SAFETY COMPLIANCE TESTING FOR FMVSS No. 218 MOTORCYCLE HELMETS

Brand: LVCOOL, COOL SEVEN
Model: P7, LV113
Tested Size: L (59-60 cm)

To also include sizes S (55-56 cm) and M (57-58 cm) with same shell and EPS liner size.

Prepared For:

Foshan Manw Sports Products Co., Ltd.
No.48 Xingye Road, Ganglian Industrial Zone,
Lishui Town, Nanhai District, Foshan City,
Guangdong Province, China

Issue Date: 26 October 2021

Final Report: 1458.09151.001

Tested By:

Taicang ACT Sporting Goods Testing Co., Ltd.
No. 35 Zhenghe Road,
Ludu Town, Taicang City, Suzhou,
Jiangsu Province, China 215412
www.act-lab.com

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Test File: 001
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SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/FMVSS No.218

Technician: Edward Wang
Test Date: 21 October 2021

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PURPOSE OF COMPLIANCE TEST

Purpose:

The purpose of this test was to determine if the motorcycle helmets supplied by:

Foshan Manw Sports Products Co., Ltd.

Met the requirements of

Federal Motor Vehicle Safety Standard No. 218: Motorcycle Helmets effective May 13, 2013.

All samples received were in good condition and appropriate for these tests.

Test Procedure:

This test was performed following TP-218-07 and ACT Lab Helmet Cadex Testing Manual 2.3

HELMET DATA

HELMET BRAND NAME: LVCOOL, COOL SEVEN

HELMET MODEL DESIGNATION: P7, LV113

HELMET MANUFACTURER: Foshan Manw Sports Products Co., Ltd.

HELMET SIZE: L (59-60 cm)

HELMET COVERAGE: Partial: _____ Full: _____ Complete: X

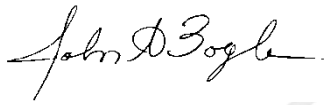
HELMET POSITIONING INDEX: 42 mm

SHELL MATERIAL: Plastic

LINER MATERIAL: Expanded Polystyrene (EPS)

BUCKLE DESCRIPTION: Quick Release Ratchet

HELMET	A Ambient	B Low Temp	C High Temp	D Water Immersed	E Spare
SHELL COLOR/PATTERN	Black	Black	Black	Black	---
WEIGHT (grams)	1448	1453	1465	1458	---
MONTH & YEAR OF MANUFACTURE	10/21	10/21	10/21	10/21	---

Reviewed by: John Bogler 

COMMENTS:

1. All helmets were received in undamaged condition and were appropriate for testing.
2. Weights listed above for helmets A-D are as tested with sun glass removed.
3. ACT determined the HPI information prior to testing.

SUMMARY OF TEST RESULTS

INDICATE Pass or Fail

HELMET	A	B	C	D
TEST	AMBIENT	LOW TEMP	HIGH TEMP	WATER IMMERSED
IMPACT	Pass	Pass	Pass	Pass
PENETRATION	Pass	Pass	Pass	Pass
RETENTION	Pass	Pass	Pass	Pass

INDICATE Pass or Fail

TEST	PASS/FAIL
PERIPHERAL VISION	Pass
LABELING	*Pass

COMMENT:

1. S5.6 Labeling: *Client has supplied digital artwork for section 5.6.1 and 5.6.2, ACT has only evaluated that the required content is present.

SELECTION OF APPROPRIATE HEADFORM

Paragraph S6.1 - If the helmet size designation falls into more than one of three size ranges, it shall be tested on each appropriate headform.

HELMET SIZE DESIGNATION	HEADFORM SIZE
Less than or equal to 6-3/4 (European Size 54)	SMALL
Greater than 6-3/4, but less than or equal to 7-1/2 (European Size 60)	MEDIUM
Greater than 7-1/2 (European 60)	LARGE

COMMENTS:
The manufacturer marked the helmet with its corresponding discrete size: L (59-60 cm), Headform Size: DOT MEDIUM.

CONDITIONING FOR TESTING — Paragraph S6.4 — The protective headgear shall be conditioned for not less than 4 hours and no more than 24 hours, in the specified environmental condition shown below, prior to test.

Ambient Conditions	16°C to 26°C (61ºF to 79ºF); 30% to 70% Relative Humidity
Low Temperature	-15°C to -5°C (5ºF to 23ºF)
High Temperature	45°C to 55°C (113ºF to 131ºF)
Water Immersion	16°C to 26°C (61ºF to 79ºF)

The maximum time during which the protective headgear may be out of the conditioning environment shall not exceed 4 minutes. It must then be returned to the conditioned environment for a minimum of 3 minutes for each minute or portion of a minute in excess of 4 minutes out of the conditioning environment or 12 hours, whichever is less, prior to resumption of testing.

AVERAGE LAB TEMPERATURE : 22 ºC ; AVERAGE LAB HUMIDITY : 57 %

IMPACT ATTENUATION

Helmet ID	Condition	Impact #	Impact Location	Anvil	Drop Height (cm)	Velocity (m/sec)	Duration at 150G (ms)	Duration at 200G (ms)	Peak Acc. (g)	Pass/Fail
1458.09151.001-A	Ambient	1	RT FRONT	FLAT	192.0	6.0339	0.00	0.00	133.7	Pass
1458.09151.001-A	Ambient	2	RT FRONT	FLAT	192.0	6.0194	0.00	0.00	144.3	Pass
1458.09151.001-A	Ambient	3	LF REAR	FLAT	192.0	6.0745	2.64	0.00	167.8	Pass
1458.09151.001-A	Ambient	4	LF REAR	FLAT	192.0	6.0675	3.11	0.00	185.4	Pass
1458.09151.001-A	Ambient	5	LF FRONT	HEMI	145.0	5.2819	0.00	0.00	68.2	Pass
1458.09151.001-A	Ambient	6	LF FRONT	HEMI	145.0	5.2948	0.00	0.00	87.6	Pass
1458.09151.001-A	Ambient	7	RT REAR	HEMI	145.0	5.3236	0.00	0.00	105.1	Pass
1458.09151.001-A	Ambient	8	RT REAR	HEMI	145.0	5.2517	0.00	0.00	126.8	Pass
1458.09151.001-B	Cold	1	RT FRONT	FLAT	192.0	6.0341	0.00	0.00	130.5	Pass
1458.09151.001-B	Cold	2	RT FRONT	FLAT	192.0	6.0211	1.51	0.00	163.7	Pass
1458.09151.001-B	Cold	3	LF REAR	FLAT	192.0	6.0903	3.27	0.00	178.4	Pass
1458.09151.001-B	Cold	4	LF REAR	FLAT	192.0	6.0904	3.47	0.00	195.0	Pass
1458.09151.001-B	Cold	5	LF FRONT	HEMI	145.0	5.2507	0.00	0.00	67.3	Pass
1458.09151.001-B	Cold	6	LF FRONT	HEMI	145.0	5.2520	0.00	0.00	99.1	Pass
1458.09151.001-B	Cold	7	RT REAR	HEMI	145.0	5.2749	0.00	0.00	113.4	Pass
1458.09151.001-B	Cold	8	RT REAR	HEMI	145.0	5.2908	0.00	0.00	129.6	Pass
1458.09151.001-C	Hot	1	RT FRONT	FLAT	192.0	6.0394	0.00	0.00	119.4	Pass
1458.09151.001-C	Hot	2	RT FRONT	FLAT	192.0	6.0497	0.00	0.00	147.5	Pass
1458.09151.001-C	Hot	3	LF REAR	FLAT	192.0	6.0802	1.08	0.00	165.1	Pass
1458.09151.001-C	Hot	4	LF REAR	FLAT	192.0	6.0917	2.84	0.00	178.9	Pass
1458.09151.001-C	Hot	5	LF FRONT	HEMI	145.0	5.2676	0.00	0.00	70.1	Pass
1458.09151.001-C	Hot	6	LF FRONT	HEMI	145.0	5.2892	0.00	0.00	93.6	Pass
1458.09151.001-C	Hot	7	RT REAR	HEMI	145.0	5.2817	0.00	0.00	107.4	Pass
1458.09151.001-C	Hot	8	RT REAR	HEMI	145.0	5.2827	0.00	0.00	123.6	Pass
1458.09151.001-D	Wet	1	RT FRONT	FLAT	192.0	6.0235	0.00	0.00	118.5	Pass
1458.09151.001-D	Wet	2	RT FRONT	FLAT	192.0	6.0331	0.00	0.00	123.1	Pass
1458.09151.001-D	Wet	3	LF REAR	FLAT	192.0	6.0746	1.82	0.00	160.9	Pass
1458.09151.001-D	Wet	4	LF REAR	FLAT	192.0	6.0633	2.64	0.00	184.4	Pass
1458.09151.001-D	Wet	5	LF FRONT	HEMI	145.0	5.3096	0.00	0.00	60.9	Pass
1458.09151.001-D	Wet	6	LF FRONT	HEMI	145.0	5.2759	0.00	0.00	123.6	Pass
1458.09151.001-D	Wet	7	RT REAR	HEMI	145.0	5.2490	0.00	0.00	94.1	Pass
1458.09151.001-D	Wet	8	RT REAR	HEMI	145.0	5.2594	0.00	0.00	109.3	Pass

PENETRATION

Paragraph S5.2 and S7.2

WEIGHT OF STRIKER: 2.95 to 3.06 kg (6 pounds, 8 ounces to 6 pounds, 12 ounces)

POINT OF STRIKER: Radius = 0.5 ± 0.1 mm (0.02 ± 0.004 in.), included angle of 60º ± 0.5°, hardness minimum of 60 Rockwell "C" Scale and a cone height of not less than 3.8 ± 0.038 cm (1.5 ± 0.015 in.).

HEIGHT OF FALL: 300 cm ± 1.5 cm, measured from the tip of the striker point to the outer surface of the mounted protective headgear.

FAILURE CRITERION: When tested, the protective headgear shall be failed if the penetrator has made an indentation in the headform.

TEST	HELMET	TEST LOCATION	PASS	FAIL	CONDITIONS
1	A	Crown	X		AMBIENT
2	A	Rear	X		AMBIENT
3	B	Crown	X		LOW TEMPERATURE
4	B	Rear	X		LOW TEMPERATURE
5	C	Crown	X		HIGH TEMPERATURE
6	C	Rear	X		HIGH TEMPERATURE
7	D	Crown	X		WATER IMMERSED
8	D	Rear	X		WATER IMMERSED

COMMENT: Photographs of penetration test locations are found in Appendix C.

