



ACT Lab LLC 3280 East 59th Street, Long Beach, CA 90805 | Tel 562.470.7215 | Web act-lab.com

SAFETY COMPLIANCE TESTING FOR FMVSS No. 218 MOTORCYCLE HELMETS

Brand: LEATT
Model: MOTO 2.5
Tested Size: XS (53-54 cm)

Prepared For:

Leatt Corporation
12 Kiepersol Crescent,
Atlas Gardens Business Park,
Cape Farms, Cape Town,
7550, ZA



Issue Date: 19 September 2022

Final Report: 904.10600.008

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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Contract File No.: 904.10600
Test File: 008

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19
SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/FMVSS No.218

Technician: Edward Wang
Test Date: 16 August 2022



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PURPOSE OF COMPLIANCE TEST

Purpose:

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

Dongguan Yiyang Sports 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: LEATTHELMET MODEL DESIGNATION: MOTO 2.5HELMET MANUFACTURER: DONGGUAN YIYANG SPORTS CO., LTD.HELMET SIZE: XS (53-54 cm)HELMET COVERAGE: Partial: Full: Complete: XHELMET POSITIONING INDEX: 53 mmSHELL MATERIAL: ABSLINER MATERIAL: Expanded PolystyreneBUCKLE DESCRIPTION: Double D-Rings

HELMET	A Ambient	B Low Temp	C High Temp	D Water Immersed	E Spare
SHELL COLOR/PATTERN	Black	Black	Black	Black	---
WEIGHT (grams)	999	998	1006	1000	---
MONTH & YEAR OF MANUFACTURE	04/22	04/22	04/22	04/22	---

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 visor removed.
3. ACT determined the HPI information prior to testing.

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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
PROJECTIONS	Pass
LABELING	Pass

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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: XS (53-54 cm).
Headform Size: DOT SMALL.

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

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 °C ; AVERAGE LAB HUMIDITY : 57 %

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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
904.10600.008-A	Ambient	1	LF SIDE	FLAT	192.0	5.9996	2.51	0.00	196.0	Pass
904.10600.008-A	Ambient	2	LF SIDE	FLAT	192.0	5.9320	3.09	0.53	224.5	Pass
904.10600.008-A	Ambient	3	REAR	FLAT	192.0	6.0066	2.60	0.00	187.7	Pass
904.10600.008-A	Ambient	4	REAR	FLAT	192.0	5.9642	3.37	0.34	206.1	Pass
904.10600.008-A	Ambient	5	FRONT	HEMI	145.0	5.1598	0.00	0.00	76.5	Pass
904.10600.008-A	Ambient	6	FRONT	HEMI	145.0	5.1382	0.00	0.00	93.1	Pass
904.10600.008-A	Ambient	7	RT SIDE	HEMI	145.0	5.2408	0.00	0.00	115.3	Pass
904.10600.008-A	Ambient	8	RT SIDE	HEMI	145.0	5.2412	0.00	0.00	146.2	Pass
904.10600.008-B	Cold	1	LF SIDE	FLAT	192.0	6.0121	2.11	0.00	196.0	Pass
904.10600.008-B	Cold	2	LF SIDE	FLAT	192.0	5.9983	3.07	0.59	226.9	Pass
904.10600.008-B	Cold	3	REAR	FLAT	192.0	5.9948	2.22	0.00	186.3	Pass
904.10600.008-B	Cold	4	REAR	FLAT	192.0	6.0344	3.44	0.25	204.3	Pass
904.10600.008-B	Cold	5	FRONT	HEMI	145.0	5.1889	0.00	0.00	73.3	Pass
904.10600.008-B	Cold	6	FRONT	HEMI	145.0	5.1041	0.00	0.00	87.1	Pass
904.10600.008-B	Cold	7	RT SIDE	HEMI	145.0	5.2348	0.00	0.00	127.3	Pass
904.10600.008-B	Cold	8	RT SIDE	HEMI	145.0	5.2171	0.00	0.00	146.2	Pass
904.10600.008-C	Hot	1	LF SIDE	FLAT	192.0	5.9664	1.13	0.00	175.2	Pass
904.10600.008-C	Hot	2	LF SIDE	FLAT	192.0	6.0095	2.20	0.00	183.5	Pass
904.10600.008-C	Hot	3	REAR	FLAT	192.0	6.0190	0.56	0.00	168.3	Pass
904.10600.008-C	Hot	4	REAR	FLAT	192.0	5.9120	2.23	0.00	179.4	Pass
904.10600.008-C	Hot	5	FRONT	HEMI	145.0	5.2149	0.00	0.00	79.3	Pass
904.10600.008-C	Hot	6	FRONT	HEMI	145.0	5.2244	0.00	0.00	94.1	Pass
904.10600.008-C	Hot	7	RT SIDE	HEMI	145.0	5.1867	0.00	0.00	117.1	Pass
904.10600.008-C	Hot	8	RT SIDE	HEMI	145.0	5.2164	0.00	0.00	126.3	Pass
904.10600.008-D	Wet	1	LF SIDE	FLAT	192.0	6.0194	1.94	0.00	192.3	Pass
904.10600.008-D	Wet	2	LF SIDE	FLAT	192.0	6.0086	2.99	0.84	228.2	Pass
904.10600.008-D	Wet	3	REAR	FLAT	192.0	5.9608	1.07	0.00	167.8	Pass
904.10600.008-D	Wet	4	REAR	FLAT	192.0	6.0377	2.73	0.00	193.2	Pass
904.10600.008-D	Wet	5	FRONT	HEMI	145.0	5.2032	0.00	0.00	75.2	Pass
904.10600.008-D	Wet	6	FRONT	HEMI	145.0	5.2193	0.00	0.00	97.3	Pass
904.10600.008-D	Wet	7	RT SIDE	HEMI	145.0	5.2430	0.00	0.00	110.7	Pass
904.10600.008-D	Wet	8	RT SIDE	HEMI	145.0	5.2425	0.00	0.00	130.5	Pass

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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 $60^\circ \pm 0.5^\circ$, 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 $\pm$ 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 Right	X		AMBIENT
3	B	Crown	X		LOW TEMPERATURE
4	B	Rear Right	X		LOW TEMPERATURE
5	C	Crown	X		HIGH TEMPERATURE
6	C	Rear Right	X		HIGH TEMPERATURE
7	D	Crown	X		WATER IMMERSSED
8	D	Rear Right	X		WATER IMMERSSED

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	2.23
B	LOW TEMPERATURE	2.28
C	HIGH TEMPERATURE	2.26
D	WATER IMMERSED	2.35

PERIPHERAL VISION

CONFIGURATION - Paragraph S5.4 - Helmet shall provide a minimum peripheral vision of 105° 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	> 105°	Pass
BROW OPENING	> 2.5 cm (1 inch)	Pass



PROJECTIONS

Paragraph S5.5

REQUIREMENTS:

PROJECTION	REQUIREMENT
Internal rigid	None
External rigid	Operational, shall not protrude more than 5 mm

TEST RESULTS:

PROJECTION	PRESENT	HEIGHT (mm)
Internal	None	Not Applicable
External	None	Not Applicable

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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:

- Labels were determined to be both easily read and permanent based on the TP-218-07, Section 12.5.4.

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:

- Labels were determined to be both easily read and permanent based on the TP-218-07, Section 12.5.4.

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TEST DATA

Contract File No.: 904.10600

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Technician: Edward Wang

Test Date: 16 August 2022

Uni-Axial Calibration

Helmet Manufacturer YIYANG
Address :

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

Laboratory Technician name Terry

M.E.P. Pad Model 1 MEP

Laboratory Temperature 22 deg C

Laboratory Humidity 57 %

Selected Filter Frequency 1000 Hz

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

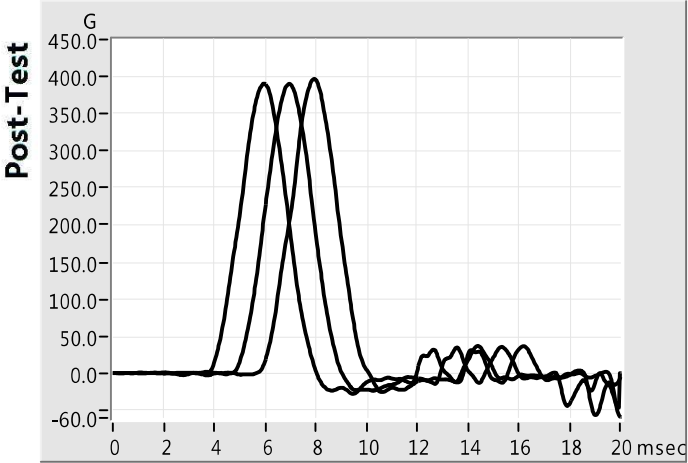
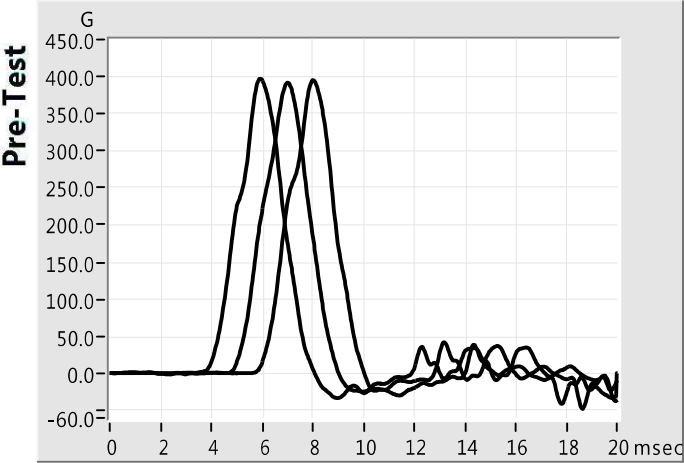
Acc. sensitivity (axis X) : 10.30 mV/G

Acc. sensitivity (axis Y) : 10.30 mV/G

Drop Device : Spherical Impactor (Uni-Axial)

Drop mass assembly : 3.543 kg Time gate flag height : 25.43 mm

Calibration peak : 402.5 G +/- 22.50 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	397.0	3390	4.6417	113.0	MEP	2.41	2.02	0/0	2022-08-16	09:21:38	1.4	Pass
	2	391.5	3365	4.5949	113.0	MEP	2.43	2.03	0/0	2022-08-16	09:22:46	2.4	Pass
	3	394.7	3384	4.6220	113.0	MEP	2.40	2.02	0/0	2022-08-16	09:23:48	1.8	Pass
Post-Test	1	390.1	3617	4.6570	113.0	MEP	2.42	2.01	0/0	2022-08-16	11:45:41	1.1	Pass
	2	390.1	3673	4.6753	113.0	MEP	2.39	2.03	0/0	2022-08-16	11:46:46	0.7	Pass
	3	396.5	3665	4.6056	113.0	MEP	2.44	2.00	0/0	2022-08-16	11:47:53	2.1	Pass

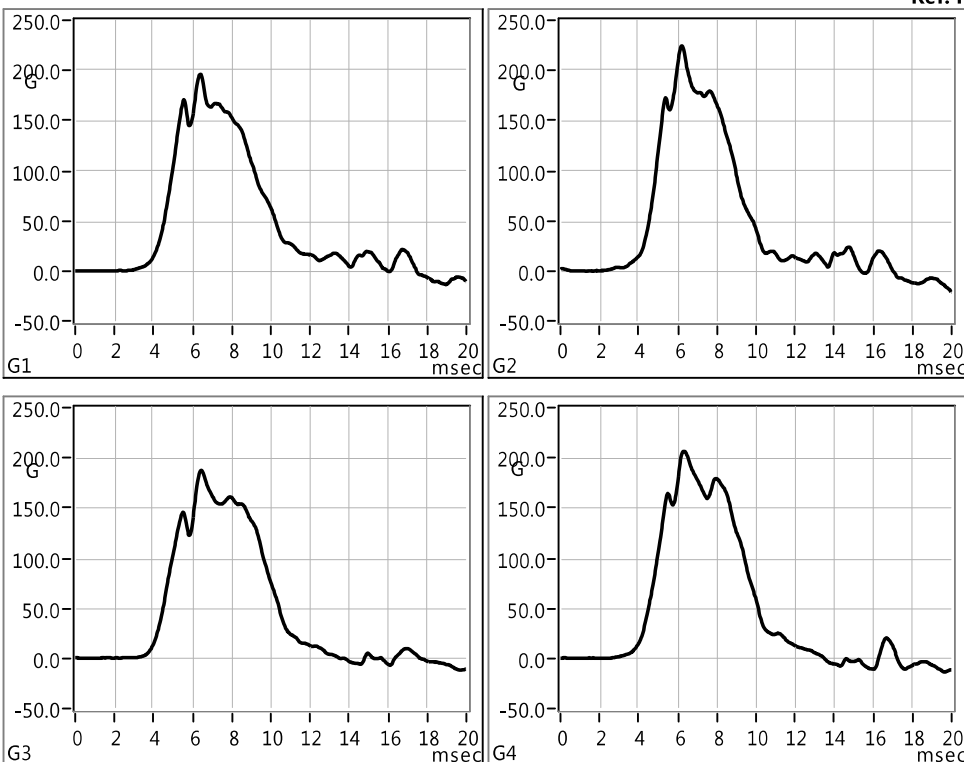
Curve impact #2 : shift of 1ms
Curve impact #3 : shift of 2ms

Impact Uni-Axial

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

Helmet Manufacturer : YIYANG
Address :

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



Model : MOTO 2.5
Color : Black
Size : XS(53-54CM)
Weight : 999.00 g
Manufacturing Date : 16 Aug 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.008-A
Headform Model : D.O.T.
Headform Size : A D.O.T
Conditioning : Ambient
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 : 3.543 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	196.0	1200	5.9996	192.0	FLAT	2.51	0.00	LF SIDE	2022-08-16	10:12:29	2.2	Pass
2	224.5	1480	5.9320	192.0	FLAT	3.09	0.53	LF SIDE	2022-08-16	10:12:34	3.3	Pass
3	187.7	1238	6.0066	192.0	FLAT	2.60	0.00	REAR	2022-08-16	10:23:24	2.1	Pass
4	206.1	1457	5.9642	192.0	FLAT	3.37	0.34	REAR	2022-08-16	10:23:43	2.8	Pass

Impact Uni-Axial

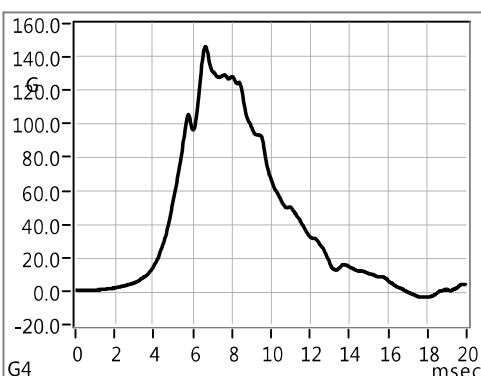
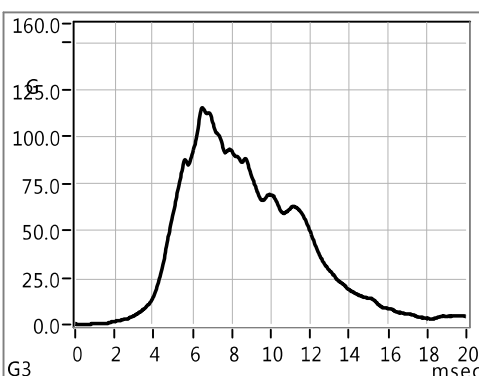
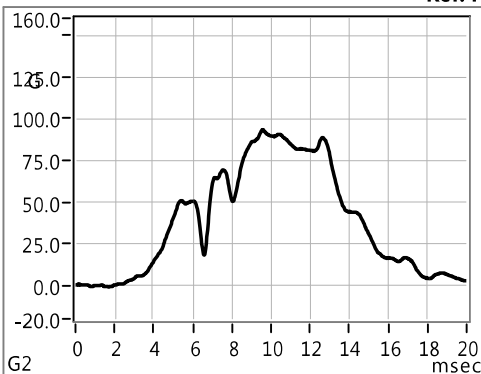
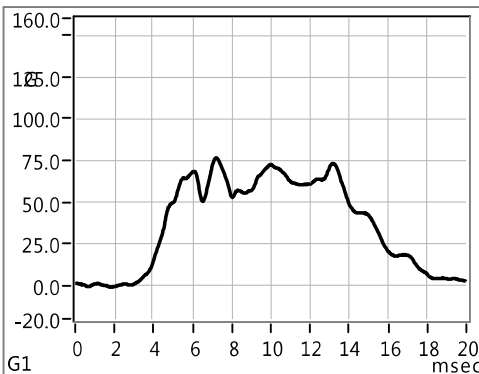
Helmet Manufacturer : YIYANG
Address :

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

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5
Color : Black
Size : XS(53-54CM)
Weight : 999.00 g
Manufacturing Date : 16 Aug 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.008-A
Headform Model : D.O.T.
Headform Size : A D.O.T
Conditioning : Ambient
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 : 3.543 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	76.5	294	5.1598	145.0	HEMI	0.00	0.00	FRONT	2022-08-16	10:30:26	3.2	Pass
6	93.1	355	5.1382	145.0	HEMI	0.00	0.00	FRONT	2022-08-16	10:30:32	3.7	Pass
7	115.3	406	5.2408	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-16	10:39:52	1.7	Pass
8	146.2	613	5.2412	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-16	10:39:57	1.7	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

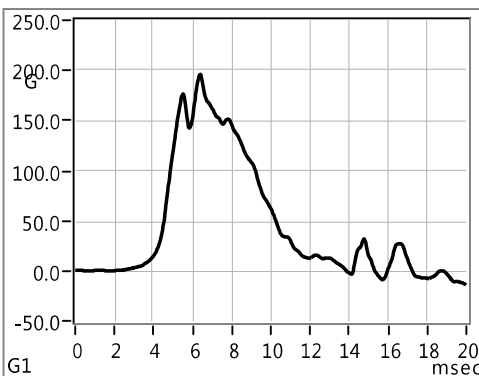
Helmet Manufacturer : YIYANG

Address :

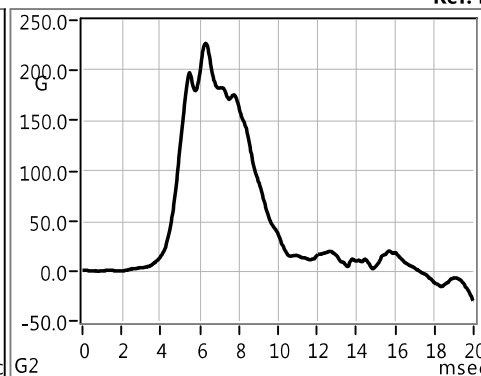
Laboratory Technician name : Terry

Batch Number :

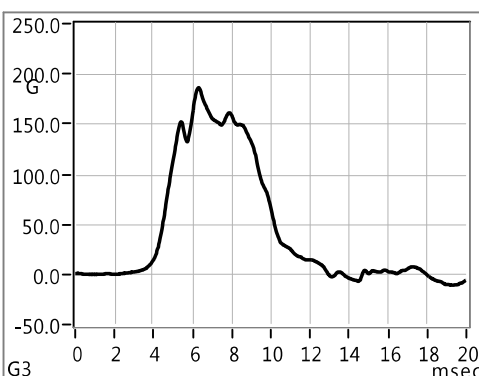
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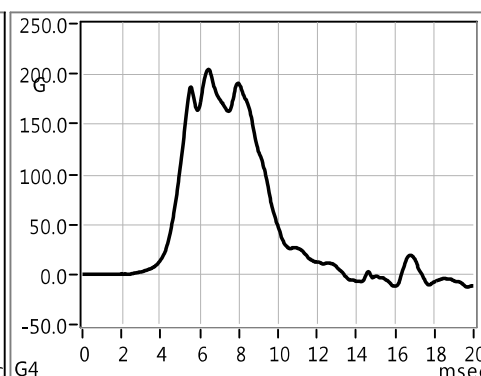
G1



G2



G3



G4

Model : MOTO 2.5

Color : Black

Size : XS(53-54CM)

Weight : 998.00 g

Manufacturing Date : 16 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.008-B

Headform Model : D.O.T.

Headform Size : A 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 : 3.543 kg

Time gate flag height : 25.43 mm

Acc. sensibility (axis Z) : 10.59

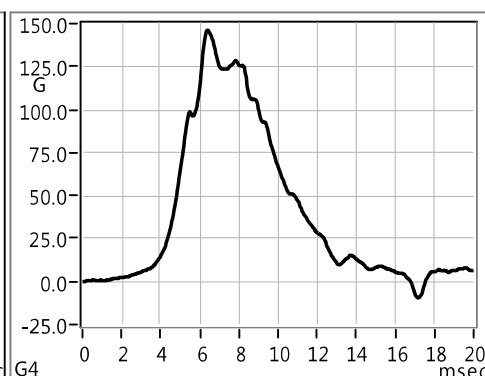
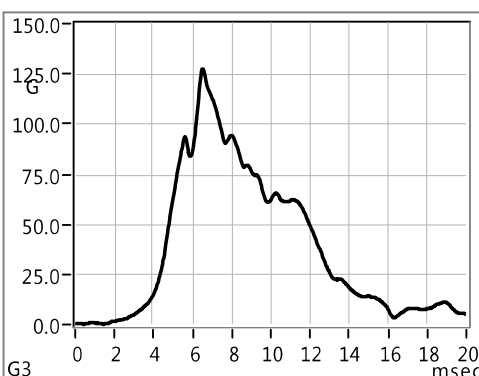
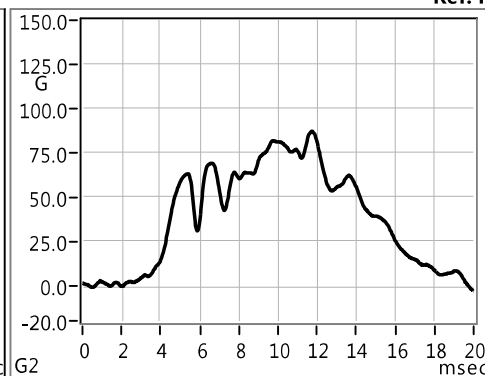
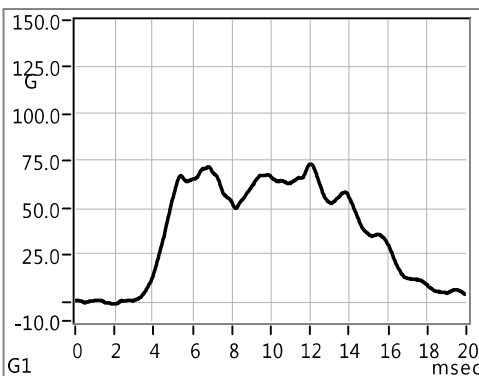
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
1	196.0	1136	6.0121	192.0	FLAT	2.11	0.00	LF SIDE	2022-08-16	10:17:02	2.0	Pass
2	226.9	1537	5.9983	192.0	FLAT	3.07	0.59	LF SIDE	2022-08-16	10:17:12	2.3	Pass
3	186.3	1204	5.9948	192.0	FLAT	2.22	0.00	REAR	2022-08-16	10:26:31	2.3	Pass
4	204.3	1535	6.0344	192.0	FLAT	3.44	0.25	REAR	2022-08-16	10:26:36	1.7	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 : YIYANG
Address :

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



Model : MOTO 2.5
Color : Black
Size : XS(53-54CM)
Weight : 998.00 g
Manufacturing Date : 16 Aug 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.008-B
Headform Model : D.O.T.
Headform Size : A 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 : 3.543 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	73.3	290	5.1889	145.0	HEMI	0.00	0.00	FRONT	2022-08-16	10:33:27	2.7	Pass
6	87.1	318	5.1041	145.0	HEMI	0.00	0.00	FRONT	2022-08-16	10:33:32	4.3	Pass
7	127.3	415	5.2348	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-16	10:42:44	1.8	Pass
8	146.2	639	5.2171	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-16	10:42:50	2.2	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

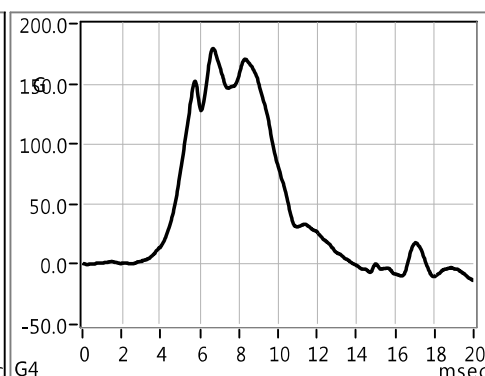
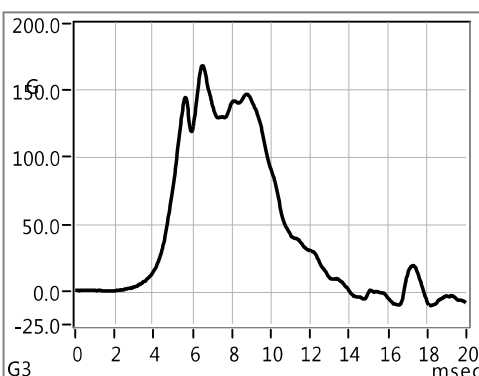
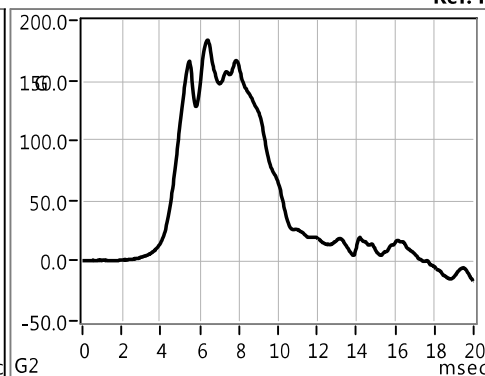
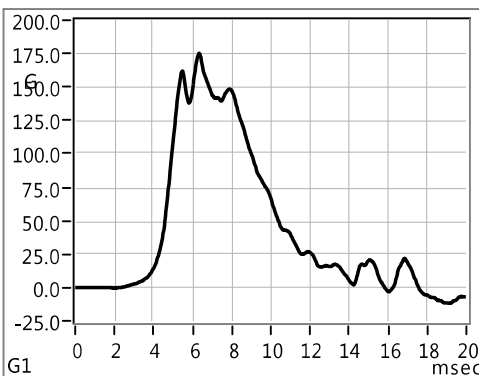
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5

Color : Black

Size : XS(53-54CM)

Weight : 1006.00 g

Manufacturing Date : 16 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.008-C

Headform Model : D.O.T.

