Report No: 103984933CRT-001, which is contained in the annex to this INSPEC report.

Result details**5 Accessories and replacement components**

All specimens were assessed.

No accessories were installed by the manufacturer.

NAp

The manufacturer did not declare whether any of the installed components of the helmet were replaceable. The installed components did not cause the helmet to fail the requirements of the standard.

Pass

6 Instructions and Marking

The assessment below indicates only the presence or otherwise of information provided by the manufacturer in accordance with the requirements of the Standard.

INSPEC Testing Services accepts no responsibility for the legitimacy of any performance claims made against criteria outside the requirements specified by the Standard.

6.1 Instructions

All specimens were assessed.

Manufacturer's instructions were not provided.

Fail

6.2 Marking

All specimens were assessed.

Each helmet carried permanent moulded markings.

Pass

The provided marking was in at least 1.5mm (0.06 in.) high letters.

Pass

The marking included the following information:

The name or identification mark of the manufacturer – "STEELPRO SAFETY".

Pass

The date of manufacture – date clock '10' / '18'.

Pass

The American National Standard Designation – "ANSI Z89.1" not 'ANSI Z89.1-2014'.

Fail

The applicable Type Designation – "TYPE 1".

Pass

The applicable Class Designation – "CLASS E".

Pass

The approximate head size range was marked on the harness of the helmet – "52 – 64 cm".

Pass

6.3 Optional performance marking

The following optional performance features were claimed and satisfied -

Reverse wearing

The relevant marking was not provided.

Fail

7.1.1 Flammability

Specimen 12 was assessed.

There was no visible flame 5 seconds after removal of the test flame.

Pass

7.1.2 Force Transmission

Specimen	Condition	Maximum transmitted force (N)
01	Hot, +49°C	2662
02		2967
03		4022
04		2895
05		3124
06		3876
07		3021
08		2624
09		2681
10		2993
11		4299
12		3158
Limit		≤ 4450
Average		3194
Limit		≤ 3780

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Specimen	Condition	Maximum transmitted force (N)
13	Cold, -18°C	2691
14		2629
15		2663
16		2644
17		2616
18		2571
19		2714
20		2714
21		2552
22		2628
23		2604
24		2597
Limit		≤ 4450
Average		2635
Limit		≤ 3780

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

7.1.3 Apex Penetration

Specimen	Condition	Headform	Impact position	Contact with headform
25	Hot, +49°C	M	Crown	No
26			Rear	No
27			Left side	No
Limit				No contact

Pass

Pass

Pass

Specimen	Condition	Headform	Impact position	Contact with headform
28	Cold, -18°C	M	Right side	No
29			Front	No
30			Crown	No
Limit				No contact

Pass

Pass

Pass

7.1.4 Electrical Insulation Requirements**7.1.4.3 Class E Requirements** ☒

Specimens 01 and 13 were assessed.

Refer to Intertek Testing Services Test Report No. 103984933CRT-001, which is contained in the annex to this INSPEC report.

Pass

7.3 Requirements for Optional Features**7.3.1 Reverse Wearing****Force Transmission**

Specimen	Condition	Maximum transmitted force (N)
31	Hot, +49°C	3243
37		3610
33		3191
Limit		≤ 4450
Average		3348
Limit		≤ 3780

Pass

Pass

Pass

Pass

Force Transmission

Specimen	Condition	Maximum transmitted force (N)
34	Cold, -18°C	2594
35		2465
36		2482
Limit		≤ 4450
Average		2514
Limit		≤ 3780

Pass

Pass

Pass

Pass

Estimates of the uncertainty of measurement

Clause	Test	Uncertainty
5	Accessories	See Note 1
7.1.1	Flammability	See Note 1
7.1.2	Force Transmission	$\pm 3.6\%$
7.1.3	Apex Penetration	See Note 1
7.1.4.2	Electrical Insulation Requirements – Class G	$\pm (3.4\%+0.1\text{mA})$
7.1.4.3	Electrical Insulation Requirements – Class E	See subcontract report
7.2.1	Impact Energy Attenuation	$\pm 4.2\%$
7.2.2	Off-center Penetration	See Note 1
7.2.3	Chin Strap	$\pm 3.1\%$
7.3.1	Reverse wearing:	-
	- Force transmission	$\pm 1.2\%$
	- Impact attenuation	$\pm 2.5\%$
7.3.2	High-Visibility	See subcontract report
7.3.3	Higher temperature	See relevant section
7.3.4	Lower temperature	See relevant section

Note 1 The acceptance criterion for this test is a straightforward “Pass/Fail”, rather than a numerical value. Consequently, as there is no value to be reported, uncertainty has not been reported either.