RETENTION SYSTEM

Paragraph S5.3 and S7.3

REQUIREMENTS:

READING	APPLIED LOAD
INITIAL	22.68 kg, + 4.54 kg, - 0 kg (50.0 lbs., + 10 lbs., - 0 lbs.)
FINAL	136 kg, + 0 kg, - 2.3 kg (300.0 lbs., + 0 lbs., - 5 lbs.)

ELONGATION NOT TO EXCEED 2.54 cm (1.0 INCH) AFTER LOAD INCREASE

HELMET	CONDITIONS	ELONGATION cm
A	AMBIENT	1.77
B	LOW TEMPERATURE	1.68
C	HIGH TEMPERATURE	1.81
D	WATER IMMERSED	1.69

PERIPHERAL VISION

CONFIGURATION - Paragraph S5.4 - Helmet shall provide a minimum peripheral vision of 105º to each side of the midsagittal plane. The brow opening shall be at least 2.54 cm (1 inch) above all points in the basic plane that are within the angles of peripheral vision.

	REQUIREMENTS	TEST RESULTS
PERIPHERAL VISION	> 105º	Pass
BROW OPENING	> 2.5 cm (1 inch)	Pass

LABELING

S5.6.1 *Labeling* - Each helmet shall be permanently and legibly labeled, in a manner such that the label(s) can be easily read without removing padding or any other permanent part, with the following:

Required Information	Content/Format	Permanent
Manufacturer's name	Pass	*Pass
Discrete size	Pass	*Pass
Month and year of manufacture	Pass	*Pass
Instructions to the purchaser as follows:	--------	--------
"Shell and liner constructed of (identify type(s) of materials)."	Pass	Pass
"Helmet can be seriously damaged by some common substances without damage being visible to the user."	Pass	Pass
"Apply only the following: (Recommended cleaning agents, paints, adhesives, etc., as appropriate."	Pass	Pass
"Make no modifications."	Pass	Pass
"Fasten helmet securely."	Pass	Pass
"If helmet experiences a severe blow, return it to the manufacturer for inspection, or destroy it and replace it."	Pass	Pass

COMMENT:

1. S5.6 Labeling: *Client has supplied digital artwork for section 5.6.1. ACT has only evaluated that the required content is present; the additional requirements for: formatting, appearance, and permanency were not evaluated.

LABELING

S5.6.2 Certification. Each helmet shall be labeled permanently and legibly with a label, constituting the manufacturer's certification that the helmet conforms to the applicable Federal motor vehicle safety standards, that is separate from the label(s) used to comply with S5.6.1, and complies with paragraphs (a) through (c) of this section. (a) Content, format, and appearance. The label required by paragraph S5.6.2 shall have the following content, format, and appearance:

Required Certification Information	Content/ Format	Permanent
The symbol ''DOT,'' horizontally centered on the label, in letters not less than 0.38 inch (1.0 cm) high.	*Pass	*Pass
The term ''FMVSS No. 218,'' horizontally centered beneath the symbol DOT, in letters not less than 0.09 inches (0.23 cm) high.	*Pass	
The word "'CERTIFIED,'' horizontally centered beneath the term ''FMVSS No. 218,'' in letters not less than 0.09 inches (0.23 cm) high.	*Pass	
The precise model designation horizontally centered above the symbol DOT, in letters and/or numerals not less than 0.09 inch (0.23 cm) high.	*Pass	
The manufacturer's name and/or brand, horizontally centered above the model designation, in letters and/or numerals not less than 0.09 inch (0.23 cm) high.	*Pass	
All symbols, letters and numerals shall be in a color that contrasts with the background of the label.	*Pass	
No information, other than the information specified in subparagraph (a), shall appear on the label.	*Pass	
The label shall appear on the outer surface of the helmet and be placed so that it is centered laterally with the horizontal centerline of the DOT symbol located a minimum of 1 inch (2.5 cm) and a maximum of 3 inches (7.6 cm) from the bottom edge of the posterior portion of the helmet.	*Pass	

COMMENT:

1. S5.6 Labeling: *Client has supplied digital artwork for section 5.6.2. ACT has only evaluated that the required content is present; the additional requirements for: formatting, appearance, and permanency were not evaluated.

TEST DATA

Uni-Axial Calibration

M.E.P. Pad Model: 1 MEP

Helmet Manufacturer: MANW

Address :

Laboratory Temperature: 22 deg C

Laboratory Humidit: 57 %

Selected Filter Frequency: 1000 Hz

Acc. sensitivity (axis Z) : 10.59 mV/G

Acc. sensitivity (axis X) : 10.31 mV/G

Acc. sensitivity (axis Y) : 10.31 mV/G

Drop Device : Spherical Impactor (Uni-Axial)

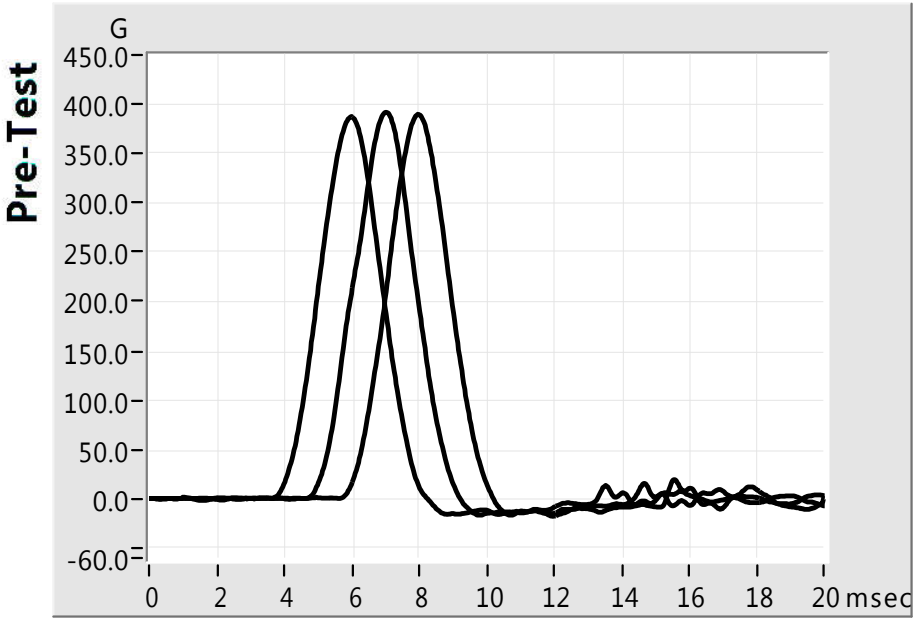
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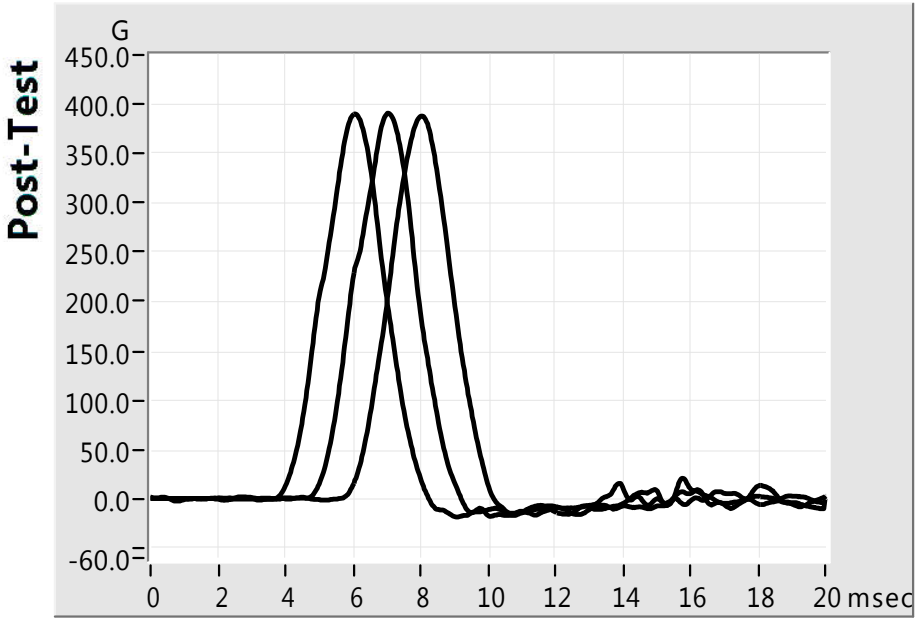
Address : No.35 Zhenghe Road, Ludu Town, Taicang City, Suzhou, Jiangsu Province, China 215412

Drop mass assembly : 5.022 kg Time gate flag height : 25.43 mm

Laboratory Technician name: Edward

Calibration peak : 400.0 G +/- 20.00 G





	Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
Pre-Test	1	387.3	3545	4.7503	115.0	MEP	2.39	2.01	0/0	2021-10-21	08:53:31	-0.0	Pass
	2	391.9	3501	4.6516	115.0	MEP	2.44	2.02	0/0	2021-10-21	08:54:39	2.1	Pass
	3	389.6	3553	4.8214	115.0	MEP	2.39	1.99	0/0	2021-10-21	08:55:51	-1.5	Pass
Post-Test	1	390.1	3478	4.7056	115.0	MEP	2.44	2.04	0/0	2021-10-21	12:49:10	0.9	Pass
	2	390.5	3498	4.6473	115.0	MEP	2.43	2.04	0/0	2021-10-21	12:50:12	2.1	Pass
	3	387.8	3548	4.7590	115.0	MEP	2.40	1.99	0/0	2021-10-21	12:51:37	-0.2	Pass

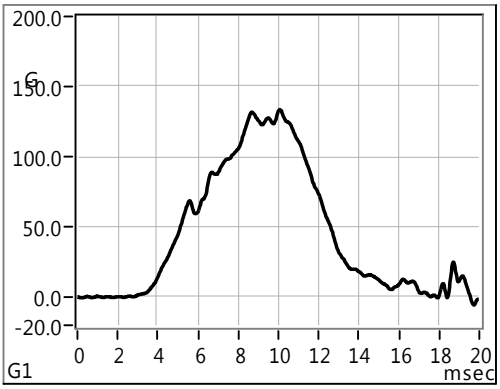
Curve impact #2 : shift of 1ms
Curve impact #3 : shift of 2ms