Headform Size : A 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 : 3.543 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	175.2	975	5.9664	192.0	FLAT	1.13	0.00	LF SIDE	2022-08-16	10:18:50	2.8	Pass
2	183.5	1143	6.0095	192.0	FLAT	2.20	0.00	LF SIDE	2022-08-16	10:18:55	2.1	Pass
3	168.3	1030	6.0190	192.0	FLAT	0.56	0.00	REAR	2022-08-16	10:27:28	1.9	Pass
4	179.4	1221	5.9120	192.0	FLAT	2.23	0.00	REAR	2022-08-16	10:27:38	3.7	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

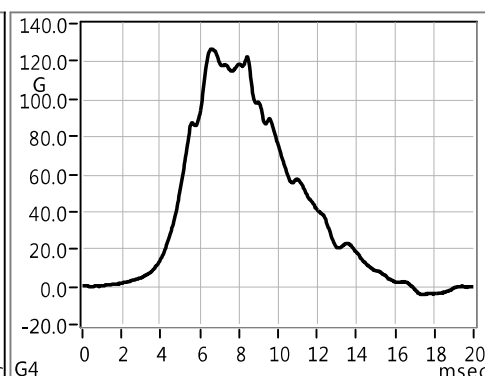
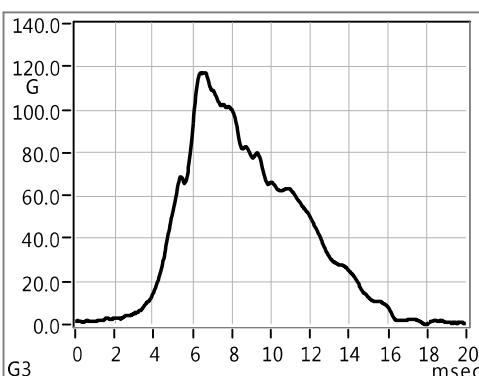
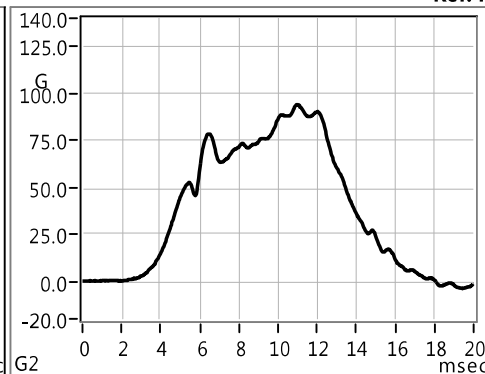
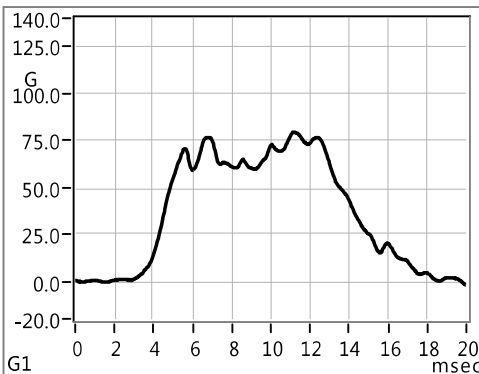
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5

Color : Black

Size : XS(53-54CM)

Weight : 1006.00 g

Manufacturing Date : 16 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.008-C

Headform Model : D.O.T.

Headform Size : A 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 : 3.543 kg

Time gate flag height : 25.43 mm

Acc. sensibility (axis Z) : 10.59

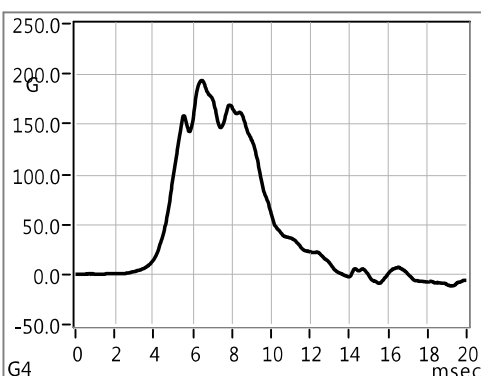
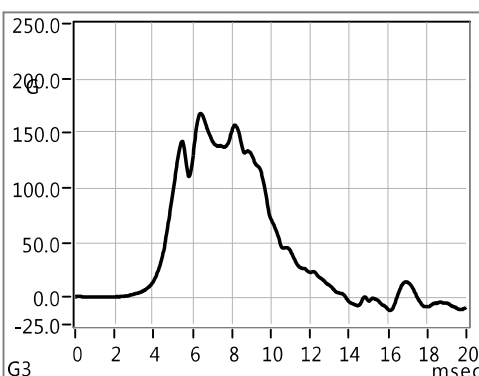
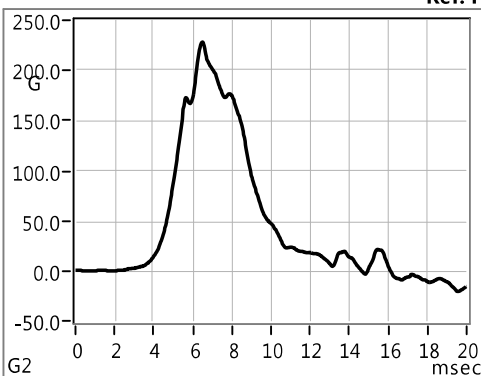
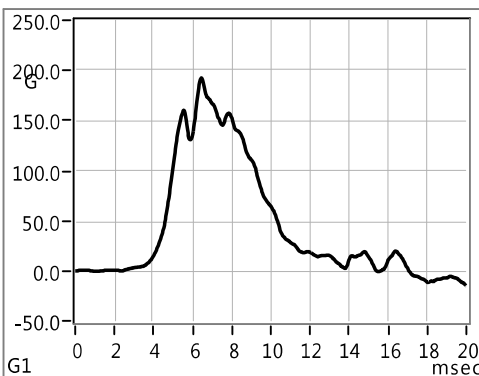
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
5	79.3	322	5.2149	145.0	HEMI	0.00	0.00	FRONT	2022-08-16	10:36:09	2.2	Pass
6	94.1	390	5.2244	145.0	HEMI	0.00	0.00	FRONT	2022-08-16	10:36:14	2.0	Pass
7	117.1	406	5.1867	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-16	10:44:29	2.7	Pass
8	126.3	534	5.2164	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-16	10:44:34	2.2	Pass

Impact Uni-Axial

Helmet Manufacturer : YIYANG
Address :

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

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



Model : MOTO 2.5
Color : Black
Size : XS(53-54CM)
Weight : 1000.00 g
Manufacturing Date : 16 Aug 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.008-D
Headform Model : D.O.T.
Headform Size : A 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 : 3.543 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	192.3	1092	6.0194	192.0	FLAT	1.94	0.00	LF SIDE	2022-08-16	10:15:25	1.9	Pass
2	228.2	1489	6.0086	192.0	FLAT	2.99	0.84	LF SIDE	2022-08-16	10:15:30	2.1	Pass
3	167.8	1030	5.9608	192.0	FLAT	1.07	0.00	REAR	2022-08-16	10:25:05	2.9	Pass
4	193.2	1292	6.0377	192.0	FLAT	2.73	0.00	REAR	2022-08-16	10:25:13	1.6	Pass

Impact Uni-Axial

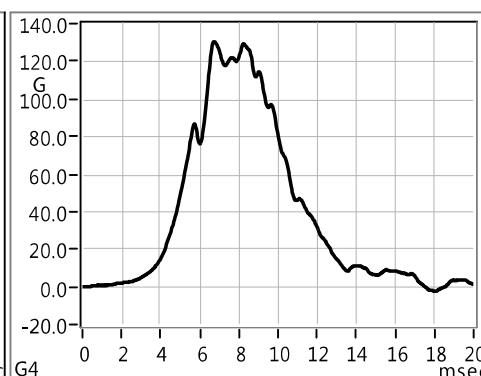
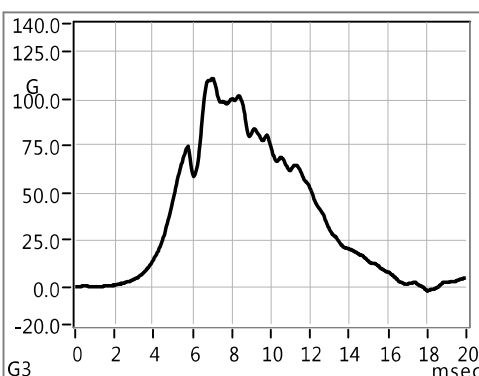
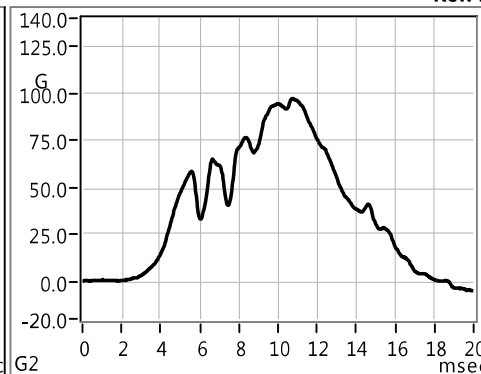
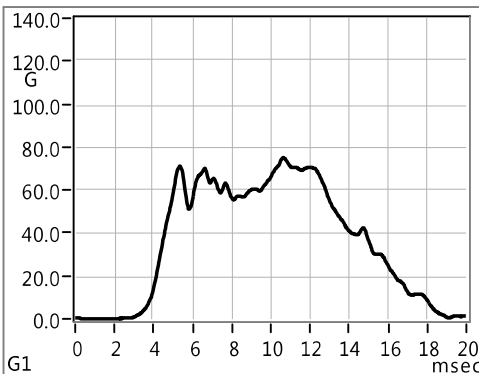
Helmet Manufacturer : YIYANG
Address :

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

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5
Color : Black
Size : XS(53-54CM)
Weight : 1000.00 g
Manufacturing Date : 16 Aug 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.008-D
Headform Model : D.O.T.
Headform Size : A 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 : 3.543 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	75.2	282	5.2032	145.0	HEMI	0.00	0.00	FRONT	2022-08-16	10:32:00	2.4	Pass
6	97.3	342	5.2193	145.0	HEMI	0.00	0.00	FRONT	2022-08-16	10:32:06	2.1	Pass
7	110.7	389	5.2430	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-16	10:41:20	1.7	Pass
8	130.5	561	5.2425	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-16	10:41:25	1.7	Pass

DOT Auto – Test results

Laboratory

Laboratory ACT Lab
 Technician Terry
 Temperature 21
 Humidity 57

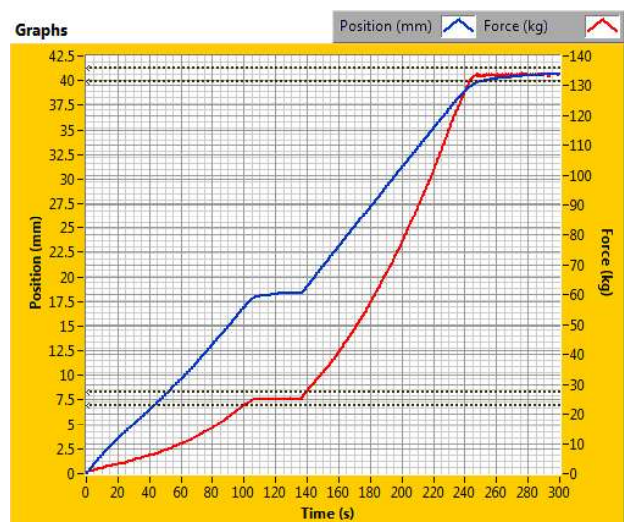
Sample

Model MOTO 2.5
 Color BLACK
 Size XS(53-54CM)
 Weight 999
 Manufacturer YIYANG
 Manuf. Date 04/22

Infos

Standard FMVSS No.218
 Comment 904.10600.008-A

Graphs



Results

Test	Time Data D/M/Y h:mm:ss	DL 1	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del1 to Del2) (mm)	Pass/Fail		
Test#11	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	22.3	Pass		

DOT Auto – Test results

Laboratory

Laboratory ACT Lab
 Technician Terry
 Temperature 21
 Humidity 57

Sample

Model MOTO 2.5
 Color BLACK
 Size XS(53-54CM)
 Weight 998
 Manufacturer YIYANG
 Manuf. Date 04/22

Infos

Standard FMVSS No.218
 Comment 904.10600.008-B



Results

Test	Time Data D/M/Y h:mm:ss	DL 1	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del1 to Del2) (mm)	Pass/Fail		
Test#12	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	22.8	Pass		

DOT Auto – Test results

Laboratory

Laboratory ACT Lab
Technician Terry
Temperature 21
Humidity 57

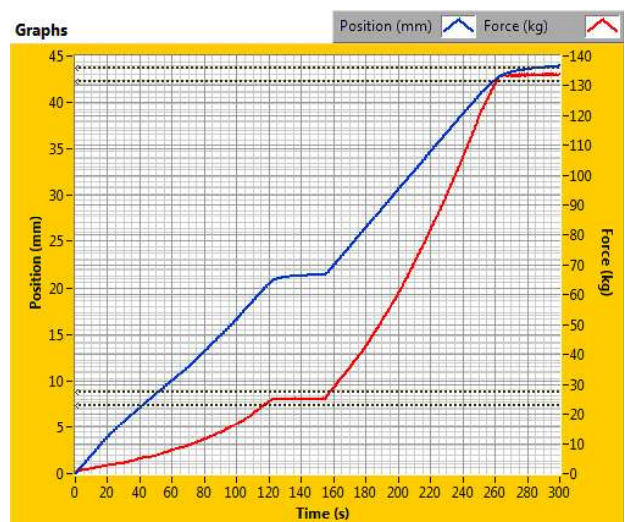
Sample

Model MOTO 2.5
Color BLACK
Size XS(53-54CM)
Weight 1006
Manufacturer YIYANG
Manuf. Date 04/22

Infos

Standard FMVSS No.218
Comment 904.10600.008-C

Graphs



Results

Test	Time Data D/M/Y h:mm:ss	DL 7	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del1 to Del2) (mm)	Pass/Fail		
Test#13	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	22.6	Pass		

DOT Auto – Test results

Laboratory

Laboratory ACT Lab
 Technician Terry
 Temperature 21
 Humidity 57

Sample

Model MOTO 2.5
 Color BLACK
 Size XS(53-54CM)
 Weight 1000
 Manufacturer YIYANG
 Manuf. Date 04/22

Infos

Standard FMVSS No.218
 Comment 904.10600.008-D



Results

Test	Time Data D/M/Y h:mm:ss	DL 1	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del1 to Del2) (mm)	Pass/Fail		
Test#14	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	23.5	Pass		

APPENDIX A

INTERPRETATIONS OR DEVIATIONS FROM FMVSS 218

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

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

Contract File No.: 904.10600

Test File: 008

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19

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Technician: Edward Wang

Test Date: 16 August 2022



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	2021 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	NA	NA
H1102	Helmet Room	Headform	DOT Retention Strength Medium	NA	NA	NA
H1103	Helmet Room	Headform	DOT Retention Strength Large	NA	NA	NA
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	NA	NA
H1129	Helmet Room	Headform	DOT Penetration Medium	NA	NA	NA
H1130	Helmet Room	Headform	DOT Penetration Large	NA	NA	NA
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
H1175	Helmet Room	Headform	DOT Penetration Large	NA	NA	NA
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

Contract File No.: 904.10600

Test File: 008

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19

SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/FMVSS No.218

Technician: Edward Wang

Test Date: 16 August 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	11/2/2021	11/1/2022
H1012	Instrument	Displacement sensor - C20101007753	2 inch	0.1mm	J72863	11/1/2021	10/31/2022
H1014	Instrument	Displacement sensor - LWE-200	(0-100)mm	0.1mm	2002572	11/1/2021	10/31/2022
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	11/1/2021	10/31/2024
H1030	Environmental Chamber	Oven #1 - 92°9240MBE	(0-200)°C	1°C	8285	7/8/2021	7/7/2022
H1031	Environmental Chamber	Oven #2 - DHG-9426	(0-200)°C	0.1°C	1503338018	11/1/2021	10/31/2022
H1032	Environmental Chamber	Freezer #1 - DW-25W300	(-30~-10)°C	0.1°C	BE062100N00B29578VMO	7/8/2021	7/7/2022
H1033	Environmental Chamber	Freezer #2 - DW-50W225	(-30~-10)°C	0.1°C	F8LMJ	11/1/2021	10/31/2022
H1036	Environmental Measure	Temperature and humidity #1 - TH-602F	(-30~60)°C, (0-100)%	2°C	3238	7/9/2021	7/8/2022
H1057	Anvil	Edge	NA	NA	NA	10/27/2020	10/26/2023
H1058	Anvil	Equestrian	NA	NA	NA	10/27/2020	10/26/2023
H1061	Anvil	Blade	NA	NA	NA	10/27/2020	10/26/2023
H1063	Height Measure	Digital tape - 5m	(0-5)m	0.1mm	78223	11/2/2021	11/1/2022
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)°C, (0-100)%	1°C	Q/MDS001-2017-1	7/8/2021	7/7/2022
H1072	Environmental Measure	Temperature and humidity #4 - TH600B	(-20~100)°C, (0-100)%	1°C	Q/MDS001-2017-2	7/8/2021	7/7/2022
H1073	Height Measure	Height Gauge	(0-500)mm	0.01mm	8811213838273610	11/1/2021	10/31/2022
H1074	Distance Measure	Vernier caliper - SJ-455615	(0-150)mm	0.01mm	455615	11/1/2021	10/31/2022
H1076	Environmental Measure	Calorifier - CN-111	18-35°C	0.1°C	NA	11/2/2021	11/1/2022
H1077	Distance Measure	Tape	0-1.5m	1mm	NA	11/2/2021	11/1/2022
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
H1180	Instrument	LVDT & Sensor Box	2 inch	0.1mm	04140748-001	11/1/2021	10/31/2022
H1184	Instrument	Uni-axial Accelerometer yellow tower - 353B18	± 500 g	≤ 1%	LW226664	8/24/2021	8/23/2022

Contract File No.: 904.10600

Test File: 008

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APPENDIX C PHOTOGRAPHS

Contract File No.: 904.10600

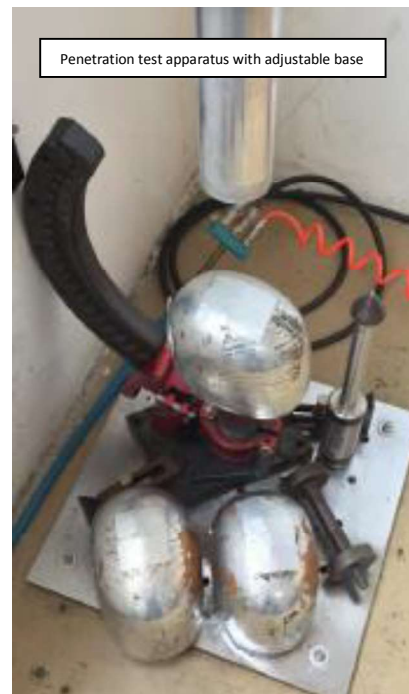
Test File: 008

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Low temperature conditioning cabinet



Water immersion equipment



High temperature chamber



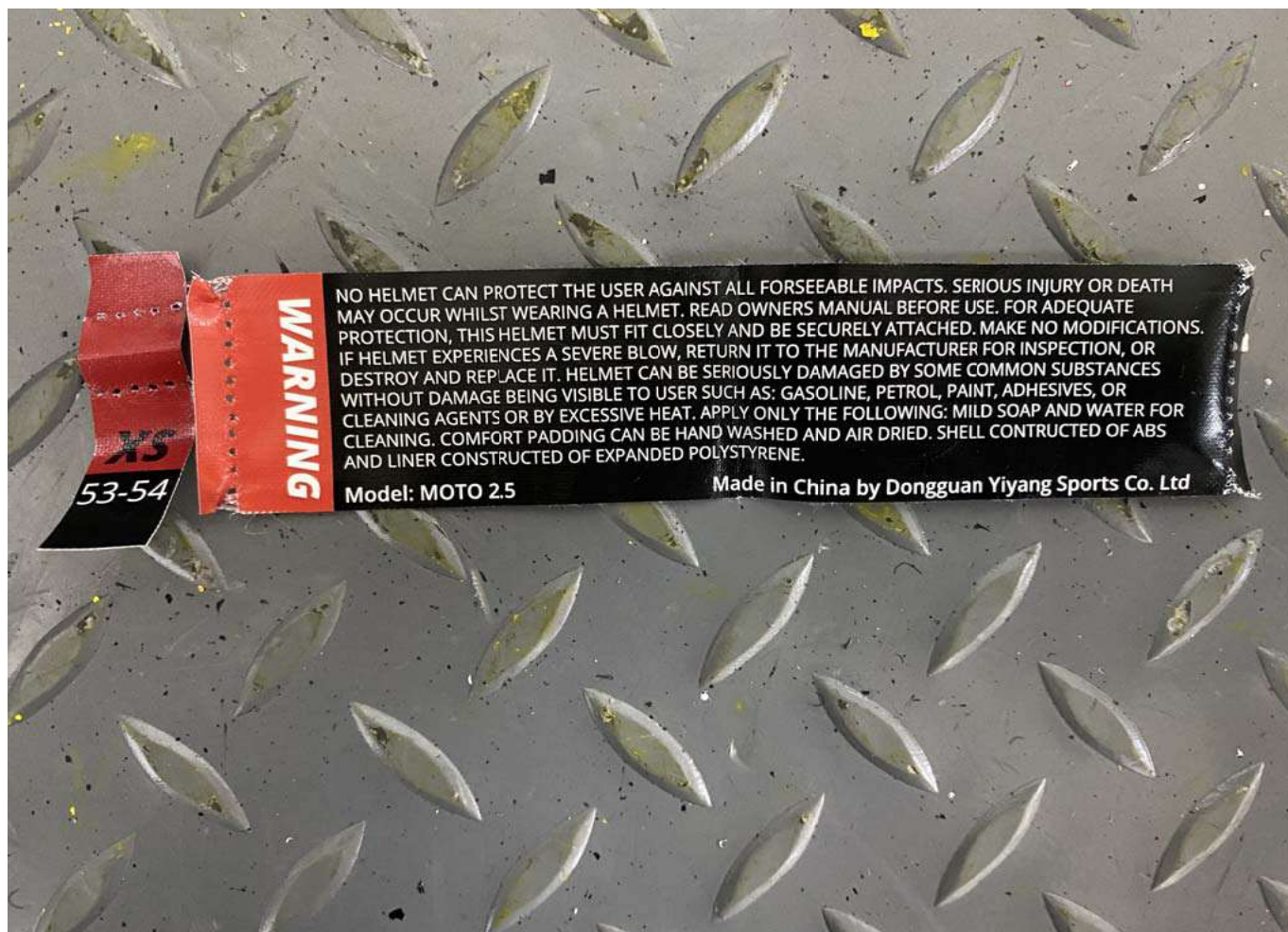














NOTICE

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

Contract File No.: 904.10600

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ACT Lab LLC 3280 East 59th Street, Long Beach, CA 90805 | Tel 562.470.7215 | Web act-lab.com

SAFETY COMPLIANCE TESTING FOR FMVSS No. 218 MOTORCYCLE HELMETS

Brand: LEATT
Model: MOTO 2.5
Tested Size: S (55-56 cm)

Prepared For:

Leatt Corporation
12 Kiepersol Crescent,
Atlas Gardens Business Park,
Cape Farms, Cape Town,
7550, ZA



Issue Date: 19 September 2022

Final Report: 904.10600.009

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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This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer joint ISO-ILAC-IAF Communiqué dated April 2017.) The Joint Communiqué is available on publications and resources page of the ILAC website at <http://www.ilac.org>. Accreditation listing and certificate can be found at <http://www.iasonline.org>.

Contract File No.: 904.10600
Test File: 009

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PURPOSE OF COMPLIANCE TEST

Purpose:

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

Dongguan Yiyang Sports 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: LEATTHELMET MODEL DESIGNATION: MOTO 2.5HELMET MANUFACTURER: DONGGUAN YIYANG SPORTS CO., LTD.HELMET SIZE: S (55-56 cm)HELMET COVERAGE: Partial: Full: Complete: XHELMET POSITIONING INDEX: 60 mmSHELL MATERIAL: ABSLINER MATERIAL: Expanded PolystyreneBUCKLE DESCRIPTION: Double D-Rings

HELMET	A Ambient	B Low Temp	C High Temp	D Water Immersed	E Spare
SHELL COLOR/PATTERN	Black	Black	Black	Black	---
WEIGHT (grams)	999	994	1002	998	---
MONTH & YEAR OF MANUFACTURE	04/22	04/22	04/22	04/22	---

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 visor removed.
3. ACT determined the HPI information prior to testing.