Note 2 The uncertainty value is based on a standard uncertainty multiplied by a coverage factor $k = 2$, which provides for a confidence level of approximately 95%. Values expressed as a percentage (%) are relative.

Note 3 It should be noted that the above values have not been taken into account when making assessment to the pass/fail criteria.

ANNEX

This Annex comprises one section.

1. Intertek Testing Services Test Report No. 103984933CRT-001 (6 pages)

END OF REPORT

TEST REPORT

INSPEC International Ltd. Test Report

SCOPE OF WORK

Industrial Hard Hat (ANSI) Testing, Model Name: MTA

REPORT NUMBER

103984933CRT-001

ISSUE DATE

7/3/2019

REVISION DATE

7/17/2019

PAGES

8

DOCUMENT CONTROL NUMBER

GFT-OP-10i (6-July-2017)

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TEST REPORT

INSPEC International Ltd.
56 Leslie Hough Way
Salford University Business Park
Salford M6 6AJ
United Kingdom

Quote Number:	Qu-00988081-1
Reference Number/PO Number:	P1/02459
Certification Type (Initial/Annual/Class I/ Private):	Private
Product Type:	Industrial Hard Hat (ANSI)
Brand Name:	Unspecified
Model Name:	MTA
Type (I or II):	Type I
Class (C,E, or G):	Class E
Suspension:	6 Pt. Ratchet
Optional Requirements:	N/A
Sample Control Number:	CRT1906211024-001
Sample Received Date:	6/21/2019
Number of Samples Received:	2
Condition received in:	Production Samples
Type of Testing Entity:	Third Party Testing Laboratory
	ANSI/ISEA Z89.1-2014
Test Standard:	American National Standard for Industrial Head Protection
Evaluation/Testing Location:	Intertek, 3933 US Rt. 11, Cortland NY 13045
Manufacturer's Name and Address:	Unspecified
Date(s) of Testing:	7/3/2019

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TEST REPORT

Dear Chris,

Intertek has completed the evaluation of Industrial Hard Hat , Model MTA to the following client specified clauses of ANSI/ISEA Z89.1-2014. The evaluation was performed at Intertek located in Cortland, NY on the dates posted below. The results of these tests are as indicated below.

Test Completed	Test Date	ANSI/ISEA Z89.1-2014	Pass/Fail
Electrical Insulation	7/3/2019	7.1.4.3	Pass

The Industrial Hard Hat identified as Model MTA did meet the above testing requirements identified by quote number Qu-00988081-1. If there are any questions regarding the results contained in this report, or any of the other services offered by Intertek, please do not hesitate to contact the undersigned.

Please note: this Test Report does not represent authorization for the use of any Intertek certification marks.

Tested By,



Jessica Copes
Technician

Reviewed by,



Zachary Bush
Reviewer

REPORT REVISION		
Date	Revision Description	Reviewer
7/3/2019	Report: 103984933CRT-001	Zachary Bush
7/17/2019	Corrected report per client's email dated 7/11/19	Owen Talmage

TEST REPORT

Conditioning Requirements

Clause 8.3 & 8.5 (ANSI/ISEA Z89.1-2014)

Actual Conditions

	Required Temperature	Actual Temperature
Ambient Temperature	20°C - 26°C	21.0°C - 22.0°C
Relative Humidity	45.0% - 55.0%	47.0% - 53.5%

Electrical Insulation

Clause 7.1.4.3 (ANSI/ISEA Z89.1-2014)

Helmets shall be tested in accordance with Section 7.1.4.3.

For **Class E** helmets 20,000 Volts shall be applied for a duration of 3 minutes and the leakage(mA) shall not be greater than 9.0 mA. Then the voltage shall be increase to 30,000 Volts looking for burn through.

Sample	Leakage (mA)	Burn Through	Did Flashover Occur (Yes/No)	Pass/Fail
1G0262 01	4.09	No	No	Pass
1G0262 13	4.15	No	No	Pass

TEST REPORT

Sample Pictures

1G0262 01



TEST REPORT

1G0262 13