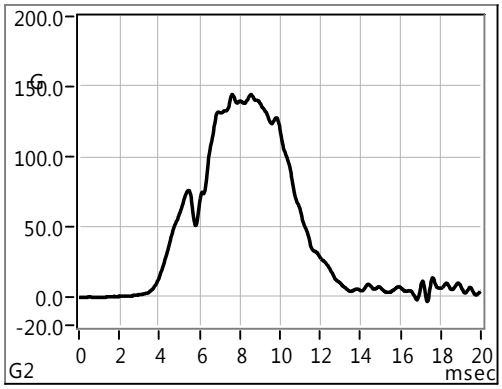
Impact Uni-Axial

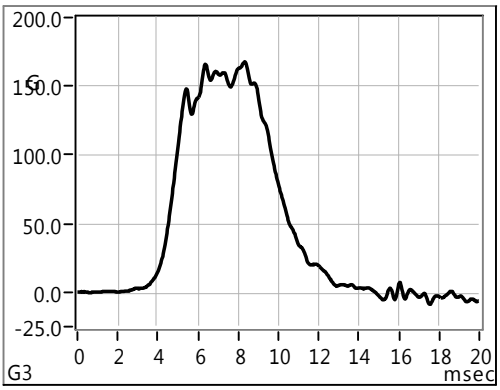
Testing Laboratory : Taicang ACT Lab
Address : No.35 Zhenghe Road, Ludu Town, Taicang City, Suzhou, Jiangsu Province, China 215412

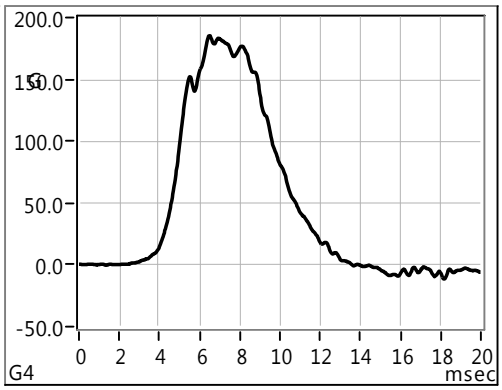
Helmet Manufacturer : MANW
Address :

Laboratory Technician name : Edward
Batch Number :
Ref. P.O. Number :









Model : P7
Color : Black
Size : L(59-60CM)
Weight : 1448.00 g
Manufacturing Date : 20 Oct 2021
Standard Request : FMVSS 218
Identification Code : 1458.09151.001-A
Headform Model : D.O.T.
Headform Size : C D.O.T
Conditioning : Ambiant
Laboratory Temperature : 22 deg C
Laboratory Humidity : 57 %
Selected Filter Frequency : 1650 Hz
Maximum Peak G's authorized : 400 G
Maximum Peak m/s2 authorized : 3923 m/s2
Drop mass assembly : 5.022 kg
Time gate flag height : 25.43 mm
Acc. sensibility (axis Z) : 10.59

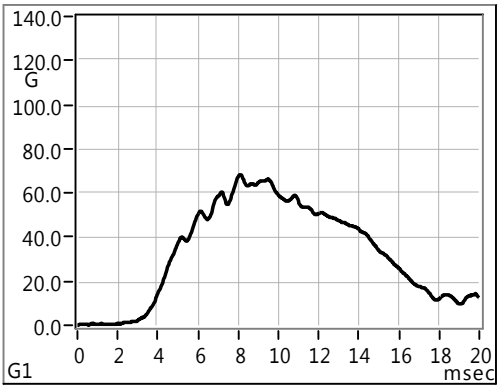
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
1	133.7	706	6.0339	192.0	FLAT	0.00	0.00	RT FRONT	2021-10-21	11:01:50	1.7	Pass
2	144.3	778	6.0194	192.0	FLAT	0.00	0.00	RT FRONT	2021-10-21	11:02:09	1.9	Pass
3	167.8	1228	6.0745	192.0	FLAT	2.64	0.00	LF REAR	2021-10-21	11:05:15	1.0	Pass
4	185.4	1424	6.0675	192.0	FLAT	3.11	0.00	LF REAR	2021-10-21	11:05:27	1.1	Pass

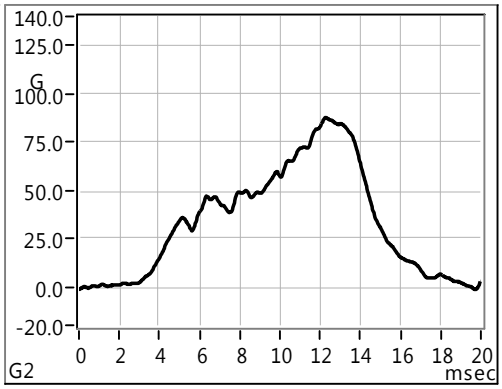
Impact Uni-Axial

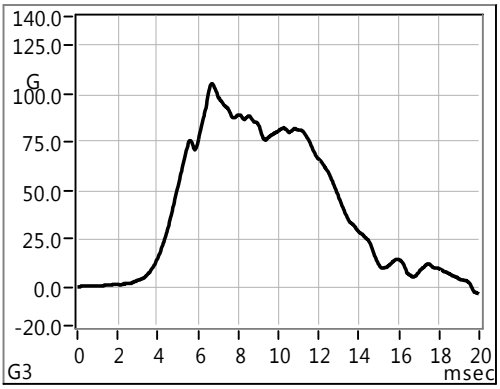
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Address : No.35 Zhenghe Road, Ludu Town, Taicang City, Suzhou, Jiangsu Province, China 215412

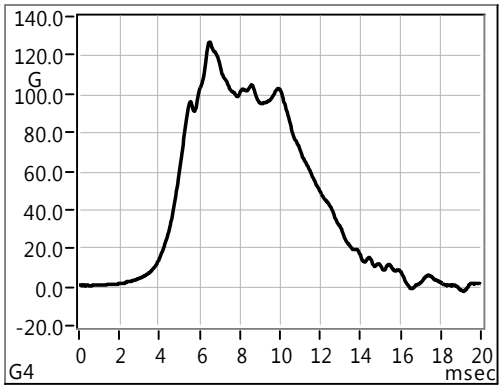
Helmet Manufacturer : MANW
Address :

Laboratory Technician name : Edward
Batch Number :
Ref. P.O. Number :









Model : P7
Color : Black
Size : L(59-60CM)
Weight : 1448.00 g
Manufacturing Date : 20 Oct 2021
Standard Request : FMVSS 218
Identification Code : 1458.09151.001-A
Headform Model : D.O.T.
Headform Size : C D.O.T
Conditioning : Ambiant
Laboratory Temperature : 22 deg C
Laboratory Humidity : 57 %
Selected Filter Frequency : 1650 Hz
Maximum Peak G's authorized : 400 G
Maximum Peak m/s2 authorized : 3923 m/s2
Drop mass assembly : 5.022 kg
Time gate flag height : 25.43 mm
Acc. sensibility (axis Z) : 10.59

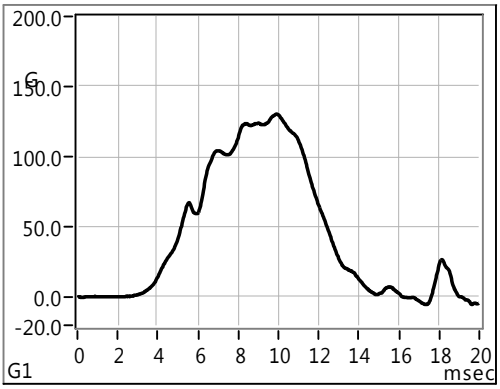
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
5	68.2	201	5.2819	145.0	HEMI	0.00	0.00	LF FRONT	2021-10-21	11:09:01	1.0	Pass
6	87.6	250	5.2948	145.0	HEMI	0.00	0.00	LF FRONT	2021-10-21	11:09:12	0.7	Pass
7	105.1	450	5.3236	145.0	HEMI	0.00	0.00	RT REAR	2021-10-21	11:12:36	0.2	Pass
8	126.8	588	5.2517	145.0	HEMI	0.00	0.00	RT REAR	2021-10-21	11:12:49	1.5	Pass

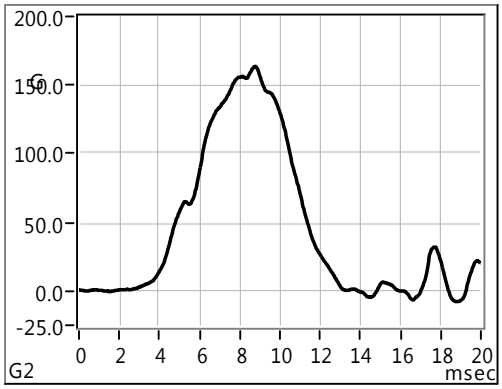
Impact Uni-Axial

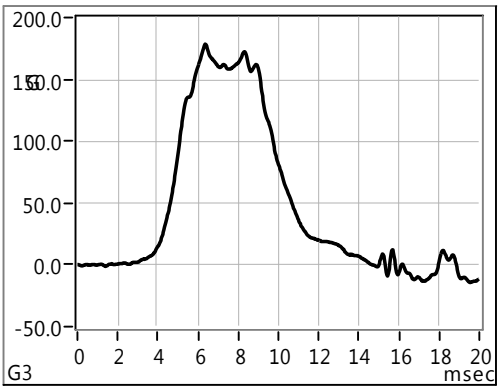
Testing Laboratory : Taicang ACT Lab
Address : No.35 Zhenghe Road, Ludu Town, Taicang City, Suzhou, Jiangsu Province, China 215412

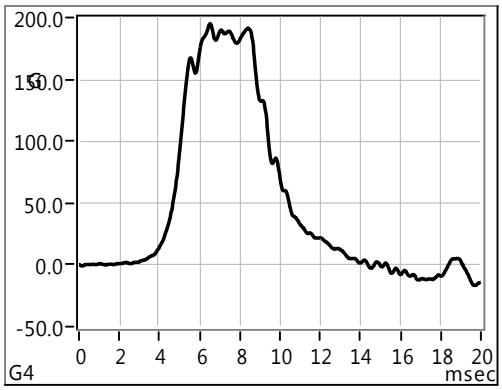
Helmet Manufacturer : MANW
Address :