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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
PROJECTIONS	Pass
LABELING	Pass

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**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: S (55-56 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 (61°F to 79°F); 30% to 70% Relative Humidity
Low Temperature	-15°C to -5°C (5°F to 23°F)
High Temperature	45°C to 55°C (113°F to 131°F)
Water Immersion	16°C to 26°C (61°F to 79°F)

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 °C ; AVERAGE LAB HUMIDITY : 57 %

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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
904.10600.009-A	Ambient	1	LF SIDE	FLAT	192.0	6.0636	2.08	0.00	163.7	Pass
904.10600.009-A	Ambient	2	LF SIDE	FLAT	192.0	6.0509	2.82	0.00	197.3	Pass
904.10600.009-A	Ambient	3	REAR	FLAT	192.0	6.0899	0.53	0.00	151.7	Pass
904.10600.009-A	Ambient	4	REAR	FLAT	192.0	6.0727	2.87	0.00	175.7	Pass
904.10600.009-A	Ambient	5	FRONT	HEMI	145.0	5.2436	0.00	0.00	76.5	Pass
904.10600.009-A	Ambient	6	FRONT	HEMI	145.0	5.2446	0.00	0.00	108.4	Pass
904.10600.009-A	Ambient	7	RT SIDE	HEMI	145.0	5.2572	0.00	0.00	91.3	Pass
904.10600.009-A	Ambient	8	RT SIDE	HEMI	145.0	5.2467	0.00	0.00	124.0	Pass
904.10600.009-B	Cold	1	LF SIDE	FLAT	192.0	6.0309	2.21	0.00	162.3	Pass
904.10600.009-B	Cold	2	LF SIDE	FLAT	192.0	6.0374	3.14	0.24	206.1	Pass
904.10600.009-B	Cold	3	REAR	FLAT	192.0	6.0872	1.26	0.00	155.8	Pass
904.10600.009-B	Cold	4	REAR	FLAT	192.0	6.0859	2.72	0.00	181.2	Pass
904.10600.009-B	Cold	5	FRONT	HEMI	145.0	5.2467	0.00	0.00	75.2	Pass
904.10600.009-B	Cold	6	FRONT	HEMI	145.0	5.2347	0.00	0.00	110.2	Pass
904.10600.009-B	Cold	7	RT SIDE	HEMI	145.0	5.2441	0.00	0.00	87.6	Pass
904.10600.009-B	Cold	8	RT SIDE	HEMI	145.0	5.2598	0.00	0.00	126.3	Pass
904.10600.009-C	Hot	1	LF SIDE	FLAT	192.0	6.0276	0.19	0.00	152.6	Pass
904.10600.009-C	Hot	2	LF SIDE	FLAT	192.0	6.0462	2.68	0.00	187.7	Pass
904.10600.009-C	Hot	3	REAR	FLAT	192.0	6.0693	0.00	0.00	147.5	Pass
904.10600.009-C	Hot	4	REAR	FLAT	192.0	6.0468	2.71	0.00	172.9	Pass
904.10600.009-C	Hot	5	FRONT	HEMI	145.0	5.1806	0.00	0.00	73.3	Pass
904.10600.009-C	Hot	6	FRONT	HEMI	145.0	5.2299	0.00	0.00	96.4	Pass
904.10600.009-C	Hot	7	RT SIDE	HEMI	145.0	5.2545	0.00	0.00	87.1	Pass
904.10600.009-C	Hot	8	RT SIDE	HEMI	145.0	5.2404	0.00	0.00	119.4	Pass
904.10600.009-D	Wet	1	LF SIDE	FLAT	192.0	6.0470	0.76	0.00	155.8	Pass
904.10600.009-D	Wet	2	LF SIDE	FLAT	192.0	6.0396	2.73	0.00	186.3	Pass
904.10600.009-D	Wet	3	REAR	FLAT	192.0	6.0402	0.00	0.00	148.5	Pass
904.10600.009-D	Wet	4	REAR	FLAT	192.0	6.0981	2.69	0.00	168.3	Pass
904.10600.009-D	Wet	5	FRONT	HEMI	145.0	5.2184	0.00	0.00	70.5	Pass
904.10600.009-D	Wet	6	FRONT	HEMI	145.0	5.1894	0.00	0.00	104.2	Pass
904.10600.009-D	Wet	7	RT SIDE	HEMI	145.0	5.2534	0.00	0.00	90.8	Pass
904.10600.009-D	Wet	8	RT SIDE	HEMI	145.0	5.2430	0.00	0.00	121.7	Pass

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Technician: Edward Wang

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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 $60^\circ \pm 0.5^\circ$, 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 $\pm$ 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 Right	X		AMBIENT
3	B	Crown	X		LOW TEMPERATURE
4	B	Rear Right	X		LOW TEMPERATURE
5	C	Crown	X		HIGH TEMPERATURE
6	C	Rear Right	X		HIGH TEMPERATURE
7	D	Crown	X		WATER IMMERSED
8	D	Rear Right	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	1.53
B	LOW TEMPERATURE	1.54
C	HIGH TEMPERATURE	1.75
D	WATER IMMERSED	1.60

PERIPHERAL VISION

CONFIGURATION - Paragraph S5.4 - Helmet shall provide a minimum peripheral vision of 105° 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	> 105°	Pass
BROW OPENING	> 2.5 cm (1 inch)	Pass



PROJECTIONS

Paragraph S5.5

REQUIREMENTS:

PROJECTION	REQUIREMENT
Internal rigid	None
External rigid	Operational, shall not protrude more than 5 mm

TEST RESULTS:

PROJECTION	PRESENT	HEIGHT (mm)
Internal	None	Not Applicable
External	None	Not Applicable

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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:

- Labels were determined to be both easily read and permanent based on the TP-218-07, Section 12.5.4.

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:

- Labels were determined to be both easily read and permanent based on the TP-218-07, Section 12.5.4.

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TEST DATA

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Technician: Edward Wang

Test Date: 17 August 2022

Uni-Axial Calibration

Helmet Manufacturer:YIYANG
Address :

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

Laboratory Technician name :Terry

M.E.P. Pad Model 1 MEP

Laboratory Temperature 22 deg C

Laboratory Humidity 57 %

Selected Filter Frequency 1000 Hz

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

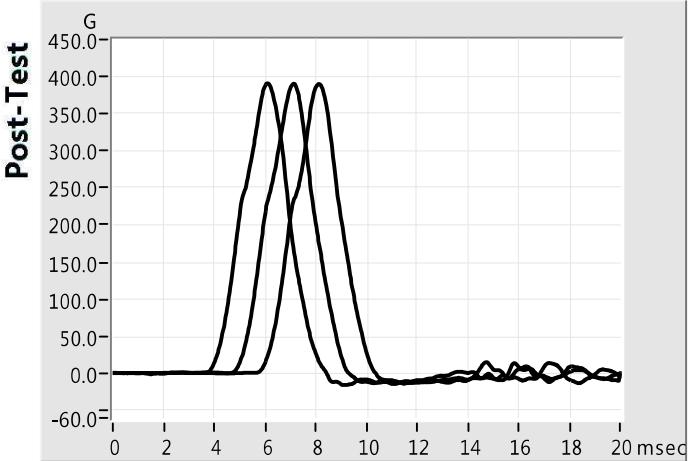
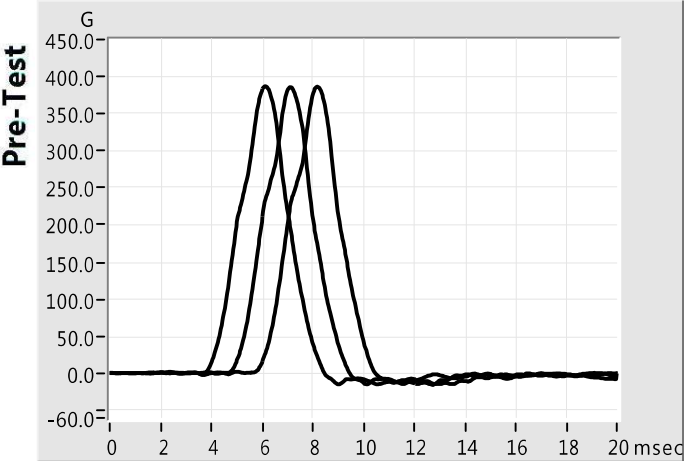
Acc. sensitivity (axis X) : 10.30 mV/G

Acc. sensitivity (axis Y) : 10.30 mV/G

Drop Device : Spherical Impactor (Uni-Axial)

Drop mass assembly: 5.028 kg Time gate flag height: 25.43 mm

Calibration peak : 402.5 G +/- 22.50 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	386.8	3368	4.6962	115.0	MEP	2.53	2.10	0/0	2022-08-17	08:38:12	1.1	Pass
	2	385.5	3363	4.6934	115.0	MEP	2.53	2.07	0/0	2022-08-17	08:39:14	1.2	Pass
	3	386.4	3314	4.6378	115.0	MEP	2.54	2.06	0/0	2022-08-17	08:40:24	2.3	Pass
Post-Test	1	390.5	3493	4.6521	115.0	MEP	2.44	2.05	0/0	2022-08-17	11:50:22	2.0	Pass
	2	390.1	3375	4.7184	115.0	MEP	2.50	2.07	0/0	2022-08-17	11:51:25	0.7	Pass
	3	389.6	3368	4.6870	115.0	MEP	2.50	2.07	0/0	2022-08-17	11:52:28	1.3	Pass

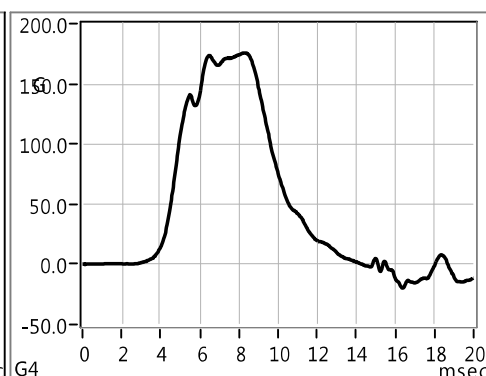
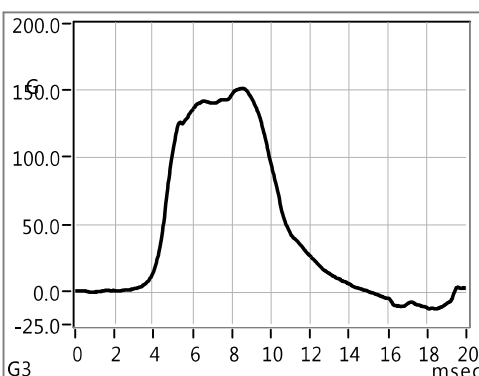
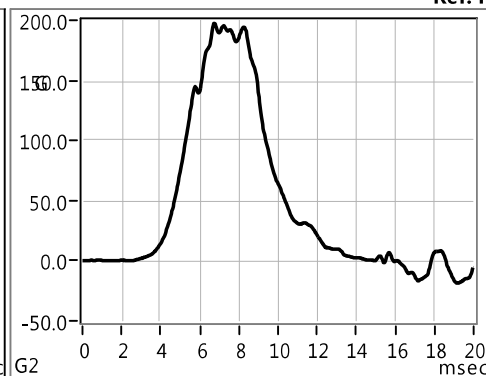
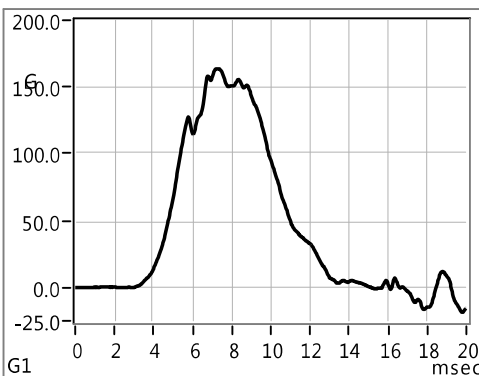
Curve impact #2 : shift of 1ms
Curve impact #3 : shift of 2ms

Impact Uni-Axial

Helmet Manufacturer : YIYANG
Address :

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

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



Model : MOTO2.5
Color : Black
Size : S(55-56CM)
Weight : 999.00 g
Manufacturing Date : 17 Aug 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.009-A
Headform Model : D.O.T.
Headform Size : C D.O.T
Conditioning : Ambient
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 : 5.028 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	163.7	1052	6.0636	192.0	FLAT	2.08	0.00	LF SIDE	2022-08-17	13:53:47	1.2	Pass
2	197.3	1404	6.0509	192.0	FLAT	2.82	0.00	LF SIDE	2022-08-17	13:53:50	1.4	Pass
3	151.7	1086	6.0899	192.0	FLAT	0.53	0.00	REAR	2022-08-17	13:57:12	0.8	Pass
4	175.7	1362	6.0727	192.0	FLAT	2.87	0.00	REAR	2022-08-17	13:57:16	1.0	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

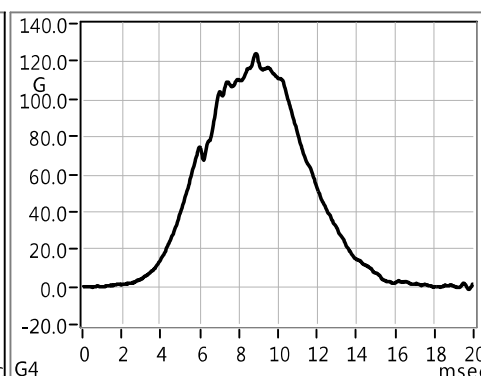
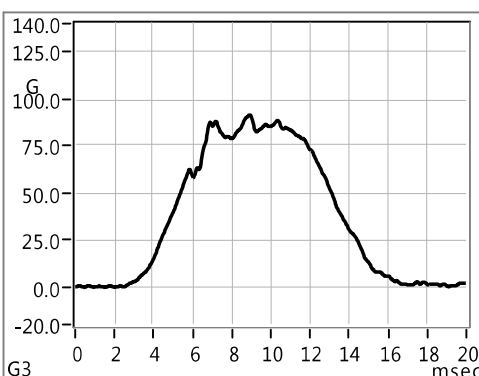
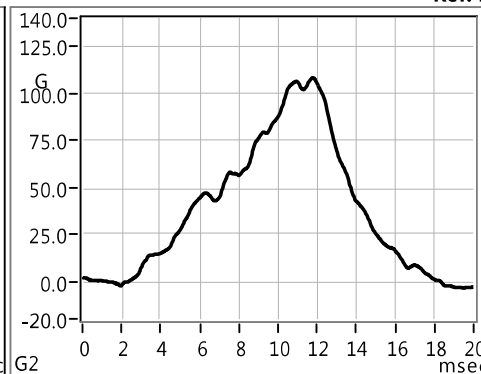
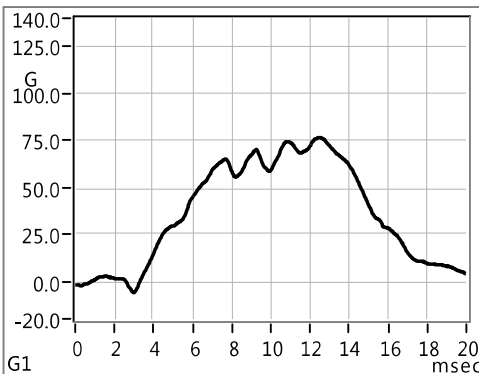
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO2.5

Color : Black

Size : S(55-56CM)

Weight : 999.00 g

Manufacturing Date : 17 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.009-A

Headform Model : D.O.T.

Headform Size : C D.O.T

Conditioning : Ambient

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 : 5.028 kg

Time gate flag height : 25.43 mm

Acc. sensibility (axis Z) : 10.59

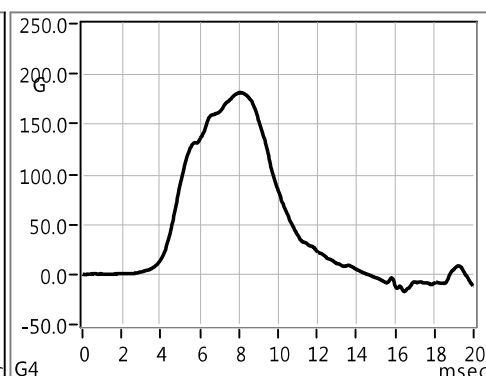
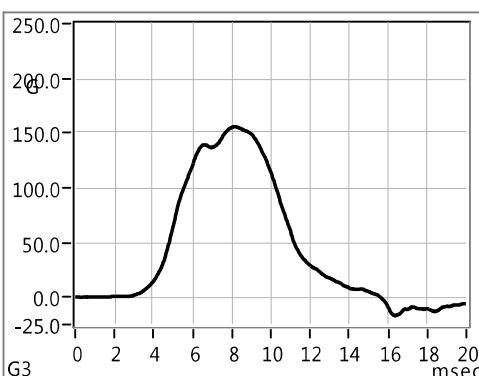
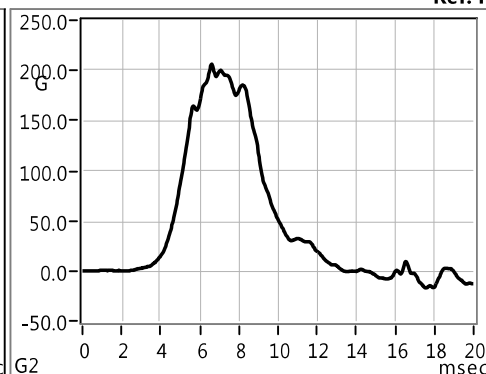
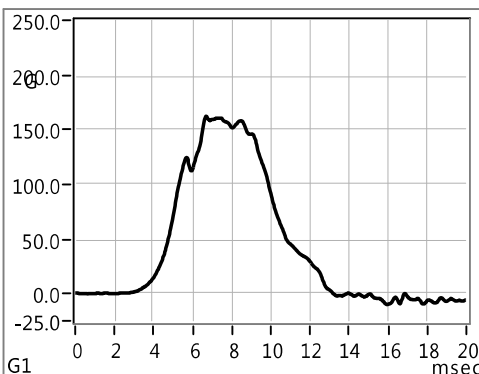
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
5	76.5	289	5.2436	145.0	HEMI	0.00	0.00	FRONT	2022-08-17	14:01:01	1.7	Pass
6	108.4	385	5.2446	145.0	HEMI	0.00	0.00	FRONT	2022-08-17	14:01:55	1.7	Pass
7	91.3	399	5.2572	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-17	14:05:19	1.4	Pass
8	124.0	564	5.2467	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-17	14:05:23	1.6	Pass

Impact Uni-Axial

Helmet Manufacturer : YIYANG
Address :

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

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



Model : MOTO2.5
Color : Black
Size : S(55-56CM)
Weight : 994.00 g
Manufacturing Date : 17 Aug 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.009-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 : 5.028 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	162.3	1092	6.0309	192.0	FLAT	2.21	0.00	LF SIDE	2022-08-17	13:54:57	1.7	Pass
2	206.1	1516	6.0374	192.0	FLAT	3.14	0.24	LF SIDE	2022-08-17	13:55:00	1.6	Pass
3	155.8	1049	6.0872	192.0	FLAT	1.26	0.00	REAR	2022-08-17	13:58:07	0.8	Pass
4	181.2	1321	6.0859	192.0	FLAT	2.72	0.00	REAR	2022-08-17	13:58:11	0.8	Pass

Impact Uni-Axial

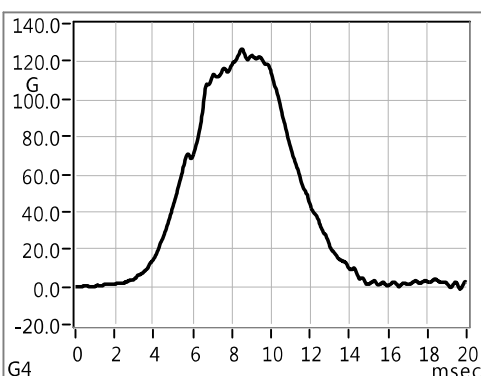
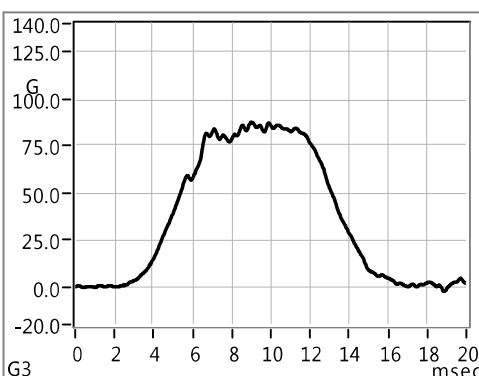
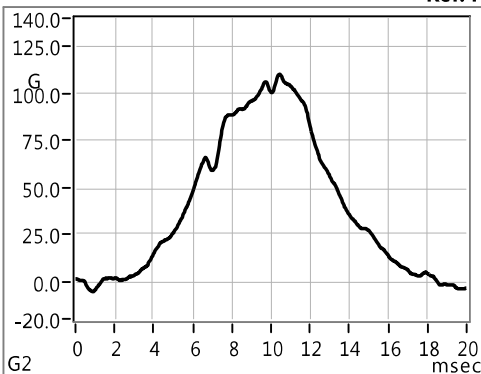
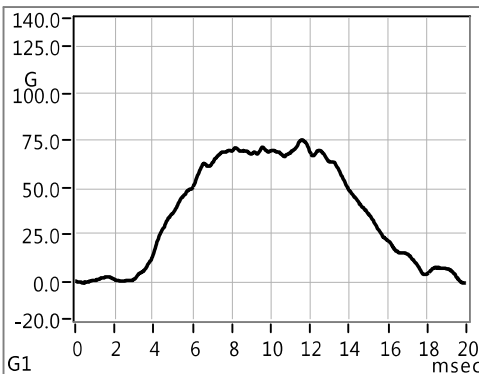
Helmet Manufacturer : YIYANG
Address :

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

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO2.5
Color : Black
Size : S(55-56CM)
Weight : 994.00 g
Manufacturing Date : 17 Aug 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.009-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 : 5.028 kg
Time gate flag height : 25.43 mm
Acc. sensibility (axis Z) : 10.59

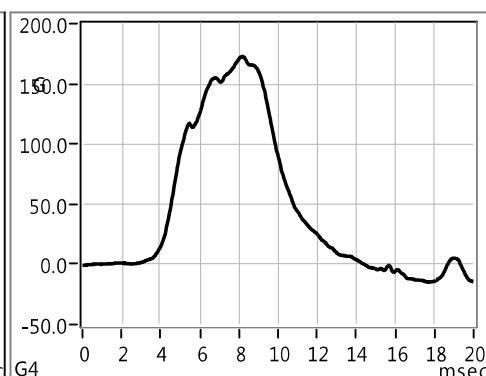
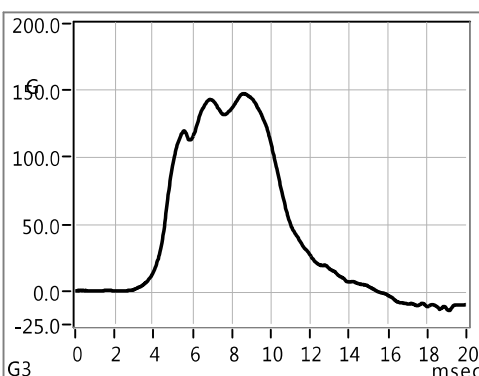
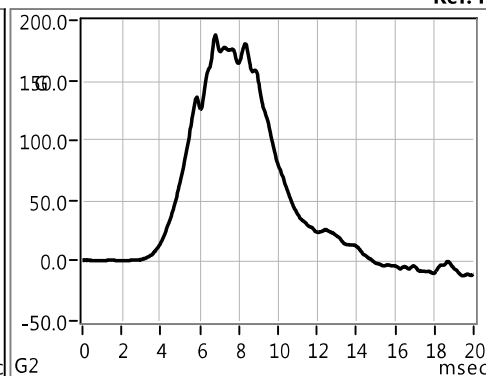
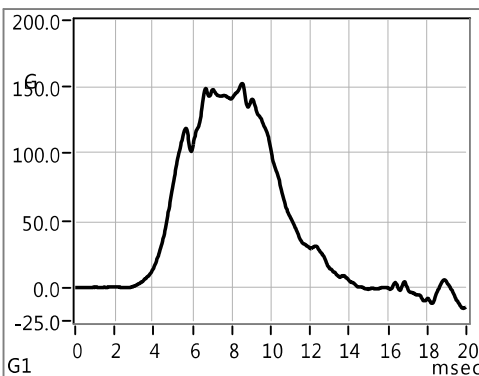
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
5	75.2	299	5.2467	145.0	HEMI	0.00	0.00	FRONT	2022-08-17	14:03:00	1.6	Pass
6	110.2	472	5.2347	145.0	HEMI	0.00	0.00	FRONT	2022-08-17	14:03:05	1.8	Pass
7	87.6	398	5.2441	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-17	14:06:15	1.7	Pass
8	126.3	618	5.2598	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-17	14:06:19	1.4	Pass

Impact Uni-Axial

Helmet Manufacturer : YIYANG
Address :