Laboratory Technician name : Edward
Batch Number :
Ref. P.O. Number :









Model : P7
Color : Black
Size : L(59-60CM)
Weight : 1453.00 g
Manufacturing Date : 20 Oct 2021
Standard Request : FMVSS 218
Identification Code : 1458.09151.001-B
Headform Model : D.O.T.
Headform Size : C D.O.T
Conditioning : Cold
Laboratory Temperature : 22 deg C
Laboratory Humidity : 57 %
Selected Filter Frequency : 1650 Hz
Maximum Peak G's authorized : 400 G
Maximum Peak m/s2 authorized : 3923 m/s2
Drop mass assembly : 5.022 kg
Time gate flag height : 25.43 mm
Acc. sensibility (axis Z) : 10.59

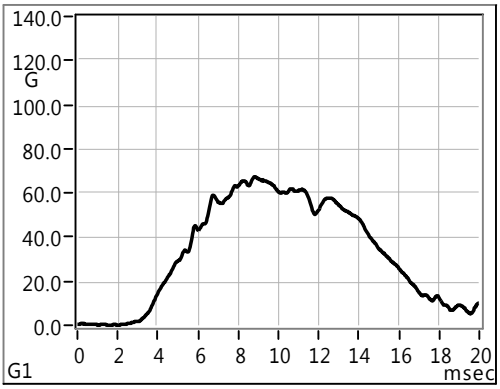
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
1	130.5	731	6.0341	192.0	FLAT	0.00	0.00	RT FRONT	2021-10-21	09:10:42	1.7	Pass
2	163.7	1021	6.0211	192.0	FLAT	1.51	0.00	RT FRONT	2021-10-21	09:10:55	1.9	Pass
3	178.4	1335	6.0903	192.0	FLAT	3.27	0.00	LF REAR	2021-10-21	09:15:01	0.8	Pass
4	195.0	1596	6.0904	192.0	FLAT	3.47	0.00	LF REAR	2021-10-21	09:15:12	0.8	Pass

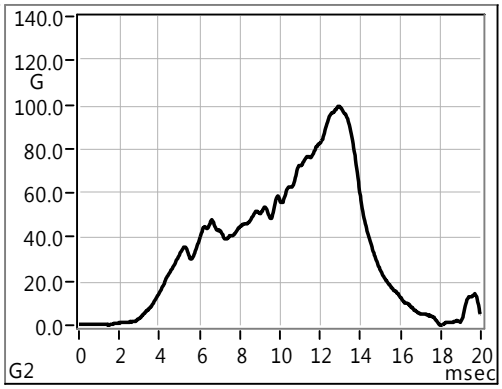
Impact Uni-Axial

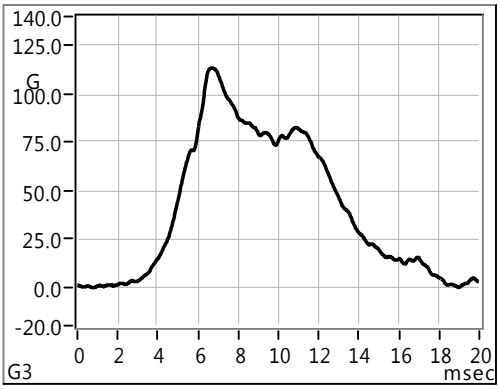
Testing Laboratory : Taicang ACT Lab
Address : No.35 Zhenghe Road, Ludu Town, Taicang City, Suzhou, Jiangsu Province, China 215412

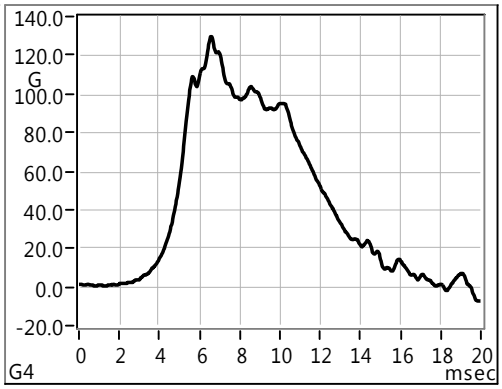
Helmet Manufacturer : MANW
Address :

Laboratory Technician name : Edward
Batch Number :
Ref. P.O. Number :









Model : P7
Color : Black
Size : L(59-60CM)
Weight : 1453.00 g
Manufacturing Date : 20 Oct 2021
Standard Request : FMVSS 218
Identification Code : 1458.09151.001-B
Headform Model : D.O.T.
Headform Size : C D.O.T
Conditioning : Cold
Laboratory Temperature : 22 deg C
Laboratory Humidity : 57 %
Selected Filter Frequency : 1650 Hz
Maximum Peak G's authorized : 400 G
Maximum Peak m/s2 authorized : 3923 m/s2
Drop mass assembly : 5.022 kg
Time gate flag height : 25.43 mm
Acc. sensibility (axis Z) : 10.59

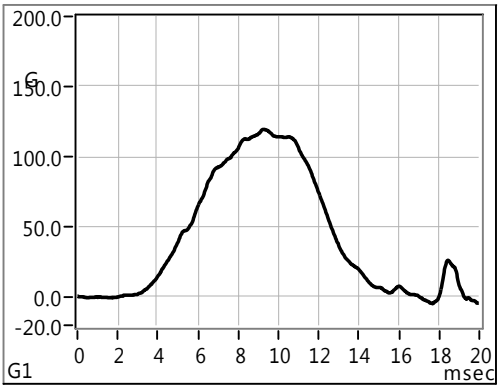
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
5	67.3	216	5.2507	145.0	HEMI	0.00	0.00	LF FRONT	2021-10-21	09:18:04	1.5	Pass
6	99.1	255	5.2520	145.0	HEMI	0.00	0.00	LF FRONT	2021-10-21	09:18:15	1.5	Pass
7	113.4	461	5.2749	145.0	HEMI	0.00	0.00	RT REAR	2021-10-21	09:20:46	1.1	Pass
8	129.6	602	5.2908	145.0	HEMI	0.00	0.00	RT REAR	2021-10-21	09:20:56	0.8	Pass

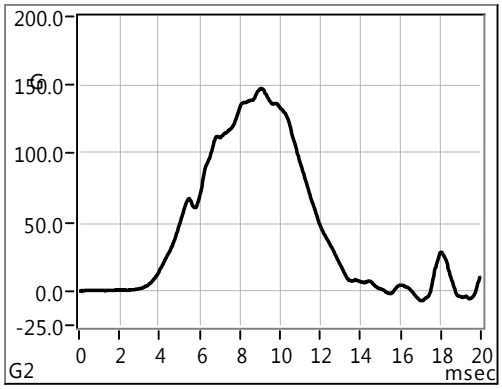
Impact Uni-Axial

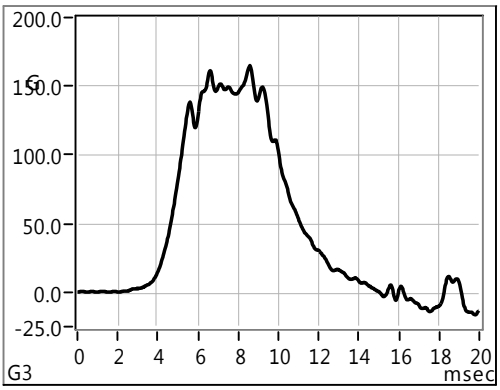
Testing Laboratory : Taicang ACT Lab
Address : No.35 Zhenghe Road, Ludu Town, Taicang City, Suzhou, Jiangsu Province, China 215412

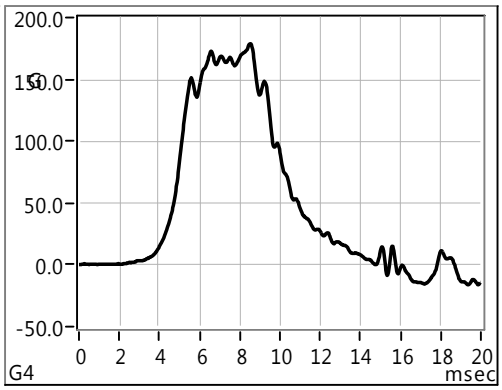
Helmet Manufacturer : MANW
Address :

Laboratory Technician name : Edward
Batch Number :
Ref. P.O. Number :









Model : P7
Color : Black
Size : L(59-60CM)
Weight : 1465.00 g
Manufacturing Date : 20 Oct 2021
Standard Request : FMVSS 218
Identification Code : 1458.09151.001-C
Headform Model : D.O.T.
Headform Size : C D.O.T
Conditioning : Hot
Laboratory Temperature : 22 deg C
Laboratory Humidity : 57 %
Selected Filter Frequency : 1650 Hz
Maximum Peak G's authorized : 400 G
Maximum Peak m/s2 authorized : 3923 m/s2
Drop mass assembly : 5.022 kg
Time gate flag height : 25.43 mm
Acc. sensibility (axis Z) : 10.59

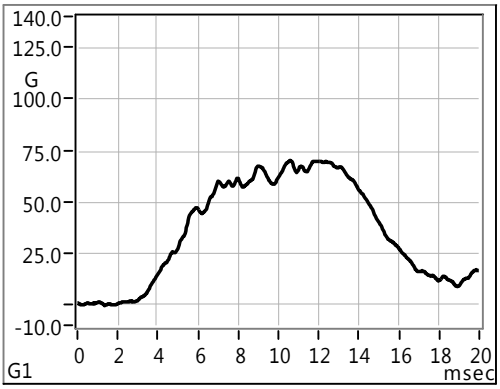
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
1	119.4	635	6.0394	192.0	FLAT	0.00	0.00	RT FRONT	2021-10-21	09:12:15	1.6	Pass
2	147.5	831	6.0497	192.0	FLAT	0.00	0.00	RT FRONT	2021-10-21	09:12:34	1.4	Pass
3	165.1	1136	6.0802	192.0	FLAT	1.08	0.00	LF REAR	2021-10-21	09:15:47	0.9	Pass
4	178.9	1351	6.0917	192.0	FLAT	2.84	0.00	LF REAR	2021-10-21	09:15:58	0.7	Pass

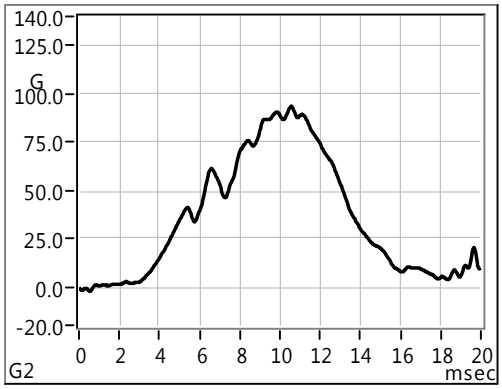
Impact Uni-Axial

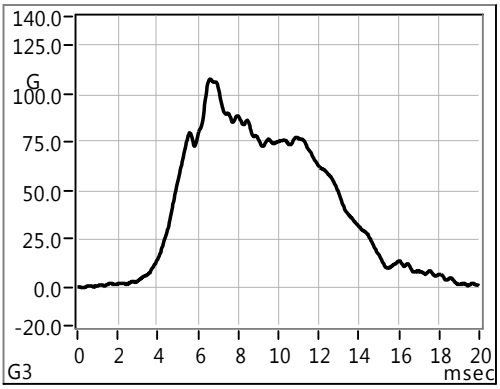
Testing Laboratory : Taicang ACT Lab
Address : No.35 Zhenghe Road, Ludu Town, Taicang City, Suzhou, Jiangsu Province, China 215412

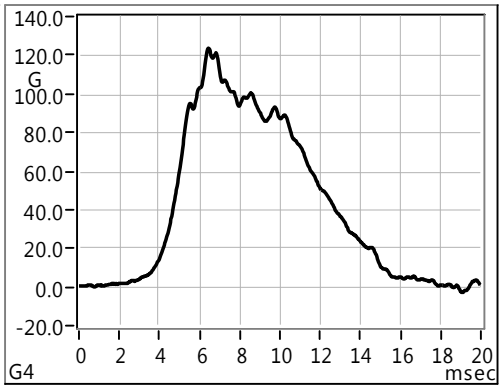
Helmet Manufacturer : MANW
Address :

Laboratory Technician name : Edward
Batch Number :
Ref. P.O. Number :









Model : P7
Color : Black
Size : L(59-60CM)
Weight : 1465.00 g
Manufacturing Date : 20 Oct 2021
Standard Request : FMVSS 218
Identification Code : 1458.09151.001-C
Headform Model : D.O.T.
Headform Size : C D.O.T
Conditioning : Hot
Laboratory Temperature : 22 deg C
Laboratory Humidity : 57 %
Selected Filter Frequency : 1650 Hz
Maximum Peak G's authorized : 400 G
Maximum Peak m/s2 authorized : 3923 m/s2
Drop mass assembly : 5.022 kg
Time gate flag height : 25.43 mm
Acc. sensibility (axis Z) : 10.59

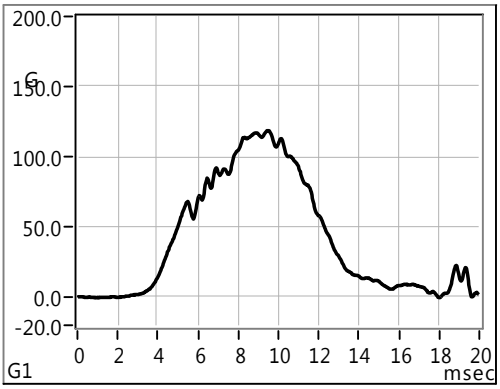
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
5	70.1	261	5.2676	145.0	HEMI	0.00	0.00	LF FRONT	2021-10-21	09:19:01	1.2	Pass
6	93.6	312	5.2892	145.0	HEMI	0.00	0.00	LF FRONT	2021-10-21	09:19:10	0.8	Pass
7	107.4	425	5.2817	145.0	HEMI	0.00	0.00	RT REAR	2021-10-21	09:21:31	1.0	Pass
8	123.6	548	5.2827	145.0	HEMI	0.00	0.00	RT REAR	2021-10-21	09:21:41	0.9	Pass

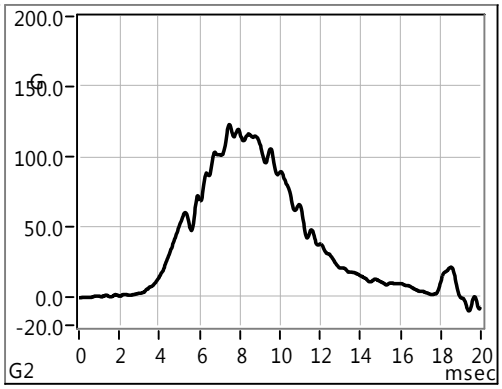
Impact Uni-Axial

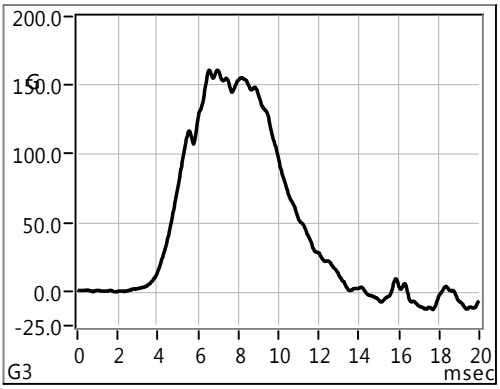
Testing Laboratory : Taicang ACT Lab
Address : No.35 Zhenghe Road, Ludu Town, Taicang City, Suzhou, Jiangsu Province, China 215412

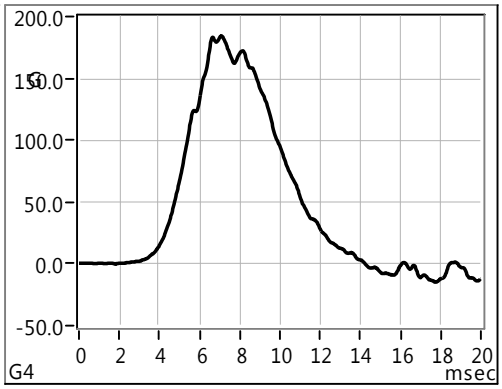
Helmet Manufacturer : MANW
Address :

Laboratory Technician name : Edward
Batch Number :
Ref. P.O. Number :









Model : P7
Color : Black
Size : L(59-60CM)
Weight : 1458.00 g
Manufacturing Date : 20 Oct 2021
Standard Request : FMVSS 218
Identification Code : 1458.09151.001-D
Headform Model : D.O.T.
Headform Size : C D.O.T
Conditioning : Wet
Laboratory Temperature : 22 deg C
Laboratory Humidity : 57 %
Selected Filter Frequency : 1650 Hz
Maximum Peak G's authorized : 400 G
Maximum Peak m/s2 authorized : 3923 m/s2
Drop mass assembly : 5.022 kg
Time gate flag height : 25.43 mm
Acc. sensibility (axis Z) : 10.59

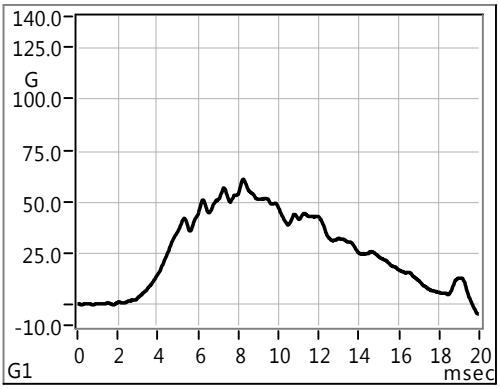
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
1	118.5	560	6.0235	192.0	FLAT	0.00	0.00	RT FRONT	2021-10-21	11:02:58	1.8	Pass
2	123.1	477	6.0331	192.0	FLAT	0.00	0.00	RT FRONT	2021-10-21	11:03:20	1.7	Pass
3	160.9	1080	6.0746	192.0	FLAT	1.82	0.00	LF REAR	2021-10-21	11:06:00	1.0	Pass
4	184.4	1259	6.0633	192.0	FLAT	2.64	0.00	LF REAR	2021-10-21	11:06:15	1.2	Pass

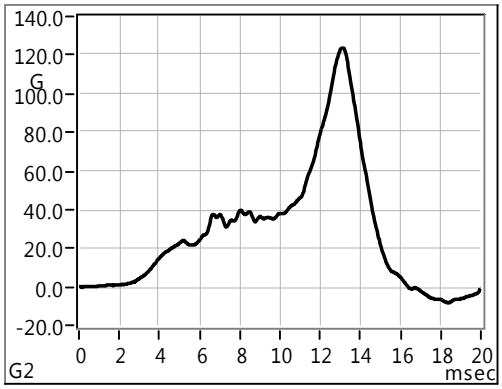
Impact Uni-Axial

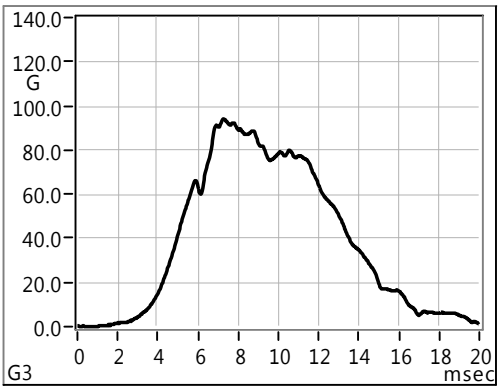
Testing Laboratory : Taicang ACT Lab
Address : No.35 Zhenghe Road, Ludu Town, Taicang City, Suzhou, Jiangsu Province, China 215412

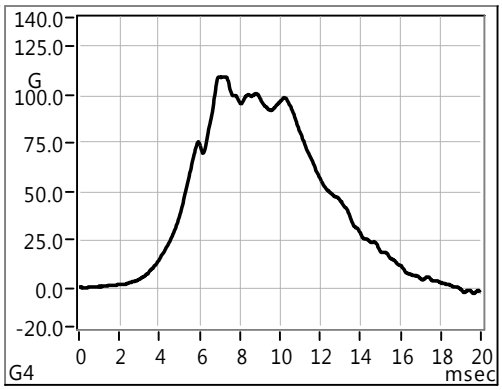
Helmet Manufacturer : MANW
Address :