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

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



Model : MOTO2.5
Color : Black
Size : S(55-56CM)
Weight : 1002.00 g
Manufacturing Date : 17 Aug 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.009-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 : 5.028 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	152.6	962	6.0276	192.0	FLAT	0.19	0.00	LF SIDE	2022-08-17	13:55:33	1.8	Pass
2	187.7	1239	6.0462	192.0	FLAT	2.68	0.00	LF SIDE	2022-08-17	13:55:36	1.5	Pass
3	147.5	999	6.0693	192.0	FLAT	0.00	0.00	REAR	2022-08-17	13:58:33	1.1	Pass
4	172.9	1218	6.0468	192.0	FLAT	2.71	0.00	REAR	2022-08-17	13:58:38	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

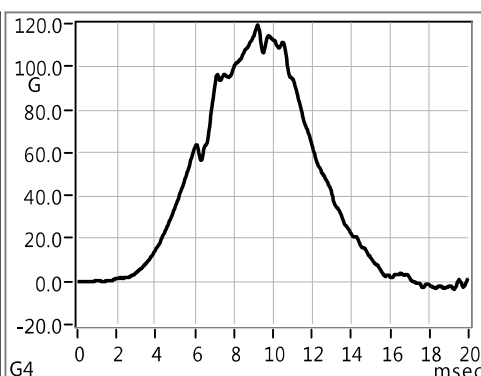
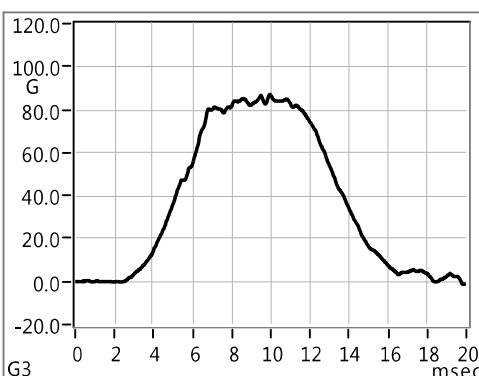
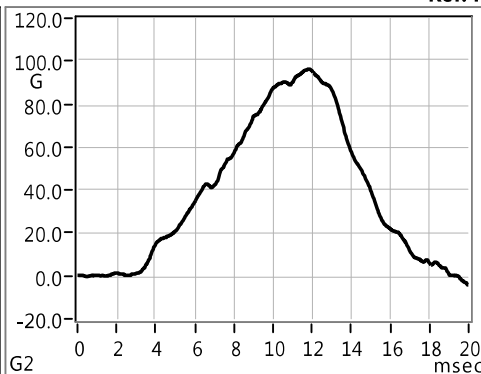
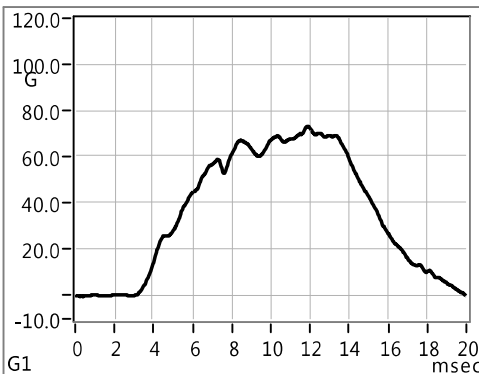
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO2.5

Color : Black

Size : S(55-56CM)

Weight : 1002.00 g

Manufacturing Date : 17 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.009-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 : 5.028 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	73.3	275	5.1806	145.0	HEMI	0.00	0.00	FRONT	2022-08-17	14:03:32	2.9	Pass
6	96.4	377	5.2299	145.0	HEMI	0.00	0.00	FRONT	2022-08-17	14:03:38	1.9	Pass
7	87.1	380	5.2545	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-17	14:06:41	1.5	Pass
8	119.4	519	5.2404	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-17	14:06:46	1.7	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

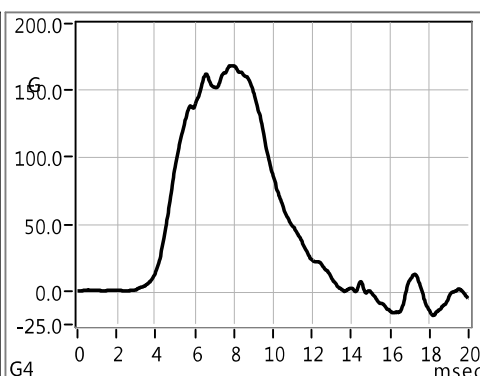
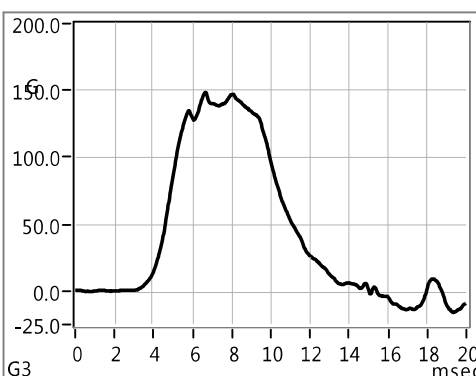
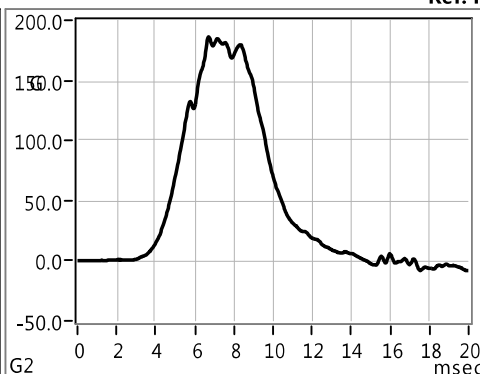
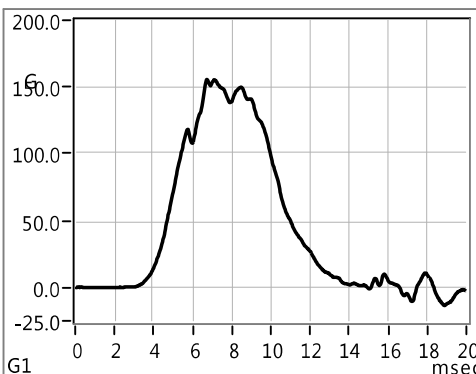
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO2.5

Color : Black

Size : S(55-56CM)

Weight : 998.00 g

Manufacturing Date : 17 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.009-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 : 5.028 kg

Time gate flag height : 25.43 mm

Acc. sensibility (axis Z) : 10.59

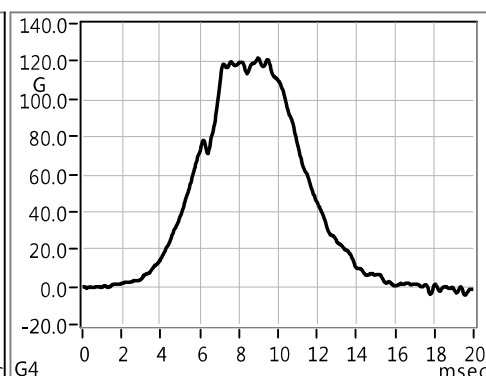
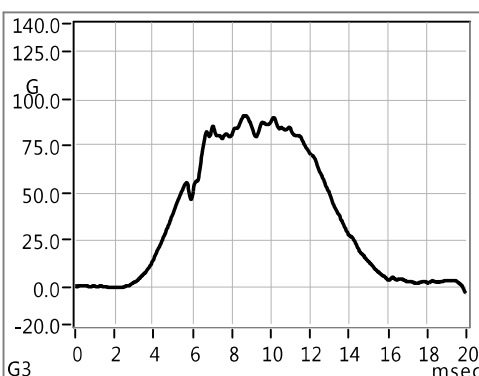
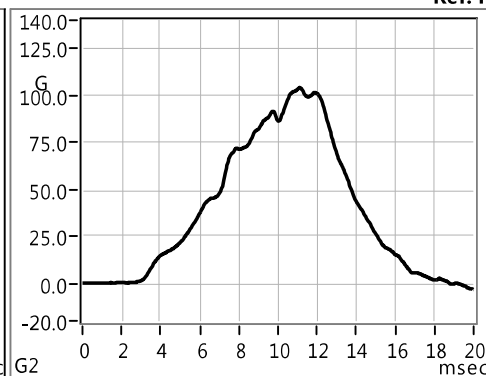
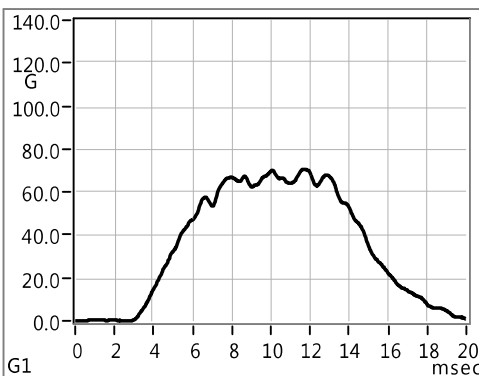
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
1	155.8	973	6.0470	192.0	FLAT	0.76	0.00	LF SIDE	2022-08-17	13:54:23	1.5	Pass
2	186.3	1277	6.0396	192.0	FLAT	2.73	0.00	LF SIDE	2022-08-17	13:54:26	1.6	Pass
3	148.5	1003	6.0402	192.0	FLAT	0.00	0.00	REAR	2022-08-17	13:57:37	1.6	Pass
4	168.3	1231	6.0981	192.0	FLAT	2.69	0.00	REAR	2022-08-17	13:57:41	0.6	Pass

Impact Uni-Axial

Helmet Manufacturer : YIYANG
Address :

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

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



Model : MOTO2.5
Color : Black
Size : S(55-56CM)
Weight : 998.00 g
Manufacturing Date : 17 Aug 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.009-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 : 5.028 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	70.5	269	5.2184	145.0	HEMI	0.00	0.00	FRONT	2022-08-17	14:02:27	2.1	Pass
6	104.2	414	5.1894	145.0	HEMI	0.00	0.00	FRONT	2022-08-17	14:02:32	2.7	Pass
7	90.8	383	5.2534	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-17	14:05:47	1.5	Pass
8	121.7	572	5.2430	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-17	14:05:51	1.7	Pass

DOT Auto – Test results

Laboratory

Laboratory ACT Lab
Technician Terry
Temperature 21
Humidity 57

Sample

Model MOTO 2.5
Color BLACK
Size S(55-56CM)
Weight 999
Manufacturer YIYANG
Manuf. Date 04/22

Infos

Standard FMVSS No.218
Comment 904.10600.009-A



Results

Test	Time Data D/M/Y h:mm	DL 7	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del1 to Del2) (mm)	Pass/Fail		
Test#14	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	15.3	Pass		

DOT Auto – Test results

Laboratory

Laboratory ACT Lab
Technician Terry
Temperature 21
Humidity 57

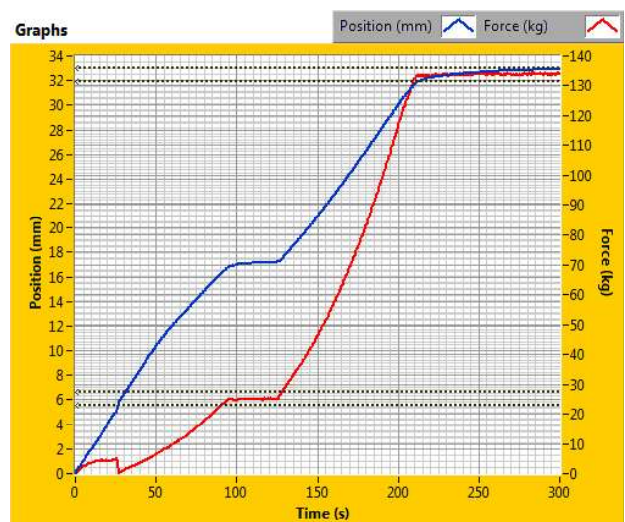
Sample

Model MOTO 2.5
Color BLACK
Size S(55-56CM)
Weight 994
Manufacturer YIYANG
Manuf. Date 04/22

Infos

Standard FMVSS No.218
Comment 904.10600.009-B

Graphs



Results

Test	Time Data D/M/Y h:mm	DL 7	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del1 to Del2) (mm)	Pass/Fail
Test#15	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	15.4	Pass

DOT Auto – Test results

Laboratory

Laboratory ACT Lab
Technician Terry
Temperature 21
Humidity 57

Sample

Model MOTO 2.5
Color BLACK
Size S(55-56CM)
Weight 1002
Manufacturer YIYANG
Manuf. Date 04/22

Infos

Standard FMVSS No.218
Comment 904.10600.009-C



Results

Test	Time Data D/M/Y h:ms	DL 7	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del1 to Del2) (mm)	Pass/Fail
Test#16	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	17.5	Pass

DOT Auto – Test results

Laboratory

Laboratory ACT Lab
Technician Terry
Temperature 21
Humidity 57

Sample

Model MOTO 2.5
Color BLACK
Size S(55-56CM)
Weight 998
Manufacturer YIYANG
Manuf. Date 04/22

Infos

Standard FMVSS No.218
Comment 904.10600.009-D



Results

Test	Time Data D/M/Y h:mm	DL 7	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del.1 to Del.2) (mm)	Pass/Fail		
Test#17	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	16.0	Pass		



APPENDIX A

INTERPRETATIONS OR DEVIATIONS FROM FMVSS 218

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

Contract File No.: 904.10600

Test File: 009

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19
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Technician: Edward Wang

Test Date: 17 August 2022

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	2021 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	NA	NA
H1102	Helmet Room	Headform	DOT Retention Strength Medium	NA	NA	NA
H1103	Helmet Room	Headform	DOT Retention Strength Large	NA	NA	NA
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	NA	NA
H1129	Helmet Room	Headform	DOT Penetration Medium	NA	NA	NA
H1130	Helmet Room	Headform	DOT Penetration Large	NA	NA	NA
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
H1175	Helmet Room	Headform	DOT Penetration Large	NA	NA	NA
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

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Test Date: 17 August 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	11/2/2021	11/1/2022
H1012	Instrument	Displacement sensor - C20101007753	2 inch	0.1mm	J72863	11/1/2021	10/31/2022
H1014	Instrument	Displacement sensor - LWE-200	(0-100)mm	0.1mm	2002572	11/1/2021	10/31/2022
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	11/1/2021	10/31/2024
H1030	Environmental Chamber	Oven #1 - 92°9240MBE	(0-200)°C	1°C	8285	7/8/2021	7/7/2022
H1031	Environmental Chamber	Oven #2 - DHG-9426	(0-200)°C	0.1°C	1503338018	11/1/2021	10/31/2022
H1032	Environmental Chamber	Freezer #1 - DW-25W300	(-30~-10)°C	0.1°C	BE062100N00B29578VMO	7/8/2021	7/7/2022
H1033	Environmental Chamber	Freezer #2 - DW-50W225	(-30~-10)°C	0.1°C	F8LMJ	11/1/2021	10/31/2022
H1036	Environmental Measure	Temperature and humidity #1 - TH-602F	(-30~60)°C, (0-100)%	2°C	3238	7/9/2021	7/8/2022
H1057	Anvil	Edge	NA	NA	NA	10/27/2020	10/26/2023
H1058	Anvil	Equestrian	NA	NA	NA	10/27/2020	10/26/2023
H1061	Anvil	Blade	NA	NA	NA	10/27/2020	10/26/2023
H1063	Height Measure	Digital tape - 5m	(0-5)m	0.1mm	78223	11/2/2021	11/1/2022
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)°C, (0-100)%	1°C	Q/MDS001-2017-1	7/8/2021	7/7/2022
H1072	Environmental Measure	Temperature and humidity #4 - TH600B	(-20~100)°C, (0-100)%	1°C	Q/MDS001-2017-2	7/8/2021	7/7/2022
H1073	Height Measure	Height Gauge	(0-500)mm	0.01mm	8811213838273610	11/1/2021	10/31/2022
H1074	Distance Measure	Vernier caliper - SJ-455615	(0-150)mm	0.01mm	455615	11/1/2021	10/31/2022
H1076	Environmental Measure	Calorifier - CN-111	18-35°C	0.1°C	NA	11/2/2021	11/1/2022
H1077	Distance Measure	Tape	0-1.5m	1mm	NA	11/2/2021	11/1/2022
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
H1180	Instrument	LVDT & Sensor Box	2 inch	0.1mm	04140748-001	11/1/2021	10/31/2022
H1184	Instrument	Uni-axial Accelerometer yellow tower - 353B18	± 500 g	≤ 1%	LW226664	8/24/2021	8/23/2022

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Technician: Edward Wang

Test Date: 17 August 2022



APPENDIX C PHOTOGRAPHS

Contract File No.: 904.10600

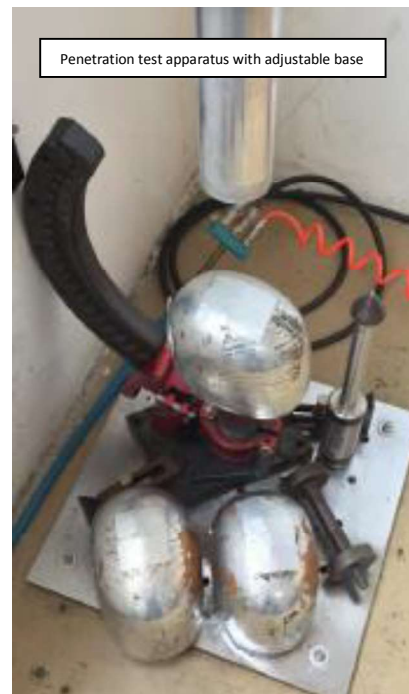
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Low temperature conditioning cabinet



Water immersion equipment



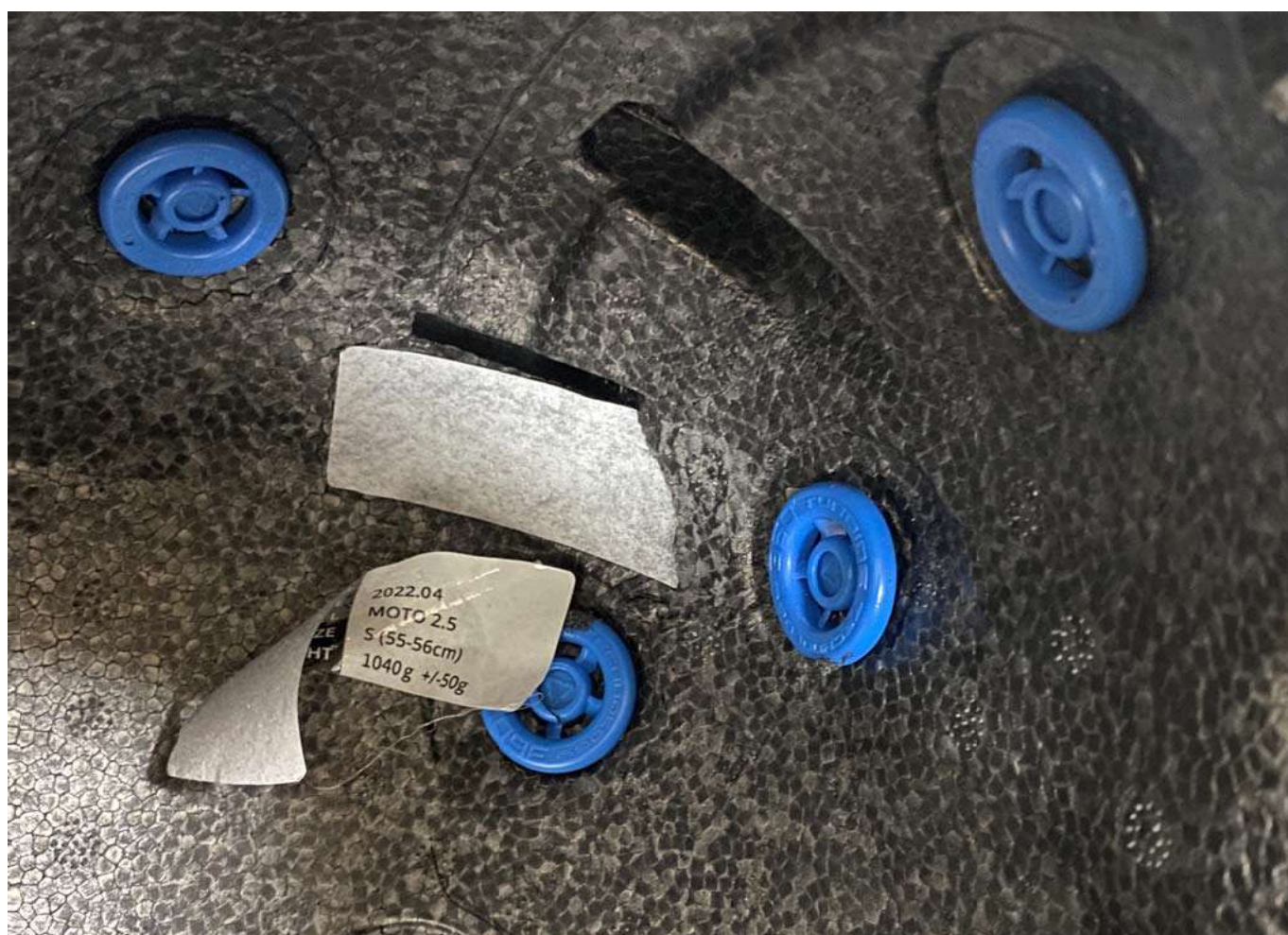
High temperature chamber

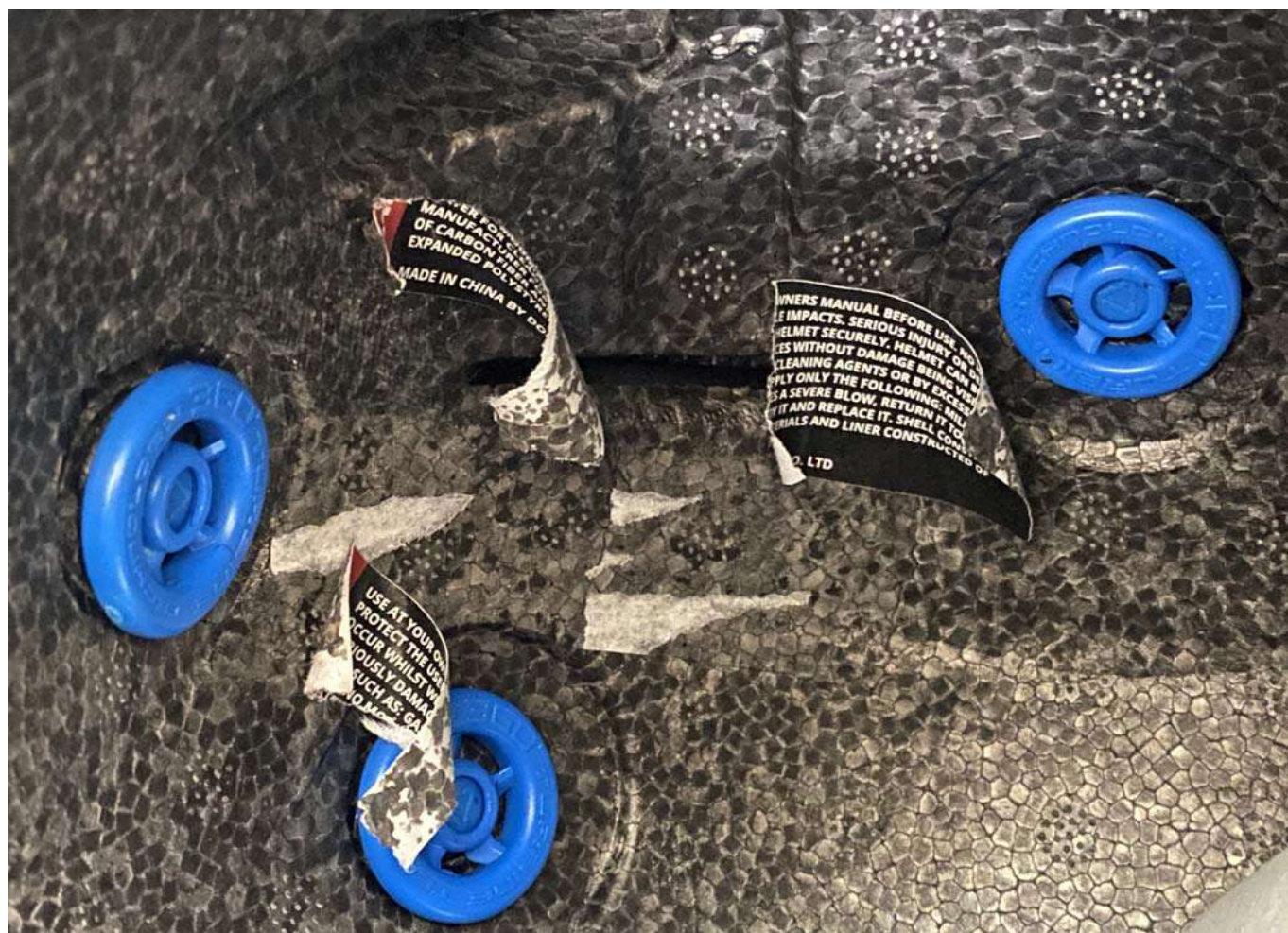
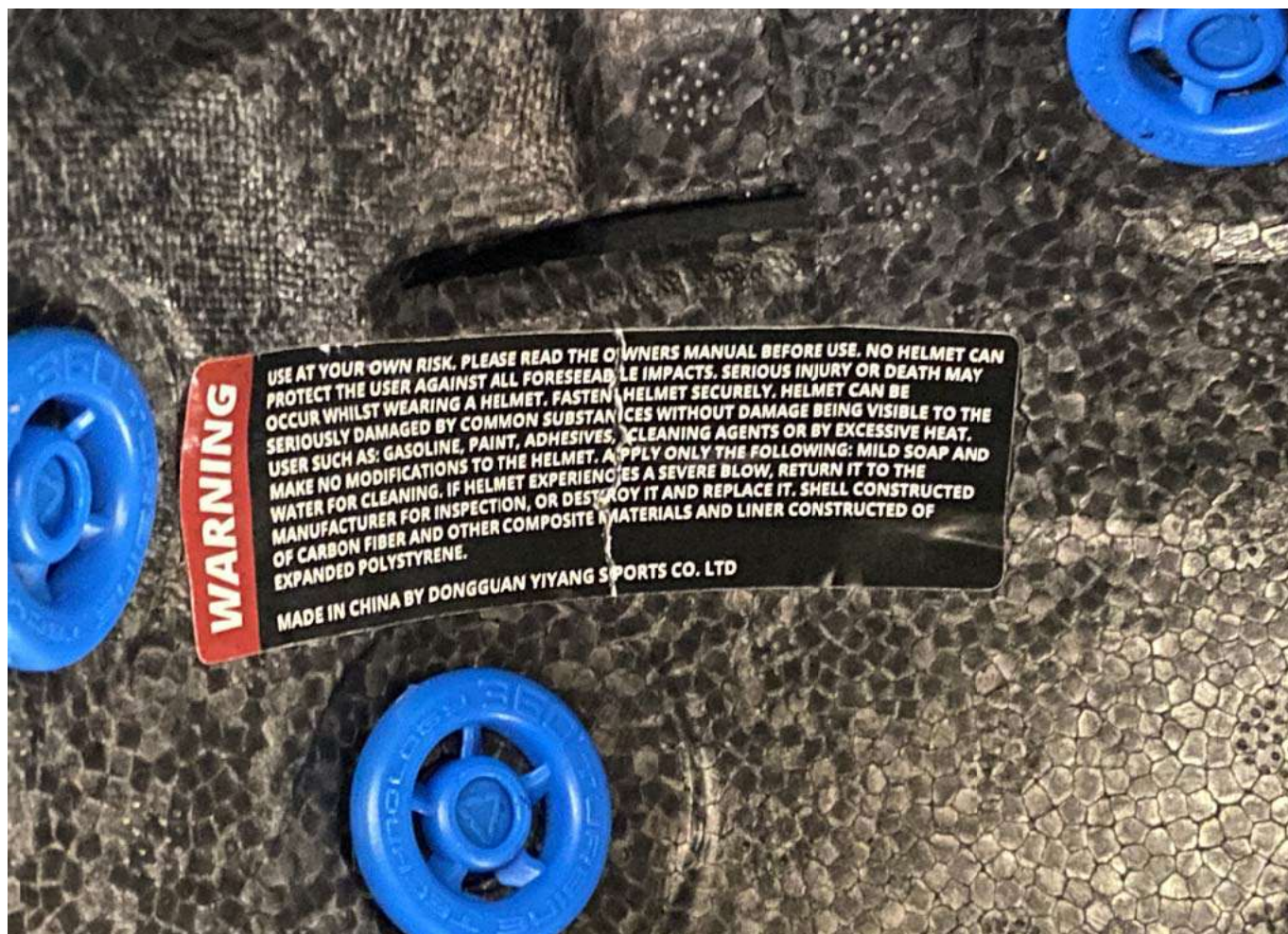