Laboratory Technician name : Edward
Batch Number :
Ref. P.O. Number :









Model : P7
Color : Black
Size : L(59-60CM)
Weight : 1458.00 g
Manufacturing Date : 20 Oct 2021
Standard Request : FMVSS 218
Identification Code : 1458.09151.001-D
Headform Model : D.O.T.
Headform Size : C D.O.T
Conditioning : Wet
Laboratory Temperature : 22 deg C
Laboratory Humidity : 57 %
Selected Filter Frequency : 1650 Hz
Maximum Peak G's authorized : 400 G
Maximum Peak m/s2 authorized : 3923 m/s2
Drop mass assembly : 5.022 kg
Time gate flag height : 25.43 mm
Acc. sensibility (axis Z) : 10.59

Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
5	60.9	116	5.3096	145.0	HEMI	0.00	0.00	LF FRONT	2021-10-21	11:10:08	0.4	Pass
6	123.6	224	5.2759	145.0	HEMI	0.00	0.00	LF FRONT	2021-10-21	11:10:22	1.1	Pass
7	94.1	384	5.2490	145.0	HEMI	0.00	0.00	RT REAR	2021-10-21	11:13:22	1.6	Pass
8	109.3	481	5.2594	145.0	HEMI	0.00	0.00	RT REAR	2021-10-21	11:13:35	1.4	Pass

DOT Auto – Test results

Laboratory

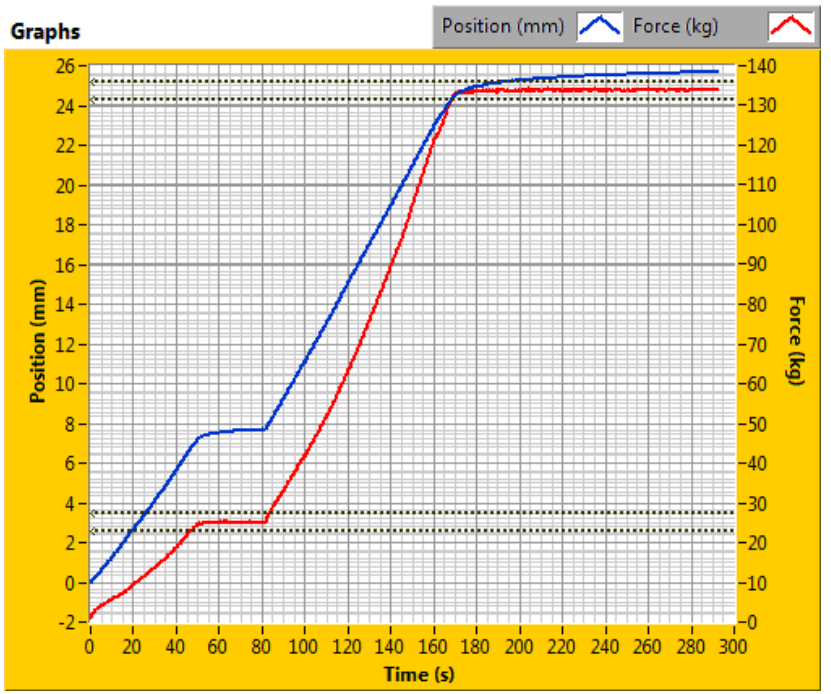
Laboratory	ACT Lab
Technician	BEN
Temperature	22
Humidity	57%

Sample

Model	P7
Color	Black
Size	L(59-60cm)
Weight	1448
Manufacturer	MANW
Manuf. Date	10/21

Infos

Standard	FMVSS NO.218
Comment	1458.09151.001-A



Results

Test	Time Data D/M/Y h:m:s	DL ?	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del.1 to Del2) (mm)	Pass/Fail
Test#63	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	17.7	Pass

DOT Auto – Test results

Laboratory

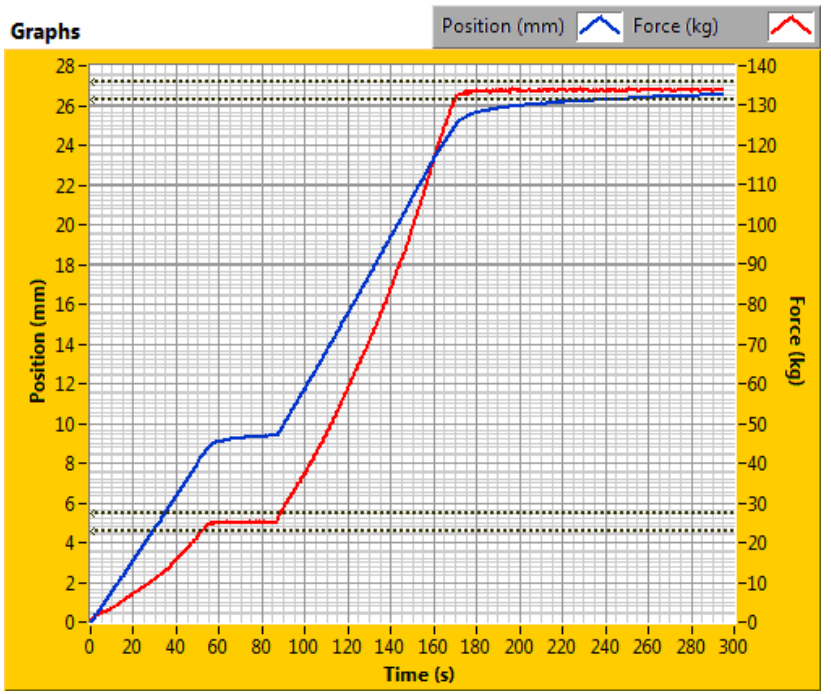
Laboratory	ACT Lab
Technician	BEN
Temperature	22
Humidity	57%

Sample

Model	P7
Color	Black
Size	L(59-60cm)
Weight	1453
Manufacturer	MANW
Manuf. Date	10/21

Infos

Standard	FMVSS NO.218
Comment	1458.09151.001-B



Results

Test	Time Data D/M/Y h:m:s	DL ?	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del.1 to Del2) (mm)	Pass/Fail
Test#0	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	16.8	Pass

DOT Auto – Test results

Laboratory

Laboratory	ACT Lab
Technician	BEN
Temperature	22
Humidity	57%

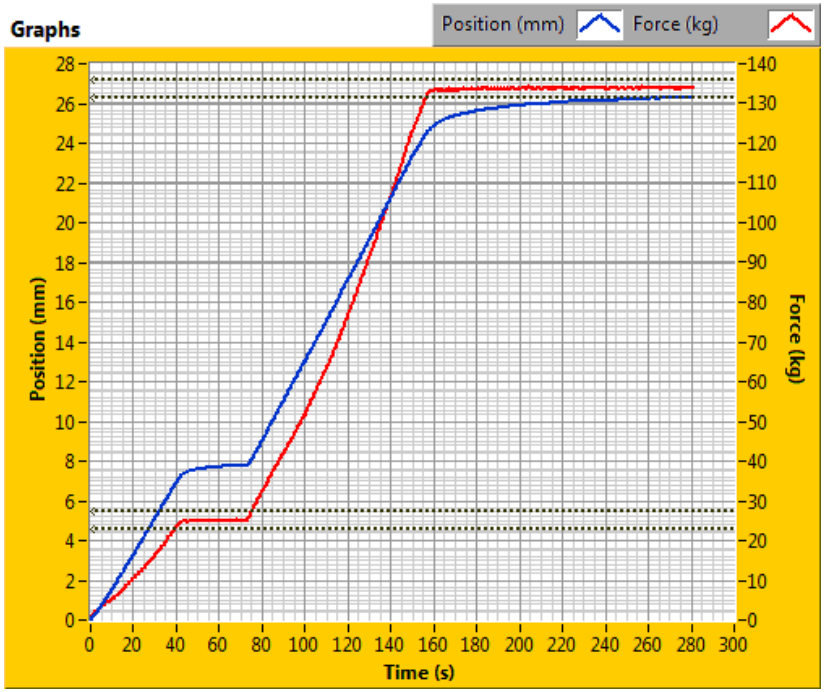
Sample

Model	P7
Color	Black
Size	L(59-60cm)
Weight	1465
Manufacturer	MANW
Manuf. Date	10/21

Infos

Standard	FMVSS NO.218
Comment	1458.09151.001-C

Graphs



Results

Test	Time Data D/M/Y h:m:s	DL ?	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del.1 to Del2) (mm)	Pass/Fail
Test#1	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	18.1	Pass

DOT Auto – Test results

Laboratory

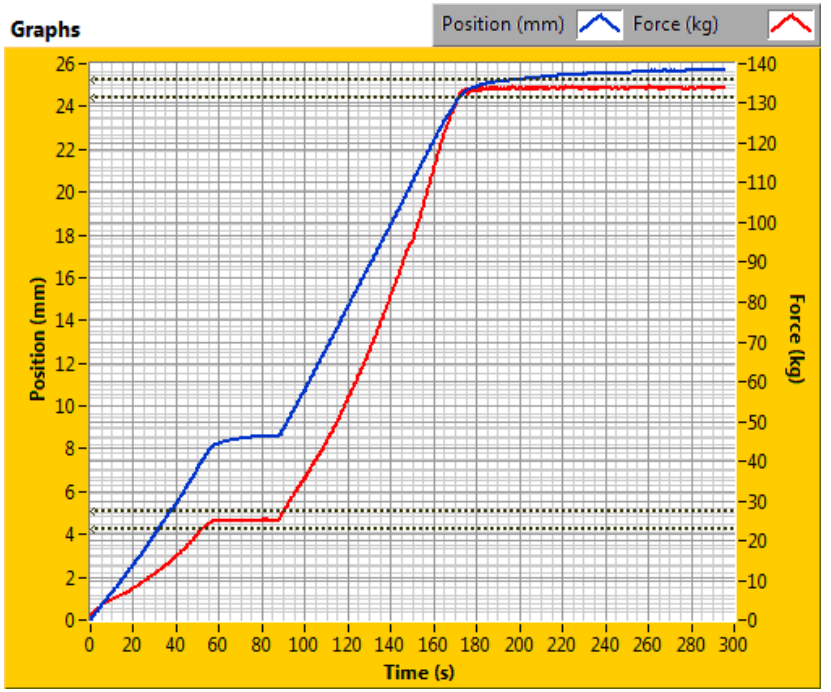
Laboratory	ACT Lab
Technician	BEN
Temperature	22
Humidity	57%

Sample

Model	P7
Color	Black
Size	L(59-60cm)
Weight	1458
Manufacturer	MANW
Manuf. Date	10/21

Infos

Standard	FMVSS NO.218
Comment	1458.09151.001-D



Results

Test	Time Data D/M/Y h:m:s	DL ?	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del.1 to Del2) (mm)	Pass/Fail
Test#2	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	16.9	Pass

APPENDIX A

INTERPRETATIONS OR DEVIATIONS FROM FMVSS 218

1. S5.6 Labeling: *Client has supplied digital artwork for section 5.6.1 and 5.6.2, ACT has only evaluated that the required content is present.

2. S6.4 Conditioning: Excess water on the water immersed sample was allowed to drip off before testing to prevent water damage to test equipment.

3. S5.5 Projections has been removed from this report. The manufacturer hereby acknowledges that they are responsible for ensuring compliance of all requirements within the FMVSS No.218 standard when conducting self-certification.

APPENDIX B

EQUIPMENT LIST AND CALIBRATION SCHEDULES

EQUIPMENT INFORMATION

General Information

Drop System: Monorail
Software: Cadex Impact Software v 6.4f

Item	Model	S/N
Computer	VD200PA#AB2	CNG9211DB1
Data Acquisition Board	187570H-01	13EC16A
Time Gate	Cadex	HVTG12009033-1
Control Box	PC4300	CCS120090331-1

Headforms

Item	Size	Model	Assembly Wt., grams
Uni-Axial	Headform Size DOT SMALL	Cadex	3573
Uni-Axial	Headform Size DOT MEDIUM	Cadex	5060
Uni-Axial	Headform Size DOT LARGE	Cadex	6185

Sensors

Item		Model	S/N
Uni-Axial	Accelerometer	PCB 353B18	86079

EQUIPMENT LIST AND CALIBRATION SCHEDULES

EQUIPMENT LIST						
Asset Tag	Location	Description of part	Model Number	Serial Number	Verification Interval	Next Verification
H1001	Helmet Room	Instrument	Yellow tower - 1000_00_MIMAT	NA	NA	NA
H1002	Helmet Room	Instrument	Green tower - Series 2000	NA	NA	NA
H1010	Helmet Room	Instrument	Control Center System - Pc4300	CCS120090331-1	NA	NA
H1011	Helmet Room	Instrument	Impact Machine System - DX3000	NA	NA	NA
H1013	Helmet Room	Instrument	Charge Amplifier - ATA2001	J72863	NA	NA
H1015	Helmet Room	Instrument	Positional Stability CPSC/ASTM	NA	1 year	4/11/2022
H1017	Helmet Room	Instrument	Retention Machine DOT - SB033	NA	NA	NA
H1019	Helmet Room	Instrument	Chin Bar Deflection ASTM/SNELL	NA	NA	NA
H1026	Helmet Room	Instrument	Laser table - SB005	TLTV2KB-	NA	NA
H1027	Helmet Room	Instrument	Fixture-Vision scale	NA	3 year	3/11/2024
H1034	Helmet Room	Environmental	Water Container	NA	NA	NA
H1043	Helmet Room	Headform	Impact ISO A	4272	1 year	10/19/2022
H1044	Helmet Room	Headform	Impact ASTM F2220 C	6938	1 year	10/19/2022
H1045	Helmet Room	Headform	Impact ISO E	4146	1 year	10/19/2022
H1046	Helmet Room	Headform	Impact ISO J	4148	1 year	10/19/2022
H1047	Helmet Room	Headform	Impact ISO M	4131	1 year	10/19/2022
H1048	Helmet Room	Headform	Impact ISO O	4151	1 year	10/19/2022
H1049	Helmet Room	Headform	Impact DOT Small	5178	1 year	10/19/2022
H1050	Helmet Room	Headform	Impact DOT Medium	5179	1 year	10/19/2022
H1051	Helmet Room	Headform	Impact DOT Large	5190	1 year	10/19/2022
H1052	Helmet Room	Anvil	System Check Spherical Impactor	NA	1 year	10/19/2022
H1053	Helmet Room	System Check	MEP Pad - 345_08_MP60	30051201	1 year	2020 yearly report
H1054	Helmet Room	Anvil	Chin Bar	NA	1 year	10/19/2022
H1055	Helmet Room	Anvil	Curb	NA	1 year	12/12/2021
H1056	Helmet Room	Anvil	Cylinder	NA	1 year	12/12/2021
H1059	Helmet Room	Anvil	Hazard	NA	1 year	12/12/2021
H1060	Helmet Room	Anvil	Hemispherical yellow tower	NA	1 year	12/12/2021
H1062	Helmet Room	Anvil	Flat yellow tower	NA	1 year	12/12/2021
H1064	Helmet Room	Instrument	Control Center System yellow tower -	CCS120120810-1	NA	NA
H1066	Helmet Room	Instrument	Penetration striker DOT	NA	1 year	9/10/2022
H1091	Helmet Room	Angle Measure	40°Block	NA	3 year	6/4/2023
H1092	Helmet Room	Fixture	Clamp - 119g	NA	1 year	10/19/2022
H1093	Helmet Room	Fixture	Clamp - 210g	NA	1 year	10/19/2022
H1094	Helmet Room	Fixture	Clamp - 378g	NA	1 year	10/19/2022
H1095	Helmet Room	Fixture	Clamp - 451g	NA	1 year	10/19/2022
H1096	Helmet Room	Fixture	Clamp - 505g	NA	1 year	10/19/2022
H1097	Helmet Room	Fixture	Clamp - 598g	NA	1 year	10/19/2022
H1098	Helmet Room	Fixture	Clamp - 1160g	NA	1 year	10/19/2022
H1099	Helmet Room	Anvil	Flat Green Tower	NA	1 year	12/12/2021
H1100	Helmet Room	Anvil	Hemispherical Green Tower	NA	1 year	12/12/2021
H1101	Helmet Room	Headform	DOT Retention Strength Small	NA	1 year	12/12/2021
H1102	Helmet Room	Headform	DOT Retention Strength Medium	NA	1 year	12/12/2021
H1103	Helmet Room	Headform	DOT Retention Strength Large	NA	1 year	12/12/2021
H1105	Helmet Room	Drop Mass	Aluminum Ball Stem Green tower	NA	1 year	10/19/2022
H1106	Helmet Room	Drop Mass	Steel Ball Stem	NA	1 year	10/19/2022
H1107	Helmet Room	Drop Mass	Magnesium Ball Arm	NA	1 year	10/19/2022
H1117	Helmet Room	Instrument	Helmet Internal circumference measure	NA	NA	NA
H1123	Helmet Room	Fixture	Roll Off Headform fasten fixture	NA	NA	NA
H1126	Helmet Room	Drop Mass	Complete Pistol Grip Green tower	NA	1 year	10/19/2022
H1127	Helmet Room	Headform	Setup ASTM F2220 C	6947	1 year	12/12/2021
H1128	Helmet Room	Headform	DOT Penetration Small	NA	1 year	12/12/2021
H1129	Helmet Room	Headform	DOT Penetration Medium	NA	1 year	12/12/2021
H1130	Helmet Room	Headform	DOT Penetration Large	NA	1 year	12/12/2021
H1143	Helmet Room	Height Measure	DOT Opening Block	NA	3 year	10/9/2023
H1144	Helmet Room	Fixture	Laser table headform base	NA	NA	NA
H1145	Helmet Room	Fixture	Penetration headform base	NA	NA	NA
H1146	Helmet Room	Fixture	Penetration height measure	NA	NA	NA
H1149	Helmet Room	Preload mass	NA	NA	1 year	10/9/2022
H1150	Helmet Room	10kg block	NA	NA	1 year	10/9/2022
H1178	Helmet Room	Drop Mass	Complete Pistol Grip	NA	1 year	10/19/2022
H1179	Helmet Room	Drop Mass	Aluminum Ball Stem	NA	1 year	10/19/2022

CALIBRATED MEASUREMENT DEVICES							
Asset Tag	**Description of part**	**Model Number**	**Measuring Range**	**Accuracy**	**Serial Number**	**Last Calibrated On**	**Calibration Due On**
H1003	Instrument	Velocity gate Yellow tower	(0-7.5)m/s	0.0001m/s	HVTG120120810-1	10/4/2021	10/3/2022
H1004	Instrument	Velocity gate Green tower	(0-6.4)m/s	0.0001m/s	HVTG120090331-1	2/17/2021	2/16/2022
H1007	Instrument	Uni-axial Accelerometer green tower - 353B18	≥1000g	≥1°	86079	10/8/2021	10/7/2022
H1009	Height Measure	Digital tape yellow tower - 16'	(0-5.5)m	0.1cm	5027526	10/25/2020	10/24/2021
H1012	Instrument	Displacement sensor - C20101007753	(0-50)mm	0.1mm	J72863	10/22/2020	10/21/2021
H1014	Instrument	Displacement sensor - LWE-200	(0-100)mm	0.1mm	2002572	10/22/2020	10/21/2021
H1025	Weight Measure	Electronic scale - BT-6	(40-6000)g	0.1g	12230126	7/8/2021	7/7/2022
H1027	Angle Measure	Vision scale - 7°,25°,45°,105°	7°,25°,45°,105°		H-002	10/26/2018	10/25/2021
H1030	Environmental Chamber	Oven #1 - 92*9240MBE	(0-200)℃	1℃	8285	7/8/2021	7/7/2022
H1031	Environmental Chamber	Oven #2 - DHG-9426	(0-200)℃	0.1℃	1503338018	10/22/2020	10/21/2021
H1032	Environmental Chamber	Freezer #1 - DW-25W300	(-30~-10)℃	0.1℃	BE062100N00B29578VMO	7/8/2021	7/7/2022
H1033	Environmental Chamber	Freezer #2 - DW-50W225	(-30~-10)℃	0.1℃	F8LMJ	10/22/2020	10/21/2021
H1036	Environmental Measure	Temperature and humidity #1 - TH-602F	(-30~60)℃,(0-100)%	2℃	3238	7/9/2021	7/8/2022
H1057	Anvil	Edge	NA		NA	10/27/2020	10/26/2023
H1058	Anvil	Equestrian	NA		NA	10/27/2020	10/26/2023
H1061	Anvil	Blade	NA		NA	10/27/2020	10/26/2023
H1063	Height Measure	Digital tape - 5m	(0-5)m	0.1mm	78223	10/27/2020	10/26/2021
H1070	Instrument	Load cell - 9363-B10-300-20T1	(0-136)kg	0.1kg	80310843	7/8/2021	7/7/2022
H1071	Environmental Measure	Temperature and humidity #3 - TH600B	(-20~100)℃,(0-100)%	1℃	Q/MDS001-2017-1	7/8/2021	7/7/2022
H1072	Environmental Measure	Temperature and humidity #4 - TH600B	(-20~100)℃,(0-100)%	1℃	Q/MDS001-2017-2	7/8/2021	7/7/2022
H1073	Height Measure	Height Gauge	(0-500)mm	0.01mm	8811213838273610	9/22/2020	9/21/2021
H1074	Distance Measure	Vernier caliper - SJ-455615	(0-150)mm	0.01mm	455615	10/22/2020	10/21/2021
H1076	Environmental Measure	Calorifier - CN-111	18-35℃	0.1℃	NA	10/27/2020	10/26/2021
H1077	Distance Measure	Tape	0-1.5m	1mm	NA	10/27/2020	10/26/2021
H1172	Height Measure	Height Rod #6	600±5mm	1mm	032216-02	4/13/2021	4/12/2022
H1174	System Check	MEP PAD	NA	NA	021921-01	3/5/2021	3/4/2022
H1184	Instrument	Uni-axial Accelerometer yellow tower - 353B18	± 500 g	≤ 1%	LW226664	8/24/2021	8/23/2022