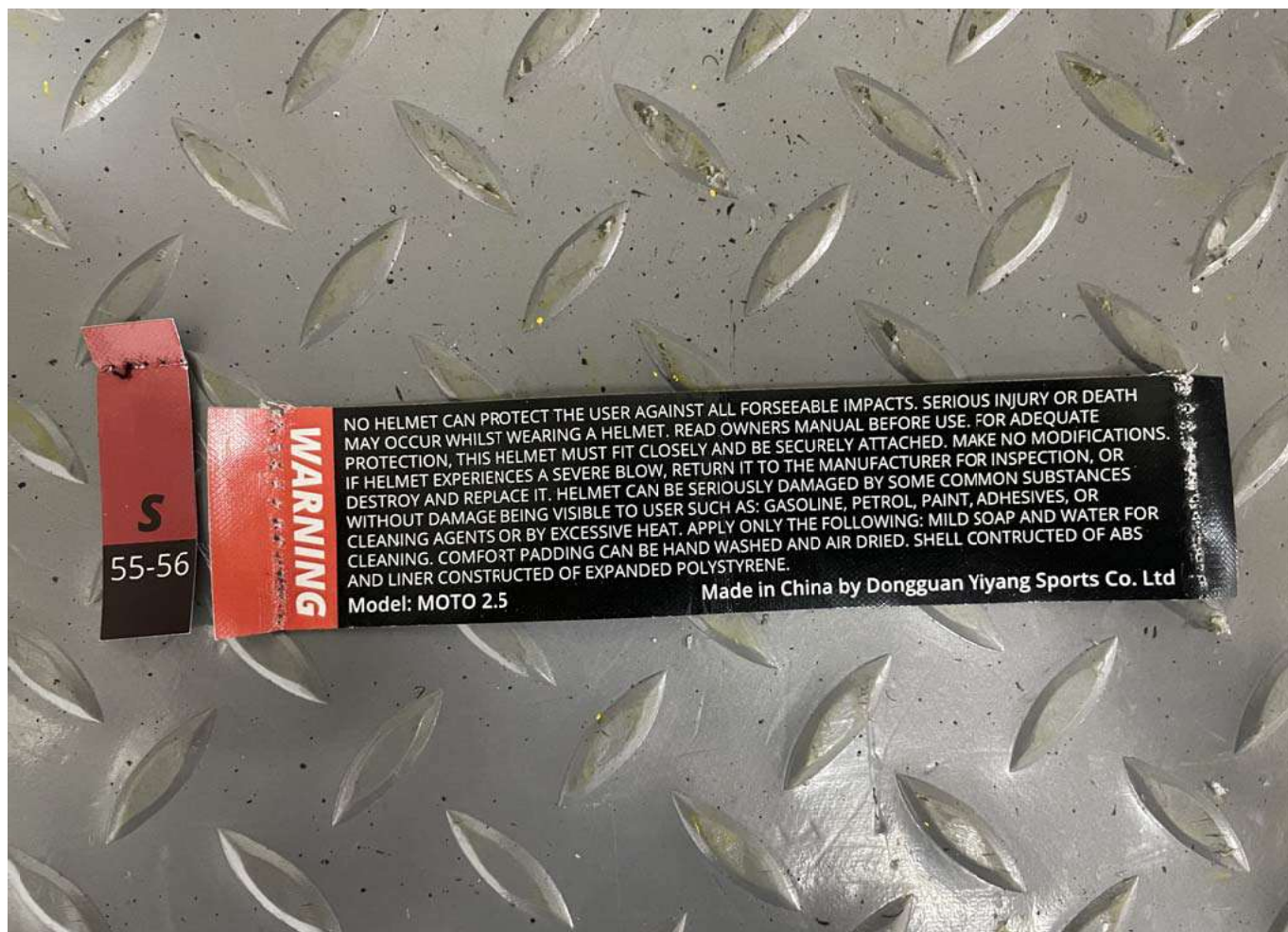














NOTICE

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

Contract File No.: 904.10600

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ACT Lab LLC 3280 East 59th Street, Long Beach, CA 90805 | Tel 562.470.7215 | Web act-lab.com

SAFETY COMPLIANCE TESTING FOR FMVSS No. 218 MOTORCYCLE HELMETS

Brand: LEATT

Model: MOTO 2.5

Tested Size: L (59-60 cm)

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

Prepared For:

Leatt Corporation
12 Kiepersol Crescent,
Atlas Gardens Business Park,
Cape Farms, Cape Town,
7550, ZA



Issue Date: 19 September 2022

Final Report: 904.10600.007

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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PURPOSE OF COMPLIANCE TEST

Purpose:

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

Dongguan Yiyang Sports 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: LEATTHELMET MODEL DESIGNATION: MOTO 2.5HELMET MANUFACTURER: DONGGUAN YIYANG SPORTS CO., LTD.HELMET SIZE: L (59-60 cm)HELMET COVERAGE: Partial: Full: Complete: XHELMET POSITIONING INDEX: 57 mmSHELL MATERIAL: ABSLINER MATERIAL: Expanded PolystyreneBUCKLE DESCRIPTION: Double D-Rings

HELMET	A Ambient	B Low Temp	C High Temp	D Water Immersed	E Spare
SHELL COLOR/PATTERN	Black	Black	Black	Black	---
WEIGHT (grams)	1105	1106	1100	1109	---
MONTH & YEAR OF MANUFACTURE	09/22	09/22	09/22	09/22	---

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 visor removed.
3. ACT determined the HPI information prior to testing.

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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
PROJECTIONS	Pass
LABELING	Pass

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

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 °C ; AVERAGE LAB HUMIDITY : 57 %

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Test Date: 02 August 2022



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
904.10600.007-A	Ambient	1	LF SIDE	FLAT	192.0	6.0246	3.09	0.00	188.6	Pass
904.10600.007-A	Ambient	2	LF SIDE	FLAT	192.0	6.0568	2.87	0.90	214.9	Pass
904.10600.007-A	Ambient	3	REAR	FLAT	192.0	6.0036	2.69	0.00	176.6	Pass
904.10600.007-A	Ambient	4	REAR	FLAT	192.0	5.9947	3.49	0.00	199.6	Pass
904.10600.007-A	Ambient	5	FRONT	HEMI	145.0	5.2700	0.00	0.00	79.8	Pass
904.10600.007-A	Ambient	6	FRONT	HEMI	145.0	5.2670	0.00	0.00	98.7	Pass
904.10600.007-A	Ambient	7	RT SIDE	HEMI	145.0	5.2625	0.00	0.00	117.6	Pass
904.10600.007-A	Ambient	8	RT SIDE	HEMI	145.0	5.2633	0.00	0.00	140.2	Pass
904.10600.007-B	Cold	1	LF SIDE	FLAT	192.0	6.0233	2.24	0.00	184.0	Pass
904.10600.007-B	Cold	2	LF SIDE	FLAT	192.0	6.0265	2.73	0.00	199.6	Pass
904.10600.007-B	Cold	3	REAR	FLAT	192.0	6.0443	3.54	0.00	189.0	Pass
904.10600.007-B	Cold	4	REAR	FLAT	192.0	6.0343	3.47	1.10	210.3	Pass
904.10600.007-B	Cold	5	FRONT	HEMI	145.0	5.2474	0.00	0.00	75.6	Pass
904.10600.007-B	Cold	6	FRONT	HEMI	145.0	5.2651	0.00	0.00	87.6	Pass
904.10600.007-B	Cold	7	RT SIDE	HEMI	145.0	5.2740	0.00	0.00	118.5	Pass
904.10600.007-B	Cold	8	RT SIDE	HEMI	145.0	5.2476	0.14	0.00	151.7	Pass
904.10600.007-C	Hot	1	LF SIDE	FLAT	192.0	6.0453	2.54	0.00	193.7	Pass
904.10600.007-C	Hot	2	LF SIDE	FLAT	192.0	6.0435	2.64	1.33	225.5	Pass
904.10600.007-C	Hot	3	REAR	FLAT	192.0	6.0506	2.71	0.00	170.6	Pass
904.10600.007-C	Hot	4	REAR	FLAT	192.0	6.0405	3.48	0.37	209.3	Pass
904.10600.007-C	Hot	5	FRONT	HEMI	145.0	5.2566	0.00	0.00	77.9	Pass
904.10600.007-C	Hot	6	FRONT	HEMI	145.0	5.2188	0.00	0.00	94.5	Pass
904.10600.007-C	Hot	7	RT SIDE	HEMI	145.0	5.2397	0.00	0.00	114.8	Pass
904.10600.007-C	Hot	8	RT SIDE	HEMI	145.0	5.2666	0.00	0.00	124.5	Pass
904.10600.007-D	Wet	1	LF SIDE	FLAT	192.0	6.0227	2.40	0.00	175.7	Pass
904.10600.007-D	Wet	2	LF SIDE	FLAT	192.0	6.0489	2.65	0.68	204.7	Pass
904.10600.007-D	Wet	3	REAR	FLAT	192.0	5.9793	0.99	0.00	167.4	Pass
904.10600.007-D	Wet	4	REAR	FLAT	192.0	6.0353	2.75	0.00	193.7	Pass
904.10600.007-D	Wet	5	FRONT	HEMI	145.0	5.2385	0.00	0.00	77.5	Pass
904.10600.007-D	Wet	6	FRONT	HEMI	145.0	5.2374	0.00	0.00	91.3	Pass
904.10600.007-D	Wet	7	RT SIDE	HEMI	145.0	5.2326	0.00	0.00	141.1	Pass
904.10600.007-D	Wet	8	RT SIDE	HEMI	145.0	5.2570	0.99	0.00	155.4	Pass

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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 $60^\circ \pm 0.5^\circ$, 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 $\pm$ 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 Right	X		AMBIENT
3	B	Crown	X		LOW TEMPERATURE
4	B	Rear Right	X		LOW TEMPERATURE
5	C	Crown	X		HIGH TEMPERATURE
6	C	Rear Right	X		HIGH TEMPERATURE
7	D	Crown	X		WATER IMMERSED
8	D	Rear Right	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	2.49
B	LOW TEMPERATURE	2.33
C	HIGH TEMPERATURE	2.31
D	WATER IMMERSED	1.93

PERIPHERAL VISION

CONFIGURATION - Paragraph S5.4 - Helmet shall provide a minimum peripheral vision of 105° 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	> 105°	Pass
BROW OPENING	> 2.5 cm (1 inch)	Pass



PROJECTIONS

Paragraph S5.5

REQUIREMENTS:

PROJECTION	REQUIREMENT
Internal rigid	None
External rigid	Operational, shall not protrude more than 5 mm

TEST RESULTS:

PROJECTION	PRESENT	HEIGHT (mm)
Internal	None	Not Applicable
External	None	Not Applicable

Contract File No.: 904.10600

Test File: 007

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19

SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/FMVSS No.218

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Technician: Edward Wang

Test Date: 02 August 2022

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:

- Labels were determined to be both easily read and permanent based on the TP-218-07, Section 12.5.4.

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:

- Labels were determined to be both easily read and permanent based on the TP-218-07, Section 12.5.4.

Contract File No.: 904.10600

Test File: 007

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19

SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/FMVSS No.218

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Technician: Edward Wang

Test Date: 02 August 2022



TEST DATA

Contract File No.: 904.10600

Test File: 007

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19
SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/FMVSS No.218

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Technician: Edward Wang

Test Date: 02 August 2022

Uni-Axial Calibration

Helmet Manufacturer YI YANG
Address :

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

Laboratory Technician name Terry

M.E.P. Pad Model 1 MEP

Laboratory Temperature 22 deg C

Laboratory Humidity 57 %

Selected Filter Frequency 1000 Hz

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

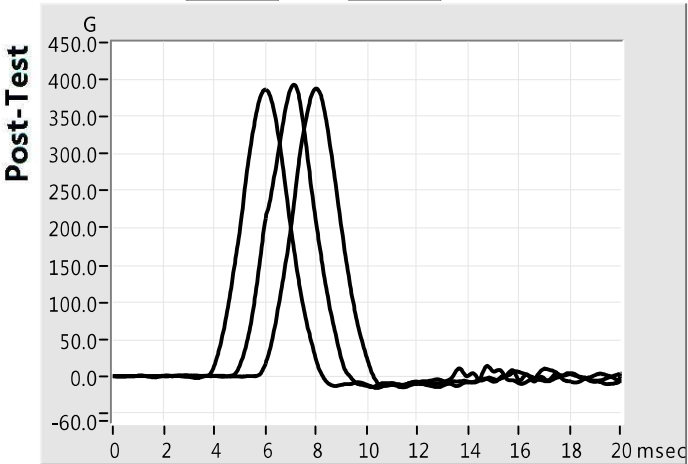
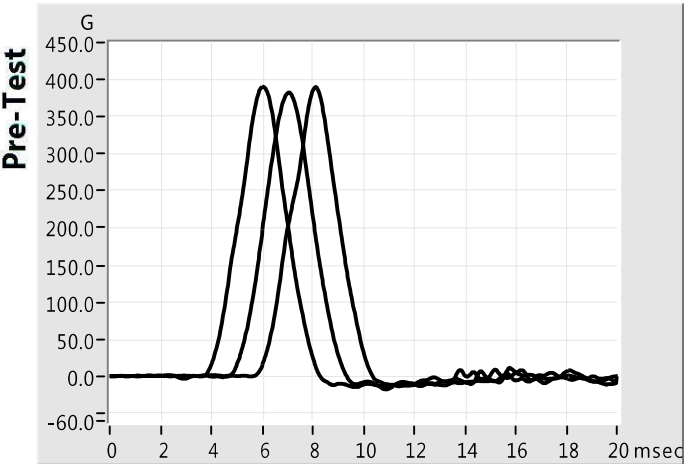
Acc. sensitivity (axis X) : 10.30 mV/G

Acc. sensitivity (axis Y) : 10.30 mV/G

Drop Device : Spherical Impactor (Uni-Axial)

Drop mass assembly : 5.028 kg Time gate flag height : 25.43 mm

Calibration peak : 402.5 G +/- 22.50 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	390.1	3487	4.7454	115.0	MEP	2.48	2.01	0/0	2022-08-02	09:01:25	0.1	Pass
	2	382.2	3497	4.7892	115.0	MEP	2.45	2.04	0/0	2022-08-02	09:02:30	-0.8	Pass
	3	389.6	3340	4.7697	115.0	MEP	2.51	2.07	0/0	2022-08-02	09:03:33	-0.4	Pass
Post-Test	1	386.4	3546	4.7418	115.0	MEP	2.43	2.00	0/0	2022-08-02	12:56:53	0.2	Pass
	2	392.8	3462	4.7388	115.0	MEP	2.48	2.08	0/0	2022-08-02	12:58:00	0.2	Pass
	3	387.8	3524	4.7471	115.0	MEP	2.43	1.99	0/0	2022-08-02	12:59:10	0.0	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

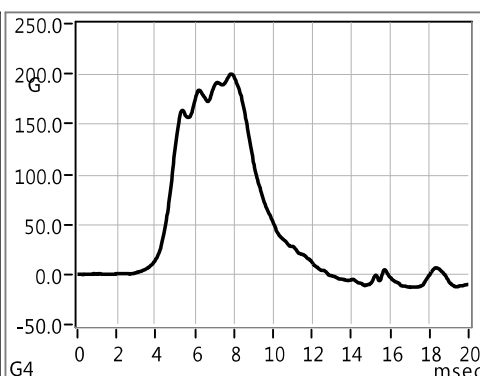
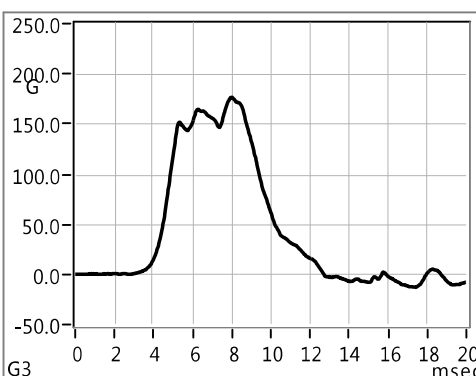
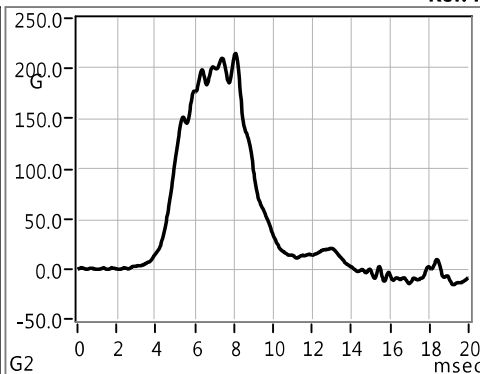
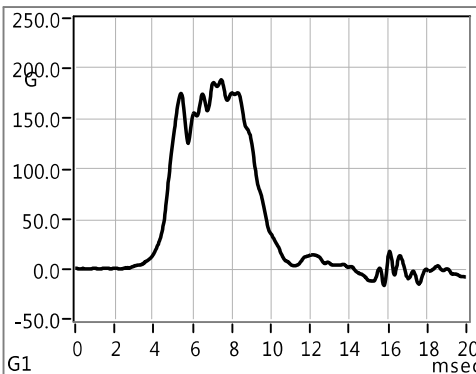
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5

Color : Black

Size : L(59-60CM)

Weight : 1105.00 g

Manufacturing Date : 01 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.007-A

Headform Model : D.O.T.

Headform Size : C D.O.T

Conditioning : Ambient

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 : 5.028 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	188.6	1352	6.0246	192.0	FLAT	3.09	0.00	LF SIDE	2022-08-02	11:23:46	1.8	Pass
2	214.9	1593	6.0568	192.0	FLAT	2.87	0.90	LF SIDE	2022-08-02	11:24:05	1.3	Pass
3	176.6	1241	6.0036	192.0	FLAT	2.69	0.00	REAR	2022-08-02	11:37:24	2.2	Pass
4	199.6	1564	5.9947	192.0	FLAT	3.49	0.00	REAR	2022-08-02	11:37:40	2.3	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

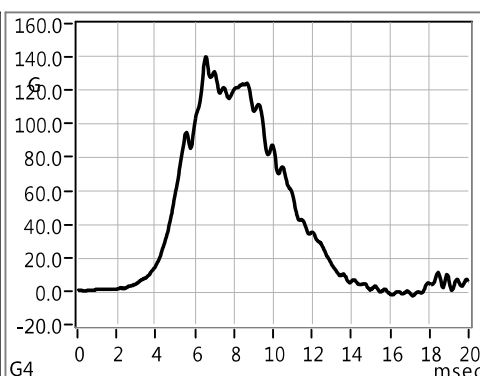
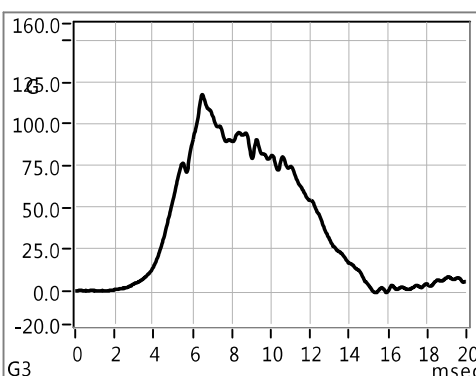
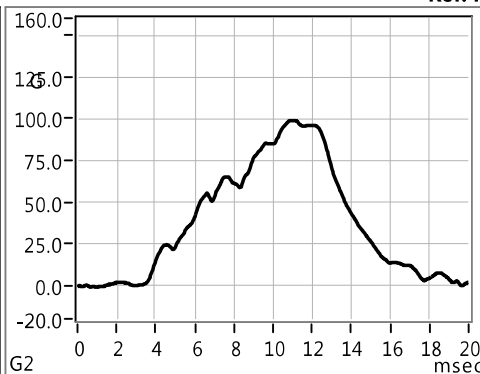
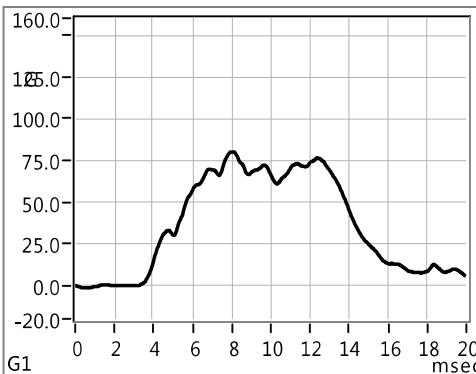
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5

Color : Black

Size : L(59-60CM)

Weight : 1105.00 g

Manufacturing Date : 01 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.007-A

Headform Model : D.O.T.