APPENDIX C

PHOTOGRAPHS

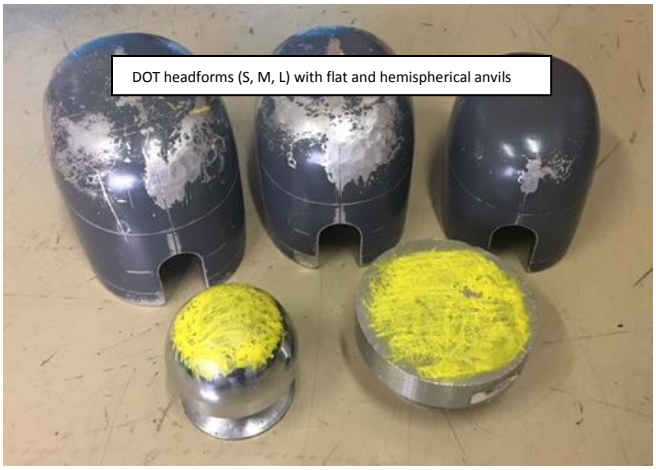
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Impact attenuation test apparatus and data acquisition equipment



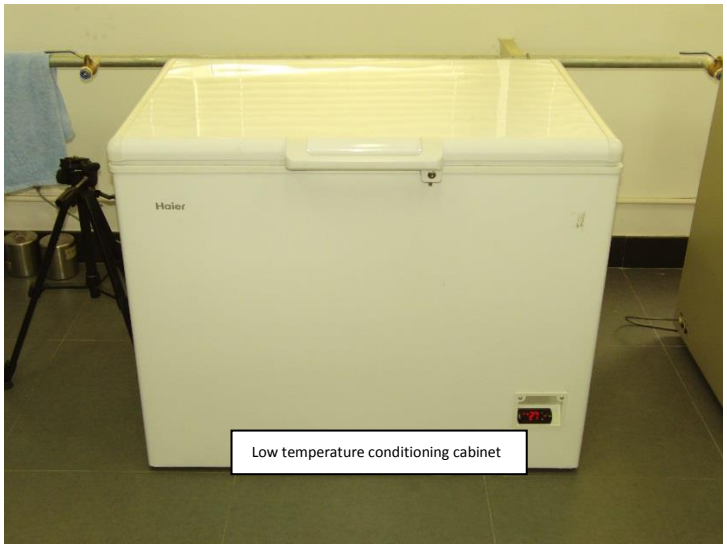
Retention system test apparatus



DOT headforms (S, M, L) with flat and hemispherical anvils



Penetration test apparatus with adjustable base


Haier
Low temperature conditioning cabinet


Water immersion equipment


High temperature chamber




1458.09151.001-B





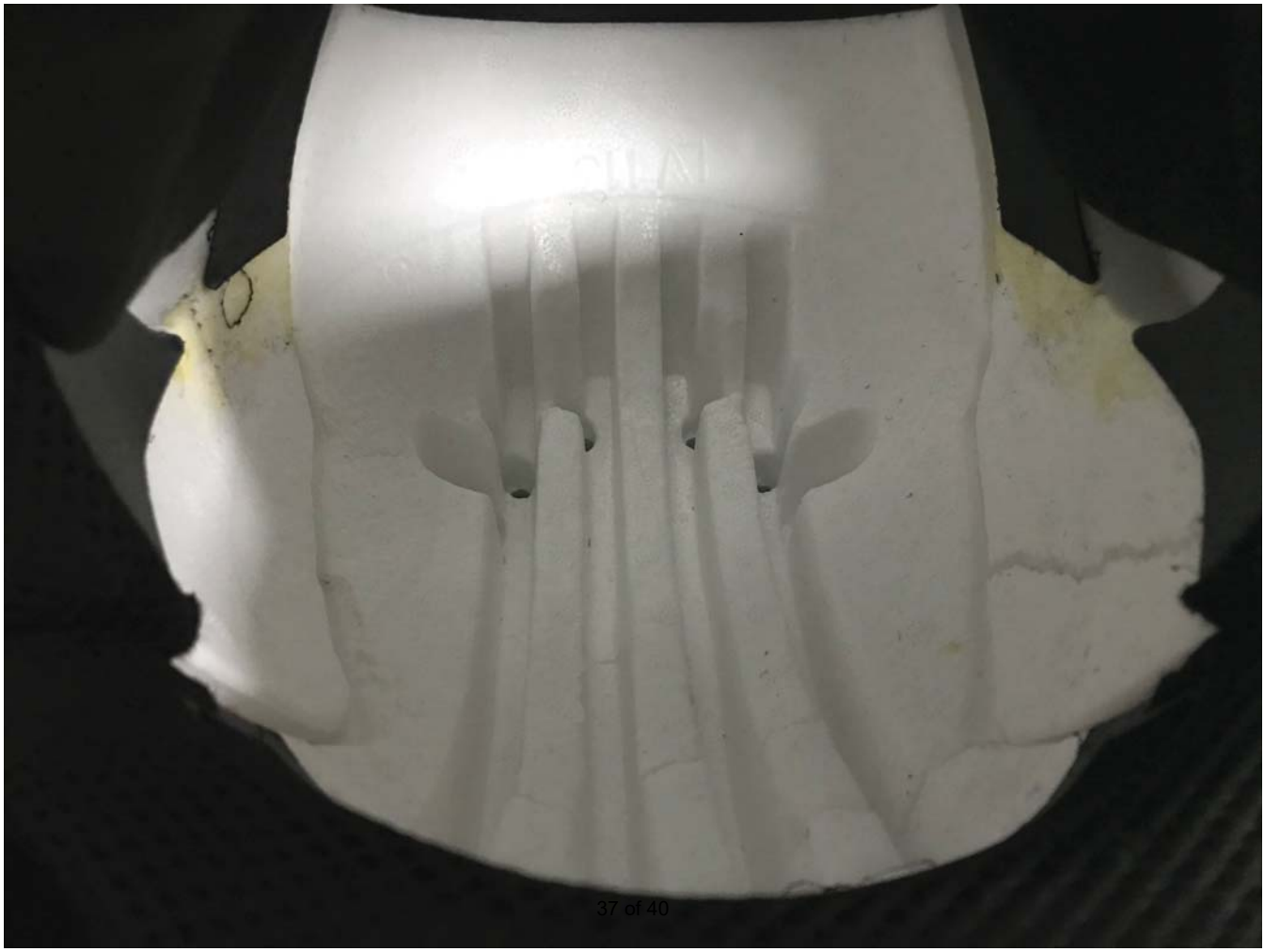












Size:	L (59-60cm)
Manufacturer: Foshan Manw Sports Products Co.,Ltd.	
Date of Manufacture:	2021-10

WARNNING

No helmet can protect the user from all possible impacts.
To provide maximum protection, the helmet must:

1. Fit snugly enough to move your skin and scalp when you try to move helmet on your head with chinstrap fastened, Test by attempting to move helmet from side to side, and from rear edge upwards and forward. Helmet should not move on your head. It should not roll upwards or come off when lifted from rear edge.
2. Must allow adequate peripheral vision, especially when worn with goggles or eye protection. Tinted goggles or face shields should not be worn at night or in any condition of poor visibility.
3. The chin strap must always be fastened securely, back and tight against your throat.
4. Helmet can be seriously damaged by some common substances without damage being visible to the user.
5. Apply only mild soap and water to clean the helmet.

Helmets are designed to absorb shock, Shell and liner may be partially destroyed in this process, but damage may not be visible. After any blow or impact replace or return to manufacturer for inspection and/or replacement.
This helmet shell is Plastic, and Liner is Expanded Polystyrene(EPS)
, Make no modification whatsoever to helmet shell, liner, or retention system.
LMPORTANT: Review your Helmet Owner's Manual for additional information on proper fit .care and storage prior to using your new helmet.
Meets, U. S. DOT Standard F M V SS218.
Made in China
Date of manufacture: AUG, 2021
Helmet model:
Manufactured by: Foshan Manw Sports Products Co.,Ltd
Size: L (59-60CM)

LVCOOL

P7

DOT

FMVSS NO.218

CERTIFIED

NOTICE

1. The report is not effective without the signature of the person(s) authorizing the report (ACT Lab's authorized signatory is John A. Bogler (President)).
2. The report is not valid if altered.
3. Claims have to be made within 15 days after receipt of this report.
4. The results of this test report relate only to the items tested.
5. The results apply to the samples as received.
6. For reports that contain results from external test service providers: Results from external test service providers are supplied by the customer and can affect validity of results.
7. Decision rule applied according to "ILAC-G8:09/2019 - Guidelines on the Reporting of Compliance with Specification".

****

END OF REPORT