Headform Size : C D.O.T

Conditioning : Ambient

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 : 5.028 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	79.8	315	5.2700	145.0	HEMI	0.00	0.00	FRONT	2022-08-02	11:55:04	1.2	Pass
6	98.7	378	5.2670	145.0	HEMI	0.00	0.00	FRONT	2022-08-02	11:55:23	1.2	Pass
7	117.6	455	5.2625	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-02	12:34:22	1.3	Pass
8	140.2	641	5.2633	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-02	12:34:40	1.3	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

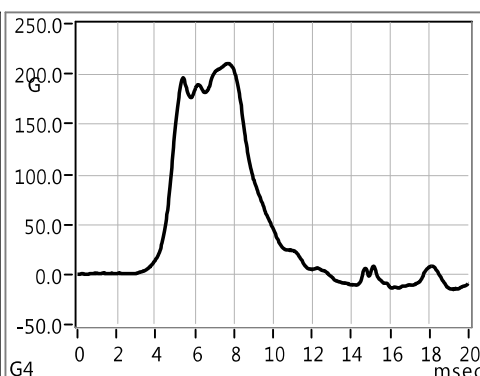
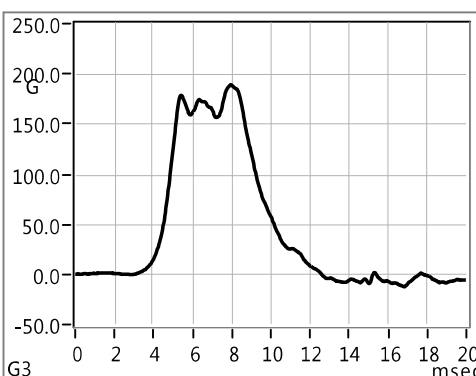
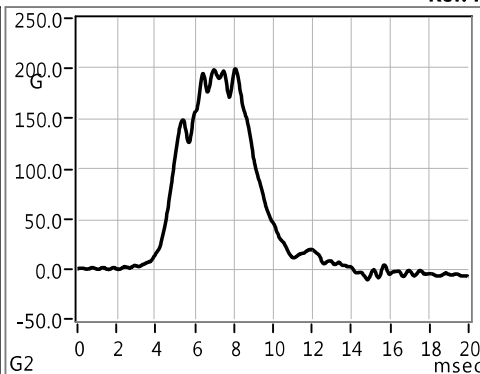
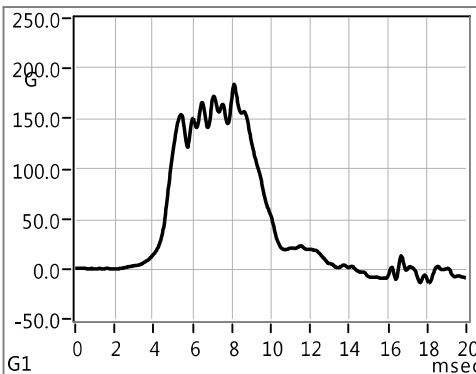
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5

Color : Black

Size : L(59-60CM)

Weight : 1106.00 g

Manufacturing Date : 01 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.007-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 : 5.028 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	184.0	1144	6.0233	192.0	FLAT	2.24	0.00	LF SIDE	2022-08-02	11:25:44	1.8	Pass
2	199.6	1440	6.0265	192.0	FLAT	2.73	0.00	LF SIDE	2022-08-02	11:26:00	1.8	Pass
3	189.0	1431	6.0443	192.0	FLAT	3.54	0.00	REAR	2022-08-02	11:44:27	1.5	Pass
4	210.3	1762	6.0343	192.0	FLAT	3.47	1.10	REAR	2022-08-02	11:44:42	1.7	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

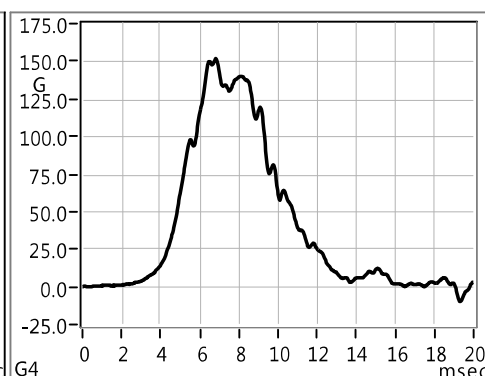
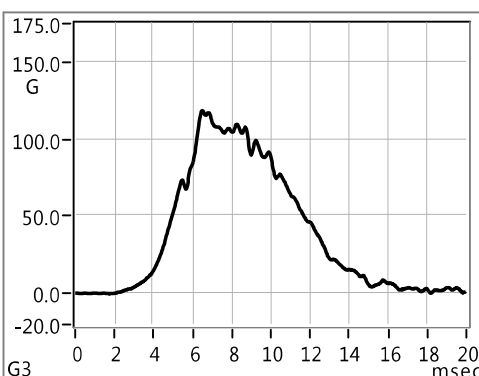
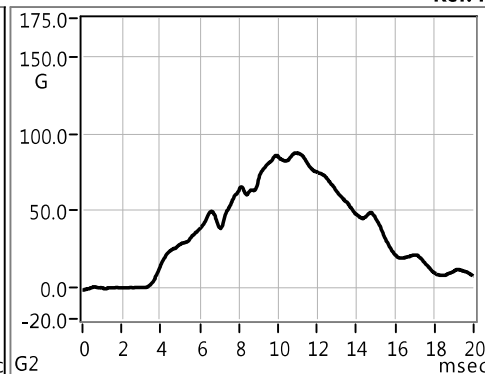
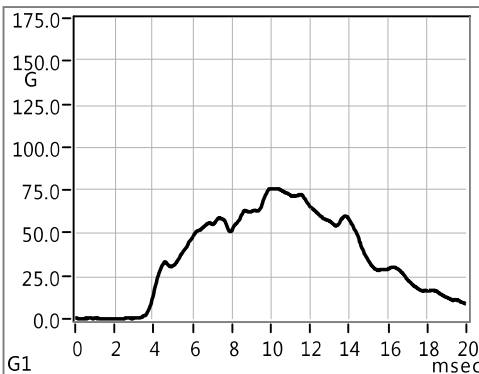
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5

Color : Black

Size : L(59-60CM)

Weight : 1106.00 g

Manufacturing Date : 01 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.007-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 : 5.028 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	75.6	259	5.2474	145.0	HEMI	0.00	0.00	FRONT	2022-08-02	12:28:02	1.6	Pass
6	87.6	298	5.2651	145.0	HEMI	0.00	0.00	FRONT	2022-08-02	12:28:19	1.3	Pass
7	118.5	500	5.2740	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-02	12:42:48	1.1	Pass
8	151.7	744	5.2476	145.0	HEMI	0.14	0.00	RT SIDE	2022-08-02	12:43:03	1.6	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

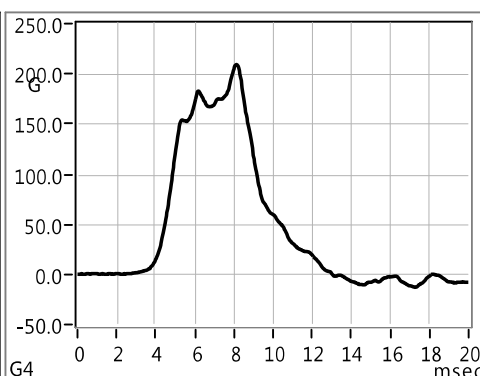
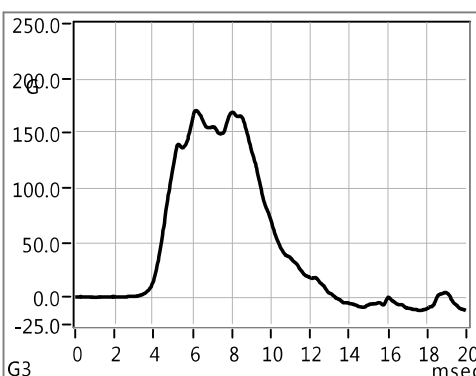
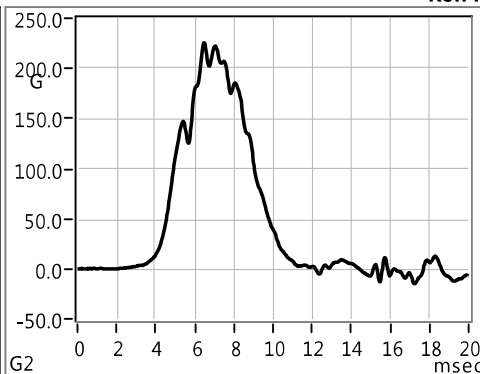
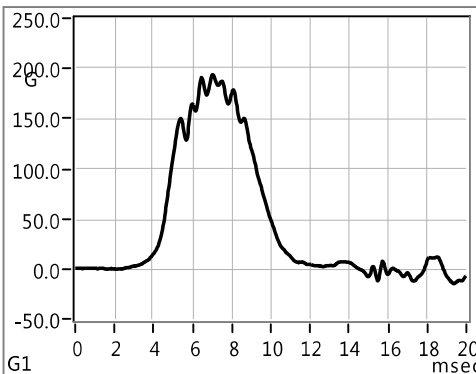
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5

Color : Black

Size : L(59-60CM)

Weight : 1100.00 g

Manufacturing Date : 01 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.007-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 : 5.028 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	193.7	1339	6.0453	192.0	FLAT	2.54	0.00	LF SIDE	2022-08-02	11:27:54	1.5	Pass
2	225.5	1599	6.0435	192.0	FLAT	2.64	1.33	LF SIDE	2022-08-02	11:28:12	1.5	Pass
3	170.6	1233	6.0506	192.0	FLAT	2.71	0.00	REAR	2022-08-02	11:46:03	1.4	Pass
4	209.3	1503	6.0405	192.0	FLAT	3.48	0.37	REAR	2022-08-02	11:46:18	1.6	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

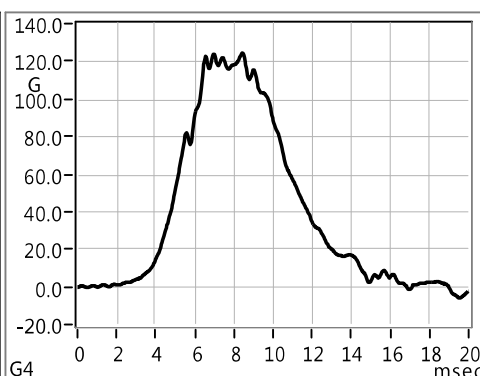
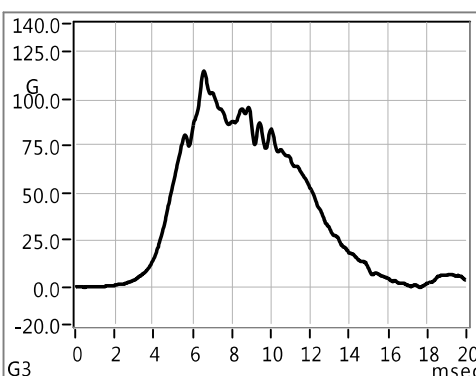
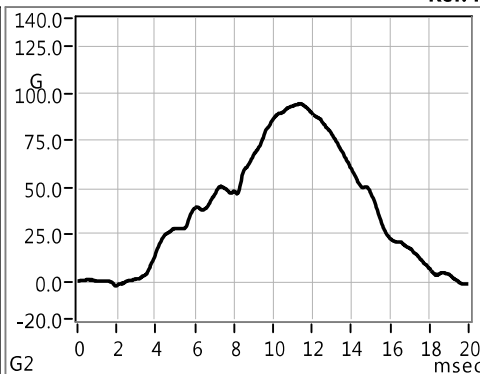
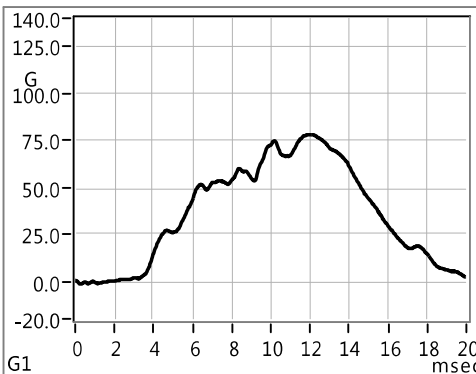
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5

Color : Black

Size : L(59-60CM)

Weight : 1100.00 g

Manufacturing Date : 01 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.007-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 : 5.028 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	77.9	277	5.2566	145.0	HEMI	0.00	0.00	FRONT	2022-08-02	12:29:55	1.4	Pass
6	94.5	345	5.2188	145.0	HEMI	0.00	0.00	FRONT	2022-08-02	12:30:09	2.1	Pass
7	114.8	426	5.2397	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-02	12:44:24	1.7	Pass
8	124.5	590	5.2666	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-02	12:44:38	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

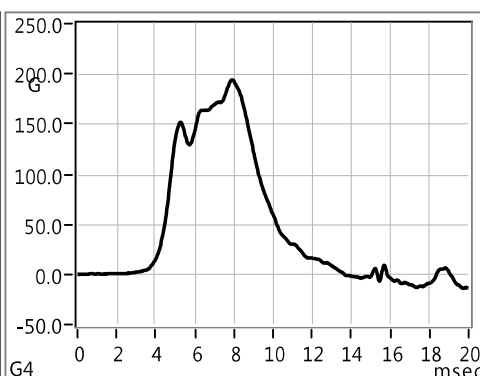
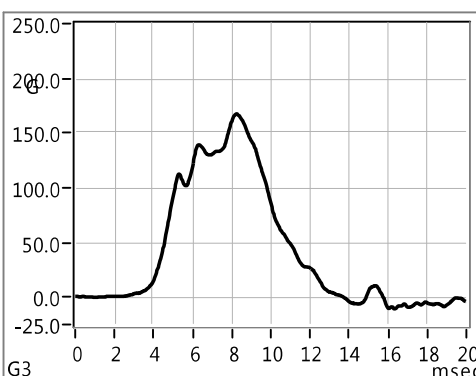
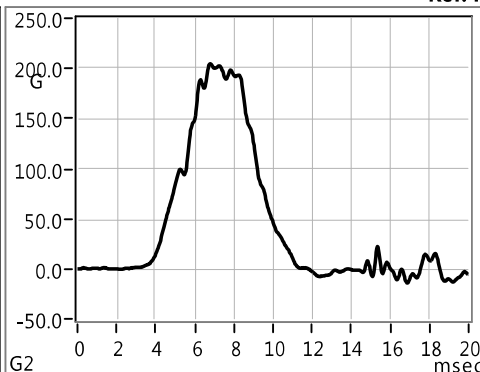
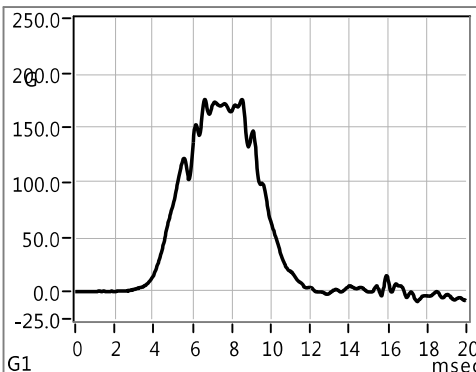
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5

Color : Black

Size : L(59-60CM)

Weight : 1109.00 g

Manufacturing Date : 01 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.007-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 : 5.028 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	175.7	1153	6.0227	192.0	FLAT	2.40	0.00	LF SIDE	2022-08-02	11:31:09	1.9	Pass
2	204.7	1412	6.0489	192.0	FLAT	2.65	0.68	LF SIDE	2022-08-02	11:32:18	1.4	Pass
3	167.4	983	5.9793	192.0	FLAT	0.99	0.00	REAR	2022-08-02	11:40:25	2.6	Pass
4	193.7	1322	6.0353	192.0	FLAT	2.75	0.00	REAR	2022-08-02	11:40:50	1.7	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

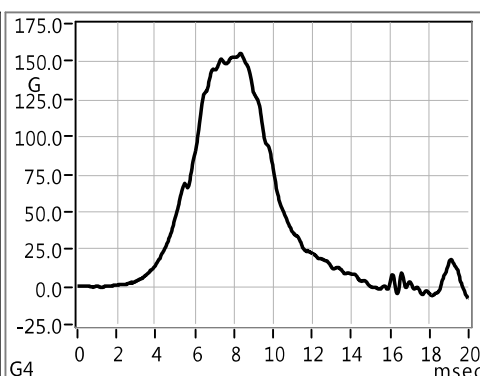
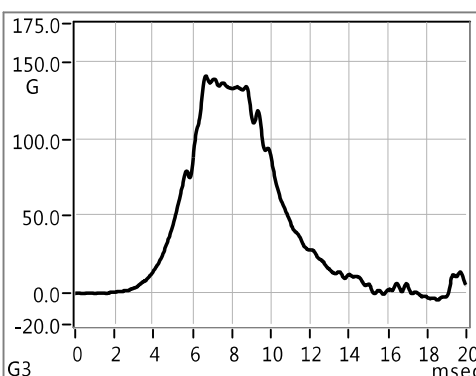
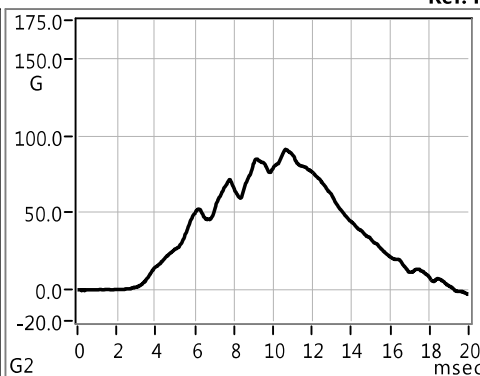
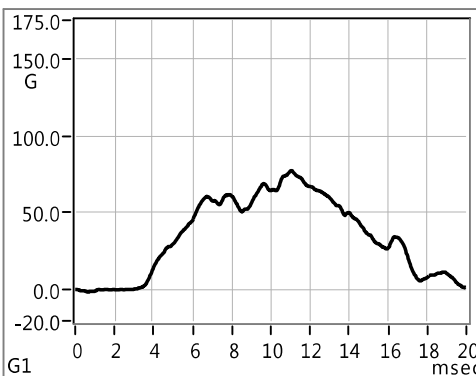
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Terry

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5

Color : Black

Size : L(59-60CM)

Weight : 1109.00 g

Manufacturing Date : 01 Aug 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.007-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 : 5.028 kg

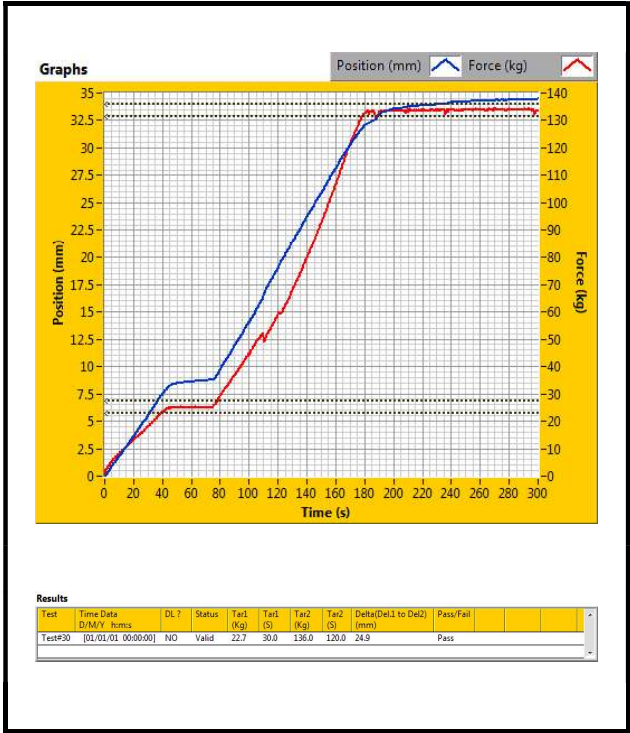
Time gate flag height : 25.43 mm

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	77.5	250	5.2385	145.0	HEMI	0.00	0.00	FRONT	2022-08-02	11:57:55	1.8	Pass
6	91.3	314	5.2374	145.0	HEMI	0.00	0.00	FRONT	2022-08-02	11:58:14	1.8	Pass
7	141.1	680	5.2326	145.0	HEMI	0.00	0.00	RT SIDE	2022-08-02	12:37:07	1.8	Pass
8	155.4	797	5.2570	145.0	HEMI	0.99	0.00	RT SIDE	2022-08-02	12:39:52	1.4	Pass

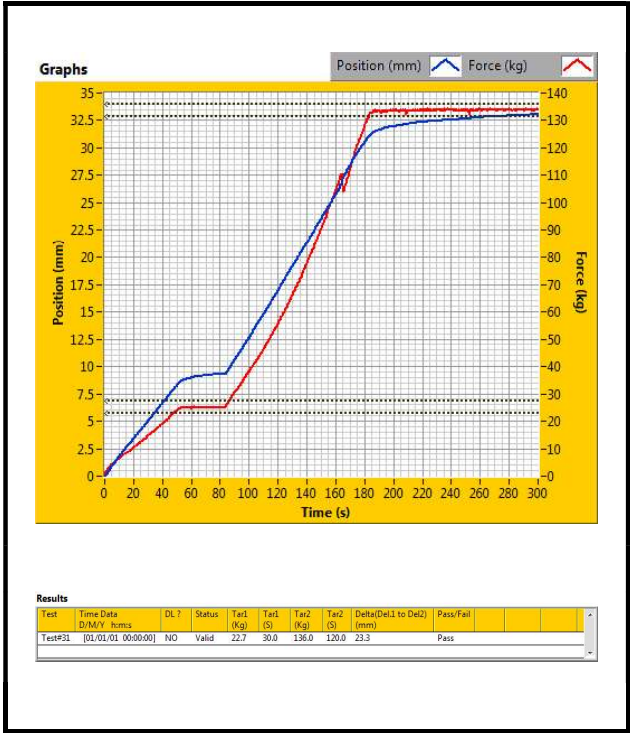
DOT Auto – Test results

Laboratory	Laboratory	ACT Lab
	Technician	Terry
	Temperature	21
	Humidity	57
Sample	Model	MOTO2.5
	Color	BLACK
	Size	L(59-60CM)
	Weight	1105
	Manufacturer	YIYANG
	Manuf. Date	09/22
Infos	Standard	FMVSS No.218
	Comment	904.10600.007-A



DOT Auto – Test results

Laboratory	Laboratory	ACT Lab
	Technician	Terry
	Temperature	21
	Humidity	57
Sample	Model	MOTO2.5
	Color	BLACK
	Size	L(59-60CM)
	Weight	1106
	Manufacturer	YIYANG
	Manuf. Date	09/22
Infos	Standard	FMVSS No.218
	Comment	904.10600.007-B



DOT Auto – Test results

Laboratory

Laboratory ACT Lab
Technician Terry
Temperature 21
Humidity 57

Sample

Model MOTO2.5
Color BLACK
Size L(59-60CM)
Weight 1100
Manufacturer YIYANG
Manuf. Date 09/22

Infos

Standard FMVSS No.218
Comment 904.10600.007-C



Results

Test	Time Data (D/M/Y - hours)	DL ?	Status	Tar1 (kg)	Tar1 (g)	Tar2 (kg)	Tar2 (g)	Delta(Del1 to Del2) (mm)	Pass/Fail		
Test#33	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	23.1	Pass		

DOT Auto – Test results

Laboratory

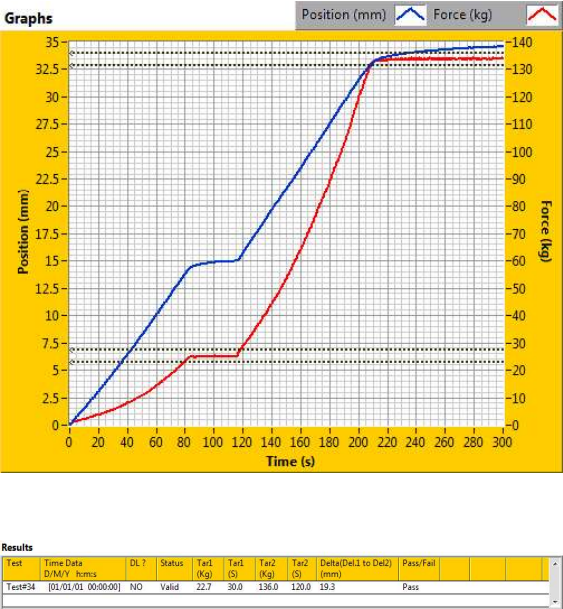
Laboratory ACT Lab
Technician Terry
Temperature 21
Humidity 57

Sample

Model MOTO2.5
Color BLACK
Size L(59-60CM)
Weight 1109
Manufacturer YIYANG
Manuf. Date 09/22

Infos

Standard FMVSS No.218
Comment 904.10600.007-D





APPENDIX A

INTERPRETATIONS OR DEVIATIONS FROM FMVSS 218

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

Contract File No.: 904.10600

Test File: 007

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Technician: Edward Wang

Test Date: 02 August 2022

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	2021 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	NA	NA
H1102	Helmet Room	Headform	DOT Retention Strength Medium	NA	NA	NA
H1103	Helmet Room	Headform	DOT Retention Strength Large	NA	NA	NA
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	NA	NA
H1129	Helmet Room	Headform	DOT Penetration Medium	NA	NA	NA
H1130	Helmet Room	Headform	DOT Penetration Large	NA	NA	NA
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
H1175	Helmet Room	Headform	DOT Penetration Large	NA	NA	NA
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

Contract File No.: 904.10600

Test File: 007

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Technician: Edward Wang

Test Date: 02 August 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	11/2/2021	11/1/2022
H1012	Instrument	Displacement sensor - C20101007753	2 inch	0.1mm	J72863	11/1/2021	10/31/2022
H1014	Instrument	Displacement sensor - LWE-200	(0-100)mm	0.1mm	2002572	11/1/2021	10/31/2022
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	11/1/2021	10/31/2024
H1030	Environmental Chamber	Oven #1 - 92°9240MBE	(0-200)°C	1°C	8285	7/8/2021	7/7/2022
H1031	Environmental Chamber	Oven #2 - DHG-9426	(0-200)°C	0.1°C	1503338018	11/1/2021	10/31/2022
H1032	Environmental Chamber	Freezer #1 - DW-25W300	(-30~-10)°C	0.1°C	BE062100N00B29578VMO	7/8/2021	7/7/2022
H1033	Environmental Chamber	Freezer #2 - DW-50W225	(-30~-10)°C	0.1°C	F8LMJ	11/1/2021	10/31/2022
H1036	Environmental Measure	Temperature and humidity #1 - TH-602F	(-30~60)°C, (0-100)%	2°C	3238	7/9/2021	7/8/2022
H1057	Anvil	Edge	NA	NA	NA	10/27/2020	10/26/2023
H1058	Anvil	Equestrian	NA	NA	NA	10/27/2020	10/26/2023
H1061	Anvil	Blade	NA	NA	NA	10/27/2020	10/26/2023
H1063	Height Measure	Digital tape - 5m	(0-5)m	0.1mm	78223	11/2/2021	11/1/2022
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)°C, (0-100)%	1°C	Q/MDS001-2017-1	7/8/2021	7/7/2022
H1072	Environmental Measure	Temperature and humidity #4 - TH600B	(-20~100)°C, (0-100)%	1°C	Q/MDS001-2017-2	7/8/2021	7/7/2022
H1073	Height Measure	Height Gauge	(0-500)mm	0.01mm	8811213838273610	11/1/2021	10/31/2022
H1074	Distance Measure	Vernier caliper - SJ-455615	(0-150)mm	0.01mm	455615	11/1/2021	10/31/2022
H1076	Environmental Measure	Calorifier - CN-111	18-35°C	0.1°C	NA	11/2/2021	11/1/2022
H1077	Distance Measure	Tape	0-1.5m	1mm	NA	11/2/2021	11/1/2022
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
H1180	Instrument	LVDT & Sensor Box	2 inch	0.1mm	04140748-001	11/1/2021	10/31/2022
H1184	Instrument	Uni-axial Accelerometer yellow tower - 353B18	± 500 g	≤ 1%	LW226664	8/24/2021	8/23/2022

Contract File No.: 904.10600

Test File: 007

Control Document: Official ACT FMVSS No.218 Report Template TP-07, CN 18 April 2022 Rev.19
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Technician: Edward Wang

Test Date: 02 August 2022



APPENDIX C PHOTOGRAPHS

Contract File No.: 904.10600

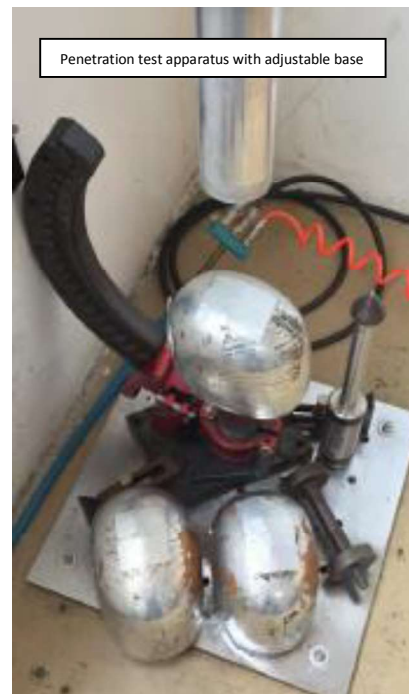
Test File: 007

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19
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Technician: Edward Wang

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Low temperature conditioning cabinet



Water immersion equipment



High temperature chamber

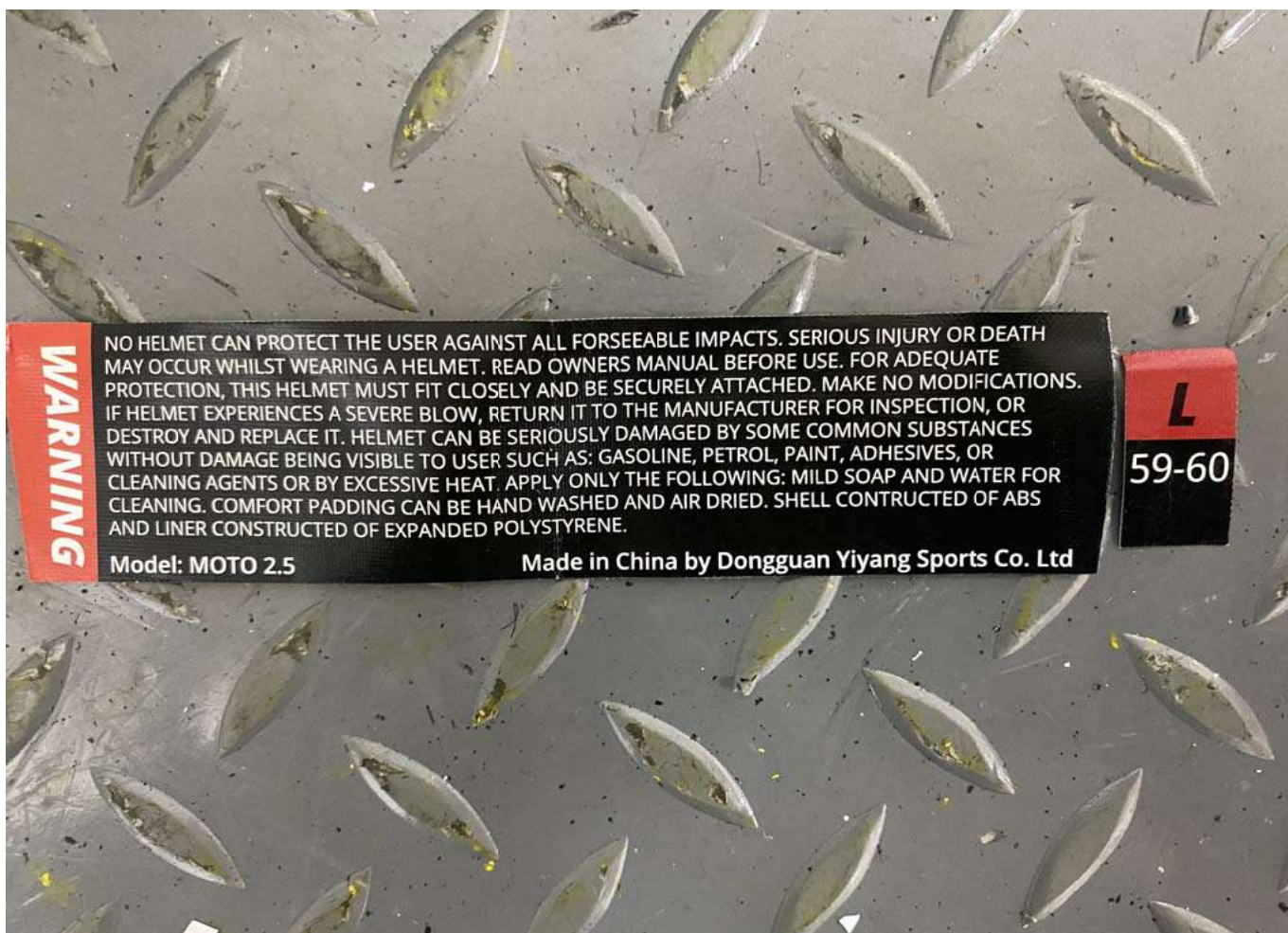
















NOTICE

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

Contract File No.: 904.10600

Test File: 007

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19
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Technician: Edward Wang

Test Date: 02 August 2022



ACT Lab LLC 3280 East 59th Street, Long Beach, CA 90805 | Tel 562.470.7215 | Web act-lab.com

SAFETY COMPLIANCE TESTING FOR FMVSS No. 218 MOTORCYCLE HELMETS

Brand: LEATT

Model: MOTO 2.5

Tested Size: XL (61-62 cm)

To also include size XXL (63-64 cm) with same shell and EPS liner size.

Prepared For:

Leatt Corporation
12 Kiepersol Crescent,
Atlas Gardens Business Park,
Cape Farms, Cape Town,
7550, ZA



Issue Date: 19 September 2022

Final Report: 904.10600.003

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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This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer joint ISO-ILAC-IAF Communiqué dated April 2017.) The Joint Communiqué is available on publications and resources page of the ILAC website at <http://www.ilac.org>. Accreditation listing and certificate can be found at <http://www.iasonline.org>.

Contract File No.: 904.10600

Test File: 003

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19
SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/FMVSS No.218

Technician: Edward Wang

Test Date: 31 May 2022



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<u>APPENDIX B</u>	28
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PURPOSE OF COMPLIANCE TEST

Purpose:

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

Dongguan Yiyang Sports 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: LEATTHELMET MODEL DESIGNATION: MOTO 2.5HELMET MANUFACTURER: DONGGUAN YIYANG SPORTS CO., LTD.HELMET SIZE: XL (61-62 cm)HELMET COVERAGE: Partial: Full: Complete: XHELMET POSITIONING INDEX: 67 mmSHELL MATERIAL: ABSLINER MATERIAL: Expanded PolystyreneBUCKLE DESCRIPTION: Double D-Rings

HELMET	A Ambient	B Low Temp	C High Temp	D Water Immersed	E Spare
SHELL COLOR/PATTERN	Blue	Blue	Blue	Blue	Blue
WEIGHT (grams)	1199	1173	1190	1206	1278
MONTH & YEAR OF MANUFACTURE	04/22	04/22	04/22	04/22	04/22

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 visor removed.
3. Weight for helmet E is complete with all components in place.
4. ACT determined the HPI information prior to testing.

Contract File No.: 904.10600

Test File: 003

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19

SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/FMVSS No.218

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Technician: Edward Wang

Test Date: 31 May 2022



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
PROJECTIONS	Pass
LABELING	Pass

Contract File No.: 904.10600

Test File: 003

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19

SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/FMVSS No.218

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Technician: Edward Wang

Test Date: 31 May 2022

**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: XL (61-62 cm),
Headform Size: DOT LARGE.

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

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 °C ; AVERAGE LAB HUMIDITY : 57 %

Contract File No.: 904.10600

Test File: 003

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19

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Technician: Edward Wang

Test Date: 31 May 2022

**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
904.10600.003-A	Ambient	1	LF SIDE	FLAT	192.0	6.0292	0.00	0.00	145.2	Pass
904.10600.003-A	Ambient	2	LF SIDE	FLAT	192.0	6.0254	2.65	0.00	178.4	Pass
904.10600.003-A	Ambient	3	REAR	FLAT	192.0	5.9977	0.00	0.00	142.9	Pass
904.10600.003-A	Ambient	4	REAR	FLAT	192.0	6.0052	0.58	0.00	167.8	Pass
904.10600.003-A	Ambient	5	FRONT	HEMI	145.0	5.2657	0.00	0.00	62.2	Pass
904.10600.003-A	Ambient	6	FRONT	HEMI	145.0	5.2811	0.00	0.00	53.5	Pass
904.10600.003-A	Ambient	7	RT SIDE	HEMI	145.0	5.2361	0.00	0.00	78.4	Pass
904.10600.003-A	Ambient	8	RT SIDE	HEMI	145.0	5.2313	0.00	0.00	99.1	Pass
904.10600.003-B	Cold	1	LF SIDE	FLAT	192.0	6.0313	0.00	0.00	141.6	Pass
904.10600.003-B	Cold	2	LF SIDE	FLAT	192.0	6.0329	2.82	0.00	175.7	Pass
904.10600.003-B	Cold	3	REAR	FLAT	192.0	6.0042	0.00	0.00	143.4	Pass
904.10600.003-B	Cold	4	REAR	FLAT	192.0	6.0023	2.46	0.00	169.7	Pass
904.10600.003-B	Cold	5	FRONT	HEMI	145.0	5.3055	0.00	0.00	65.9	Pass
904.10600.003-B	Cold	6	FRONT	HEMI	145.0	5.2148	0.00	0.00	66.4	Pass
904.10600.003-B	Cold	7	RT SIDE	HEMI	145.0	5.2441	0.00	0.00	79.8	Pass
904.10600.003-B	Cold	8	RT SIDE	HEMI	145.0	5.2547	0.00	0.00	100.5	Pass
904.10600.003-C	Hot	1	LF SIDE	FLAT	192.0	6.0455	0.00	0.00	135.1	Pass
904.10600.003-C	Hot	2	LF SIDE	FLAT	192.0	6.0259	2.49	0.00	167.4	Pass
904.10600.003-C	Hot	3	REAR	FLAT	192.0	6.0094	0.00	0.00	136.0	Pass
904.10600.003-C	Hot	4	REAR	FLAT	192.0	6.0107	0.95	0.00	154.9	Pass
904.10600.003-C	Hot	5	FRONT	HEMI	145.0	5.2662	0.00	0.00	65.0	Pass
904.10600.003-C	Hot	6	FRONT	HEMI	145.0	5.2789	0.00	0.00	83.9	Pass
904.10600.003-C	Hot	7	RT SIDE	HEMI	145.0	5.2671	0.00	0.00	81.6	Pass
904.10600.003-C	Hot	8	RT SIDE	HEMI	145.0	5.2847	0.00	0.00	95.0	Pass
904.10600.003-D	Wet	1	LF SIDE	FLAT	192.0	6.0365	0.00	0.00	136.5	Pass
904.10600.003-D	Wet	2	LF SIDE	FLAT	192.0	6.0402	2.44	0.00	163.2	Pass
904.10600.003-D	Wet	3	REAR	FLAT	192.0	6.0182	0.00	0.00	143.4	Pass
904.10600.003-D	Wet	4	REAR	FLAT	192.0	6.0098	2.26	0.00	164.1	Pass
904.10600.003-D	Wet	5	FRONT	HEMI	145.0	5.2531	0.00	0.00	64.1	Pass
904.10600.003-D	Wet	6	FRONT	HEMI	145.0	5.2625	0.00	0.00	80.7	Pass
904.10600.003-D	Wet	7	RT SIDE	HEMI	145.0	5.2763	0.00	0.00	80.2	Pass
904.10600.003-D	Wet	8	RT SIDE	HEMI	145.0	5.2893	0.00	0.00	96.8	Pass

Contract File No.: 904.10600

Test File: 003

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19

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Technician: Edward Wang

Test Date: 31 May 2022

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 $60^\circ \pm 0.5^\circ$, 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 $\pm$ 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 Right	X		AMBIENT
3	B	Crown	X		LOW TEMPERATURE
4	B	Rear Right	X		LOW TEMPERATURE
5	C	Crown	X		HIGH TEMPERATURE
6	C	Rear Right	X		HIGH TEMPERATURE
7	D	Crown	X		WATER IMMERSSED
8	D	Rear Right	X		WATER IMMERSSED

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	1.54
B	LOW TEMPERATURE	1.61
C	HIGH TEMPERATURE	1.79
D	WATER IMMERSED	1.61

PERIPHERAL VISION

CONFIGURATION - Paragraph S5.4 - Helmet shall provide a minimum peripheral vision of 105° 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	> 105°	Pass
BROW OPENING	> 2.5 cm (1 inch)	Pass



PROJECTIONS

Paragraph S5.5

REQUIREMENTS:

PROJECTION	REQUIREMENT
Internal rigid	None
External rigid	Operational, shall not protrude more than 5 mm

TEST RESULTS:

PROJECTION	PRESENT	HEIGHT (mm)
Internal	None	Not Applicable
External	None	Not Applicable

Contract File No.: 904.10600

Test File: 003

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Technician: Edward Wang

Test Date: 31 May 2022

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:

- Labels were determined to be both easily read and permanent based on the TP-218-07, Section 12.5.4.

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:

- Labels were determined to be both easily read and permanent based on the TP-218-07, Section 12.5.4.

Contract File No.: 904.10600

Test File: 003

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19

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Technician: Edward Wang

Test Date: 31 May 2022



TEST DATA

Contract File No.: 904.10600

Test File: 003

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Technician: Edward Wang

Test Date: 31 May 2022

Uni-Axial Calibration

Helmet ManufacturerYIYANG
Address :

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

Laboratory Technician name Edward

M.E.P. Pad Model1 MEP

Laboratory Temperature22deg C

Laboratory Humidity57%

Selected Filter Frequency1000 Hz

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

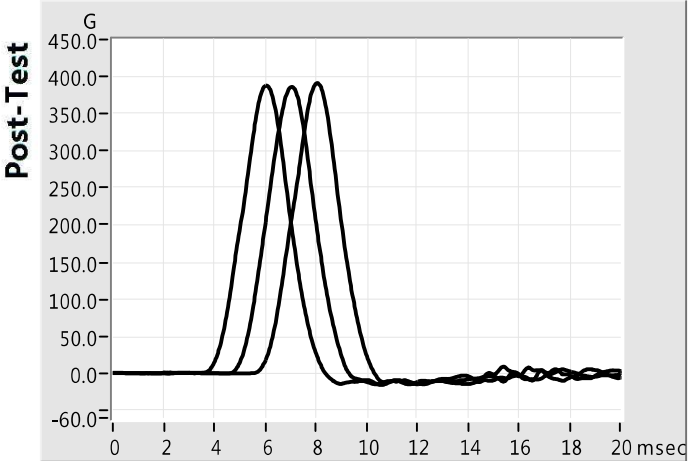
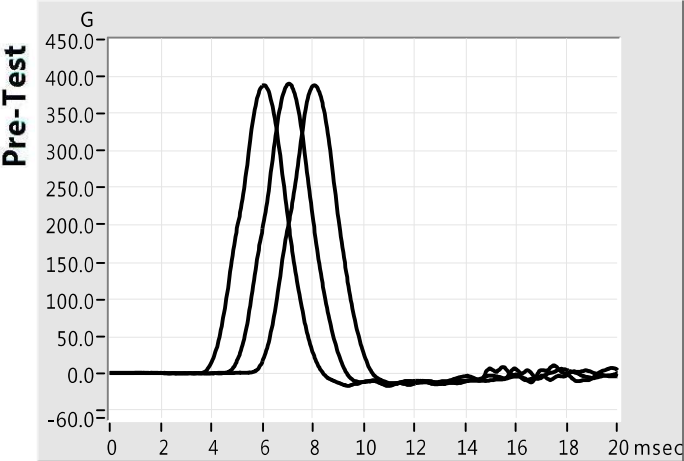
Acc. sensitivity (axis X) : 10.30mV/G

Acc. sensitivity (axis Y) : 10.30mV/G

Drop Device : Spherical Impactor (Uni-Axial)

Drop mass assembly: 6.074 kgTime gate flag height: 25.43 mm

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	388.2	3494	4.8563	118.0	MEP	2.46	2.01	0/0	2022-05-31	11:35:05	-0.9	Pass
	2	390.1	3511	4.8963	118.0	MEP	2.45	1.99	0/0	2022-05-31	11:36:04	-1.8	Pass
	3	388.2	3482	4.8774	118.0	MEP	2.46	2.00	0/0	2022-05-31	11:37:08	-1.4	Pass
Post-Test	1	387.8	3494	4.8912	118.0	MEP	2.45	2.00	0/0	2022-05-31	13:45:48	-1.7	Pass
	2	385.9	3535	4.9039	118.0	MEP	2.43	2.01	0/0	2022-05-31	13:47:12	-1.9	Pass
	3	391.0	3551	4.8706	118.0	MEP	2.44	2.01	0/0	2022-05-31	13:48:23	-1.2	Pass

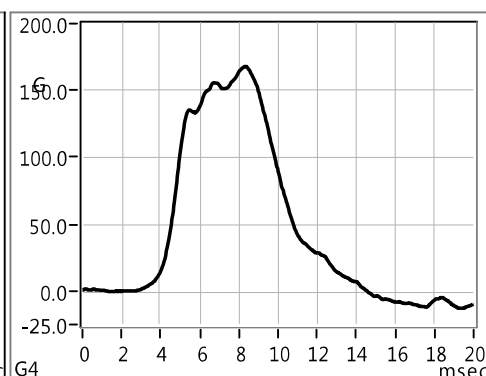
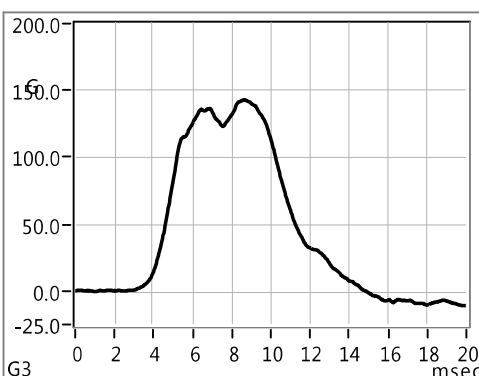
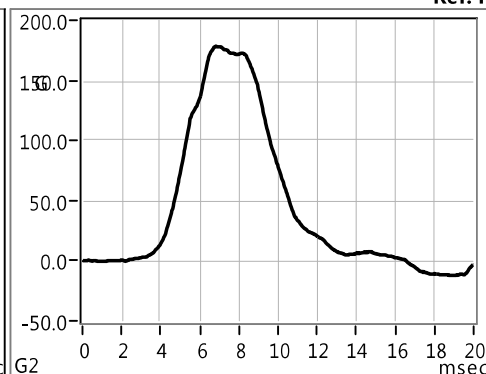
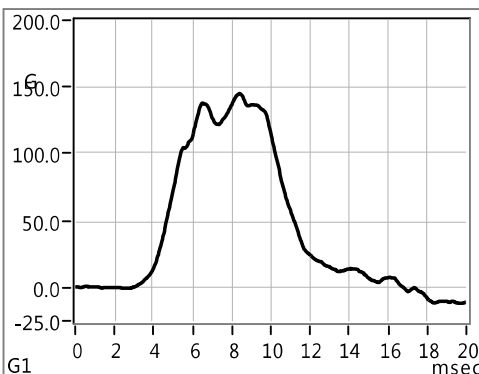
Curve impact #2 : shift of 1ms
Curve impact #3 : shift of 2ms

Impact Uni-Axial

Helmet Manufacturer : YIYANG
Address :

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

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



Model : MOTO 2.5
Color : Blue
Size : XL(61-62CM)
Weight : 1199.00 g
Manufacturing Date : 31 May 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.003-A
Headform Model : D.O.T.
Headform Size : D D.O.T
Conditioning : Ambient
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 : 6.074 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	145.2	924	6.0292	192.0	FLAT	0.00	0.00	LF SIDE	2022-05-31	11:40:30	1.8	Pass
2	178.4	1245	6.0254	192.0	FLAT	2.65	0.00	LF SIDE	2022-05-31	11:40:39	1.8	Pass
3	142.9	973	5.9977	192.0	FLAT	0.00	0.00	REAR	2022-05-31	11:45:11	2.3	Pass
4	167.8	1235	6.0052	192.0	FLAT	2.58	0.00	REAR	2022-05-31	11:45:20	2.1	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

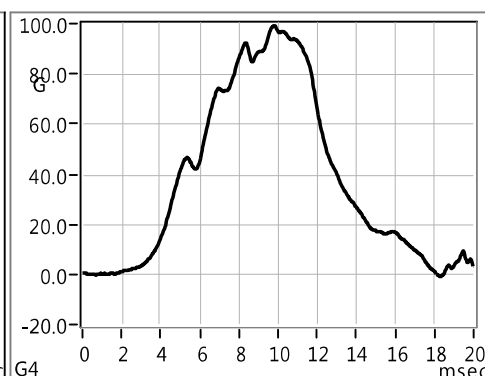
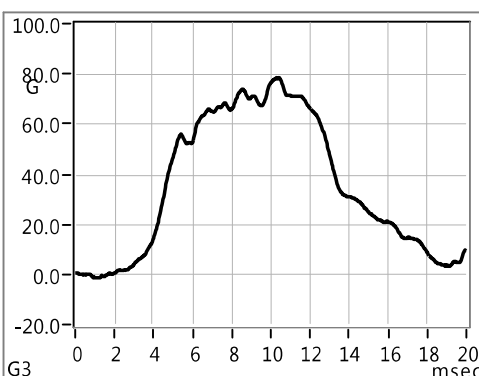
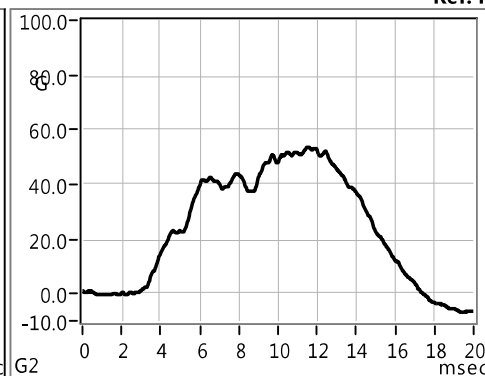
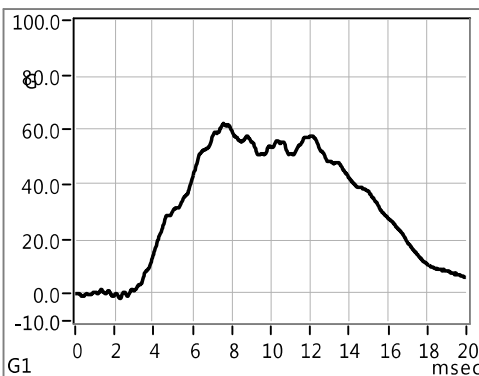
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Edward

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5

Color : Blue

Size : XL(61-62CM)

Weight : 1199.00 g

Manufacturing Date : 31 May 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.003-A

Headform Model : D.O.T.

Headform Size : D D.O.T

Conditioning : Ambient

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 : 6.074 kg

Time gate flag height : 25.43 mm

Acc. sensibility (axis Z) : 10.59

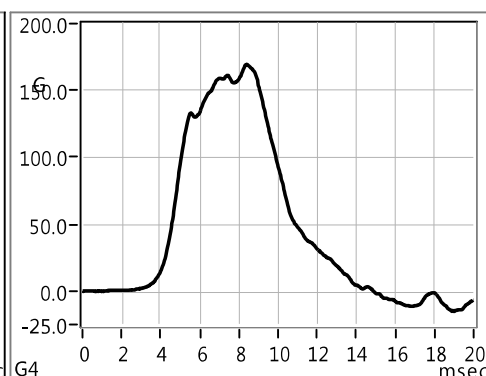
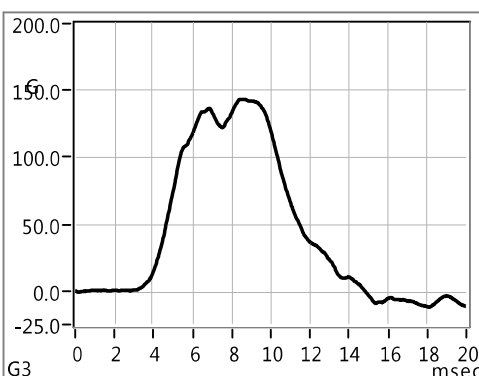
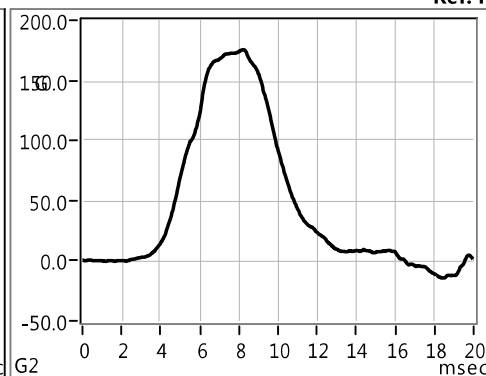
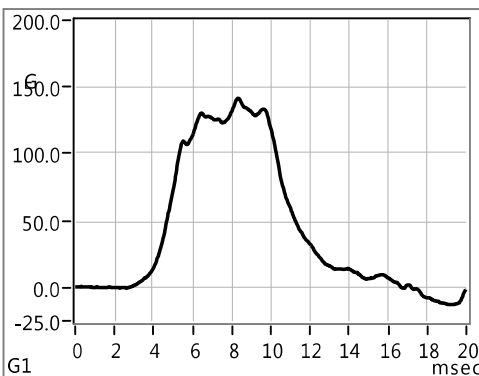
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
5	62.2	181	5.2657	145.0	HEMI	0.00	0.00	FRONT	2022-05-31	11:49:44	1.3	Pass
6	53.5	117	5.2811	145.0	HEMI	0.00	0.00	FRONT	2022-05-31	11:49:55	1.0	Pass
7	78.4	282	5.2361	145.0	HEMI	0.00	0.00	RT SIDE	2022-05-31	11:54:22	1.8	Pass
8	99.1	384	5.2313	145.0	HEMI	0.00	0.00	RT SIDE	2022-05-31	11:54:33	1.9	Pass

Impact Uni-Axial

Helmet Manufacturer : YIYANG
Address :

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

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



Model : MOTO 2.5
Color : Blue
Size : XL(61-62CM)
Weight : 1173.00 g
Manufacturing Date : 31 May 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.003-B
Headform Model : D.O.T.
Headform Size : D 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 : 6.074 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	141.6	897	6.0313	192.0	FLAT	0.00	0.00	LF SIDE	2022-05-31	11:41:16	1.7	Pass
2	175.7	1231	6.0329	192.0	FLAT	2.82	0.00	LF SIDE	2022-05-31	11:41:25	1.7	Pass
3	143.4	973	6.0042	192.0	FLAT	0.00	0.00	REAR	2022-05-31	11:46:49	2.2	Pass
4	169.7	1238	6.0023	192.0	FLAT	2.46	0.00	REAR	2022-05-31	11:46:57	2.2	Pass

Impact Uni-Axial

Testing Laboratory : Taicang ACT Lab

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

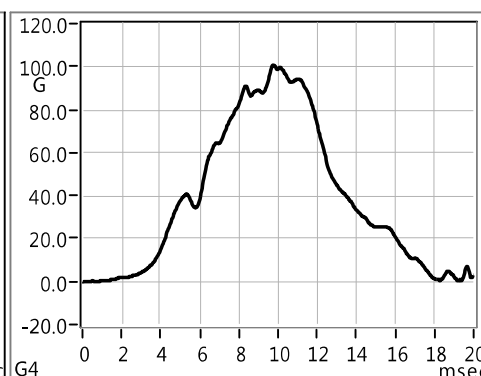
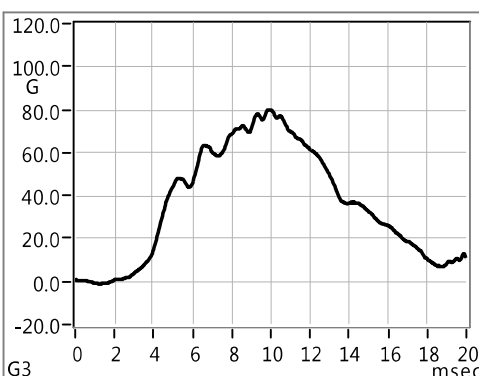
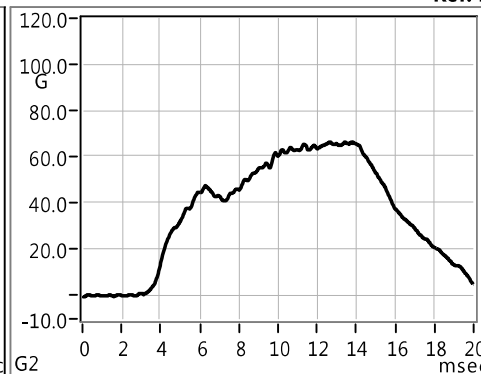
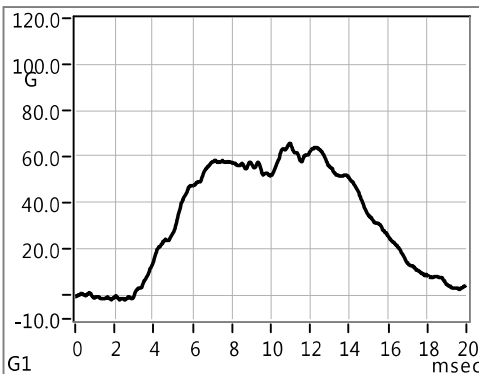
Helmet Manufacturer : YIYANG

Address :

Laboratory Technician name : Edward

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5

Color : Blue

Size : XL(61-62CM)

Weight : 1173.00 g

Manufacturing Date : 31 May 2022

Standard Request : FMVSS 218

Identification Code : 904.10600.003-B

Headform Model : D.O.T.

Headform Size : D 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 : 6.074 kg

Time gate flag height : 25.43 mm

Acc. sensibility (axis Z) : 10.59

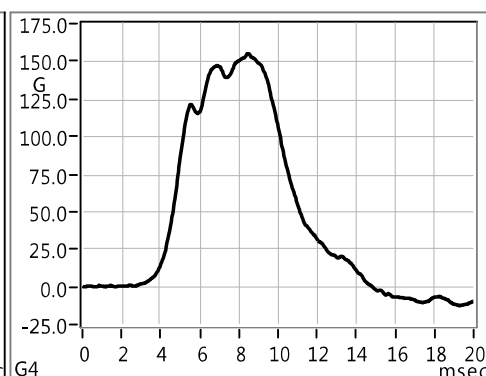
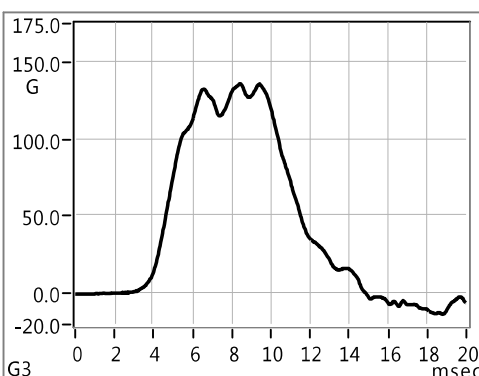
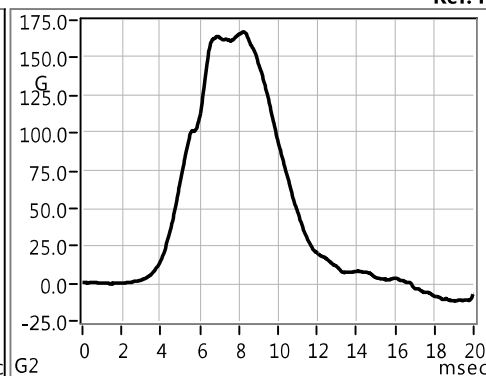
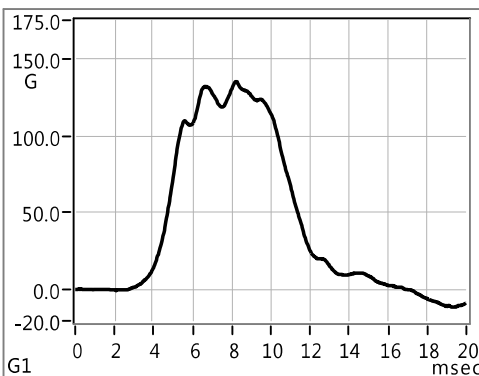
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
5	65.9	214	5.3055	145.0	HEMI	0.00	0.00	FRONT	2022-05-31	11:51:26	0.5	Pass
6	66.4	242	5.2148	145.0	HEMI	0.00	0.00	FRONT	2022-05-31	11:51:48	2.2	Pass
7	79.8	266	5.2441	145.0	HEMI	0.00	0.00	RT SIDE	2022-05-31	11:55:51	1.7	Pass
8	100.5	384	5.2547	145.0	HEMI	0.00	0.00	RT SIDE	2022-05-31	11:56:04	1.5	Pass

Impact Uni-Axial

Helmet Manufacturer : YIYANG
Address :

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

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



Model : MOTO 2.5
Color : Blue
Size : XL(61-62CM)
Weight : 1190.00 g
Manufacturing Date : 31 May 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.003-C
Headform Model : D.O.T.
Headform Size : D 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 : 6.074 kg
Time gate flag height : 25.43 mm
Acc. sensibility (axis Z) : 10.59

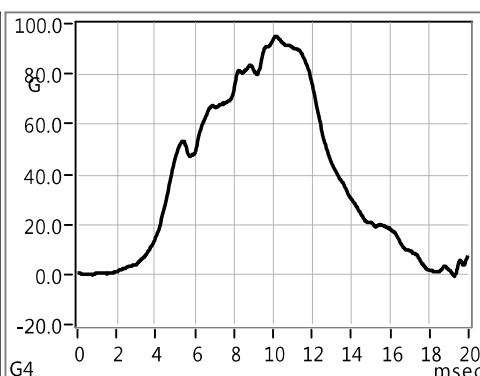
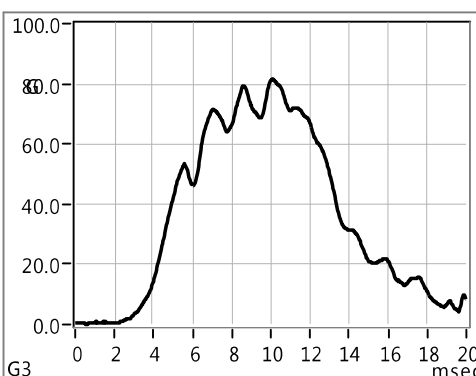
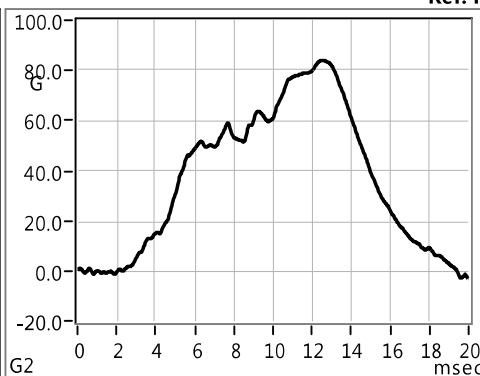
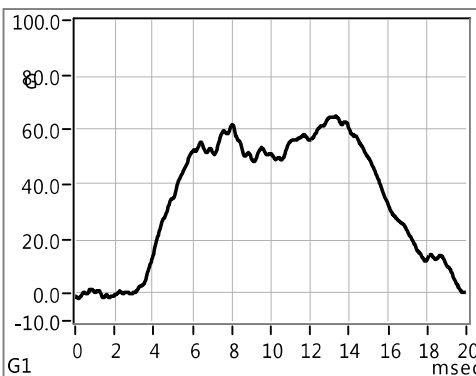
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
1	135.1	859	6.0455	192.0	FLAT	0.00	0.00	LF SIDE	2022-05-31	11:42:08	1.5	Pass
2	167.4	1104	6.0259	192.0	FLAT	2.49	0.00	LF SIDE	2022-05-31	11:42:17	1.8	Pass
3	136.0	896	6.0094	192.0	FLAT	0.00	0.00	REAR	2022-05-31	11:47:35	2.1	Pass
4	154.9	1069	6.0107	192.0	FLAT	0.95	0.00	REAR	2022-05-31	11:47:44	2.1	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 : YIYANG
Address :

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



Model : MOTO 2.5
Color : Blue
Size : XL(61-62CM)
Weight : 1190.00 g
Manufacturing Date : 31 May 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.003-C
Headform Model : D.O.T.
Headform Size : D 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 : 6.074 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	65.0	229	5.2662	145.0	HEMI	0.00	0.00	FRONT	2022-05-31	11:52:41	1.3	Pass
6	83.9	298	5.2789	145.0	HEMI	0.00	0.00	FRONT	2022-05-31	11:52:50	1.0	Pass
7	81.6	286	5.2671	145.0	HEMI	0.00	0.00	RT SIDE	2022-05-31	11:56:39	1.2	Pass
8	95.0	363	5.2847	145.0	HEMI	0.00	0.00	RT SIDE	2022-05-31	11:56:53	0.9	Pass

Impact Uni-Axial

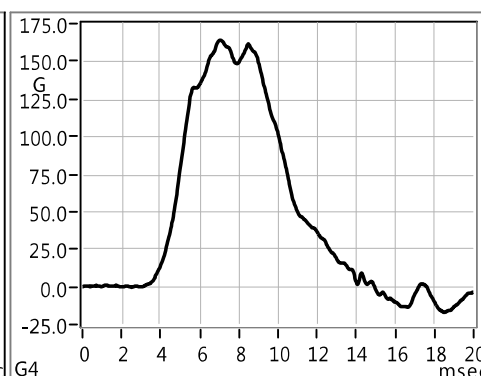
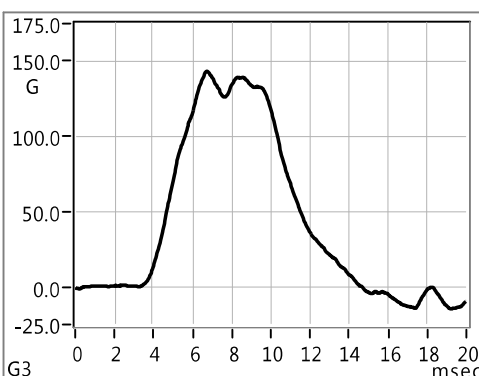
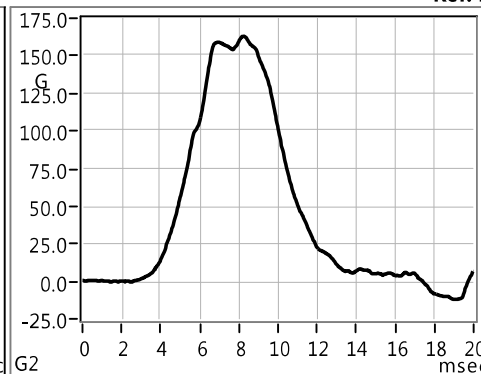
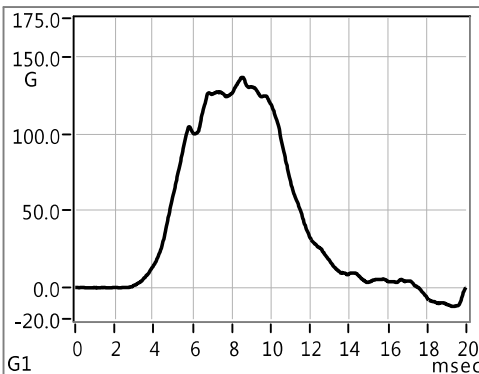
Helmet Manufacturer : YIYANG
Address :

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

Laboratory Technician name : Edward

Batch Number :

Ref. P.O. Number :



Model : MOTO 2.5
Color : Blue
Size : XL(61-62CM)
Weight : 1206.00 g
Manufacturing Date : 31 May 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.003-D
Headform Model : D.O.T.
Headform Size : D 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 : 6.074 kg
Time gate flag height : 25.43 mm
Acc. sensibility (axis Z) : 10.59

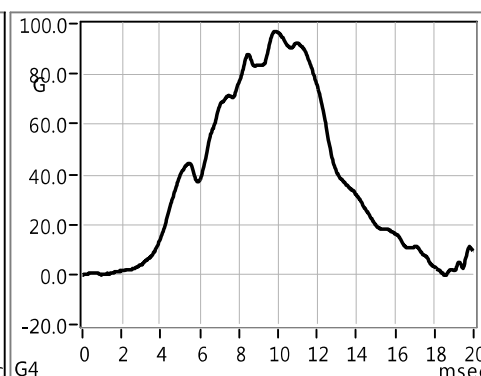
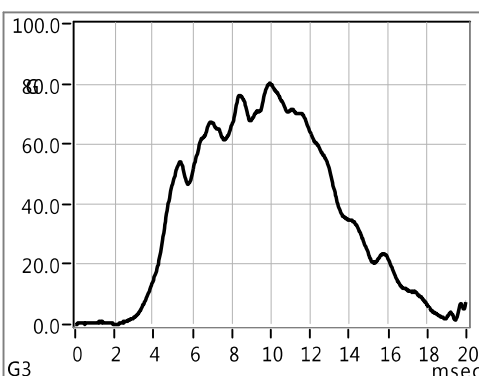
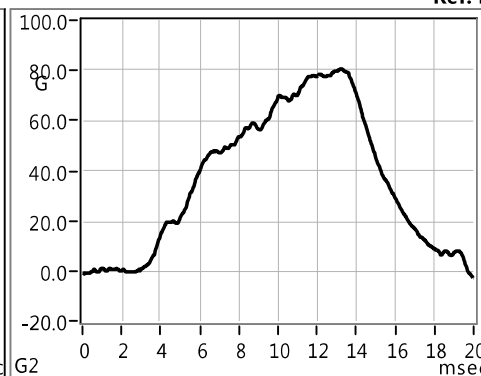
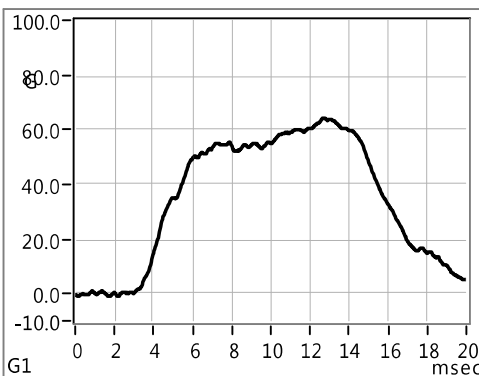
Impact #	Peak Acc.(G)	HIC	Velocity IN (m/sec)	Drop Height (cm)	Anvil type	Delta T 150G (msec)	Delta T 200G (msec)	Position	Test Date	Test Time	Friction (%)	PASS or FAIL
1	136.5	823	6.0365	192.0	FLAT	0.00	0.00	LF SIDE	2022-05-31	11:43:17	1.6	Pass
2	163.2	1038	6.0402	192.0	FLAT	2.44	0.00	LF SIDE	2022-05-31	11:43:27	1.6	Pass
3	143.4	947	6.0182	192.0	FLAT	0.00	0.00	REAR	2022-05-31	11:45:54	1.9	Pass
4	164.1	1173	6.0098	192.0	FLAT	2.26	0.00	REAR	2022-05-31	11:46:03	2.1	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 : YIYANG
Address :

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



Model : MOTO 2.5
Color : Blue
Size : XL(61-62CM)
Weight : 1206.00 g
Manufacturing Date : 31 May 2022
Standard Request : FMVSS 218
Identification Code : 904.10600.003-D
Headform Model : D.O.T.
Headform Size : D 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 : 6.074 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	64.1	233	5.2531	145.0	HEMI	0.00	0.00	FRONT	2022-05-31	11:50:35	1.5	Pass
6	80.7	290	5.2625	145.0	HEMI	0.00	0.00	FRONT	2022-05-31	11:50:44	1.3	Pass
7	80.2	279	5.2763	145.0	HEMI	0.00	0.00	RT SIDE	2022-05-31	11:55:05	1.1	Pass
8	96.8	353	5.2893	145.0	HEMI	0.00	0.00	RT SIDE	2022-05-31	11:55:14	0.8	Pass

DOT Auto – Test results

Laboratory

Laboratory ACT Lab
 Technician Carry
 Temperature 22
 Humidity 57%

Sample

Model MOTO 2.5
 Color Blue
 Size XL
 Weight 1199
 Manufacturer Yiyang
 Manuf. Date 04/22

Infos

Standard FMVSS No.218
 Comment 904.10600.003-A



Results

Test	Time Data D/M/Y h:m:s	DL 7	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del.1 to Del.2) (mm)	Pass/Fail		
Test#9	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	15.4	Pass		

DOT Auto – Test results

Laboratory

Laboratory ACT Lab
 Technician Carry
 Temperature 22
 Humidity 57%

Sample

Model MOTO 2.5
 Color Blue
 Size XL
 Weight 1173
 Manufacturer Yiyang
 Manuf. Date 04/22

Infos

Standard FMVSS No.218
 Comment 904.10600.003-B



Results

Test	Time Data D/M/Y h:mm:ss	DL 7	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del.1 to Del.2) (mm)	Pass/Fail		
Test#10	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	16.1	Pass		

DOT Auto – Test results

Laboratory

Laboratory ACT Lab
Technician Carry
Temperature 22
Humidity 57%

Sample

Model MOTO 2.5
Color Blue
Size XL
Weight 1190
Manufacturer Yiyang
Manuf. Date 04/22

Infos

Standard FMVSS No.218
Comment 904.10600.003-C

Graphs



Results

Test	Time Data D/M/Y h:m:s	DL ?	Status	Tar1 (Kg)	Tar1 (S)	Tar2 (Kg)	Tar2 (S)	Delta(Del1 to Del2) (mm)	Pass/Fail
Test#11	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	17.9	Pass

DOT Auto – Test results

Laboratory

Laboratory ACT Lab
Technician Carry
Temperature 22
Humidity 57%

Sample

Model MOTO 2.5
Color Blue
Size XL
Weight 1206
Manufacturer Yiyang
Manuf. Date 04/22

Infos

Standard FMVSS No.218
Comment 904.10600.003-D

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 Del.2) (mm)	Pass/Fail		
Test#12	[01/01/01 00:00:00]	NO	Valid	22.7	30.0	136.0	120.0	16.1	Pass		



APPENDIX A

INTERPRETATIONS OR DEVIATIONS FROM FMVSS 218

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

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Technician: Edward Wang

Test Date: 31 May 2022

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	2021 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	NA	NA
H1102	Helmet Room	Headform	DOT Retention Strength Medium	NA	NA	NA
H1103	Helmet Room	Headform	DOT Retention Strength Large	NA	NA	NA
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	NA	NA
H1129	Helmet Room	Headform	DOT Penetration Medium	NA	NA	NA
H1130	Helmet Room	Headform	DOT Penetration Large	NA	NA	NA
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
H1175	Helmet Room	Headform	DOT Penetration Large	NA	NA	NA
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

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Technician: Edward Wang

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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	11/2/2021	11/1/2022
H1012	Instrument	Displacement sensor - C20101007753	2 inch	0.1mm	J72863	11/1/2021	10/31/2022
H1014	Instrument	Displacement sensor - LWE-200	(0-100)mm	0.1mm	2002572	11/1/2021	10/31/2022
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	11/1/2021	10/31/2024
H1030	Environmental Chamber	Oven #1 - 92°9240MBE	(0-200)°C	1°C	8285	7/8/2021	7/7/2022
H1031	Environmental Chamber	Oven #2 - DHG-9426	(0-200)°C	0.1°C	1503338018	11/1/2021	10/31/2022
H1032	Environmental Chamber	Freezer #1 - DW-25W300	(-30~-10)°C	0.1°C	BE062100N00B29578VMO	7/8/2021	7/7/2022
H1033	Environmental Chamber	Freezer #2 - DW-50W225	(-30~-10)°C	0.1°C	F8LMJ	11/1/2021	10/31/2022
H1036	Environmental Measure	Temperature and humidity #1 - TH-602F	(-30~60)°C, (0-100)%	2°C	3238	7/9/2021	7/8/2022
H1057	Anvil	Edge	NA	NA	NA	10/27/2020	10/26/2023
H1058	Anvil	Equestrian	NA	NA	NA	10/27/2020	10/26/2023
H1061	Anvil	Blade	NA	NA	NA	10/27/2020	10/26/2023
H1063	Height Measure	Digital tape - 5m	(0-5)m	0.1mm	78223	11/2/2021	11/1/2022
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)°C, (0-100)%	1°C	Q/MDS001-2017-1	7/8/2021	7/7/2022
H1072	Environmental Measure	Temperature and humidity #4 - TH600B	(-20~100)°C, (0-100)%	1°C	Q/MDS001-2017-2	7/8/2021	7/7/2022
H1073	Height Measure	Height Gauge	(0-500)mm	0.01mm	8811213838273610	11/1/2021	10/31/2022
H1074	Distance Measure	Vernier caliper - SJ-455615	(0-150)mm	0.01mm	455615	11/1/2021	10/31/2022
H1076	Environmental Measure	Calorifier - CN-111	18-35°C	0.1°C	NA	11/2/2021	11/1/2022
H1077	Distance Measure	Tape	0-1.5m	1mm	NA	11/2/2021	11/1/2022
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
H1180	Instrument	LVDT & Sensor Box	2 inch	0.1mm	04140748-001	11/1/2021	10/31/2022
H1184	Instrument	Uni-axial Accelerometer yellow tower - 353B18	± 500 g	≤ 1%	LW226664	8/24/2021	8/23/2022

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Technician: Edward Wang

Test Date: 31 May 2022



APPENDIX C

PHOTOGRAPHS

Contract File No.: 904.10600

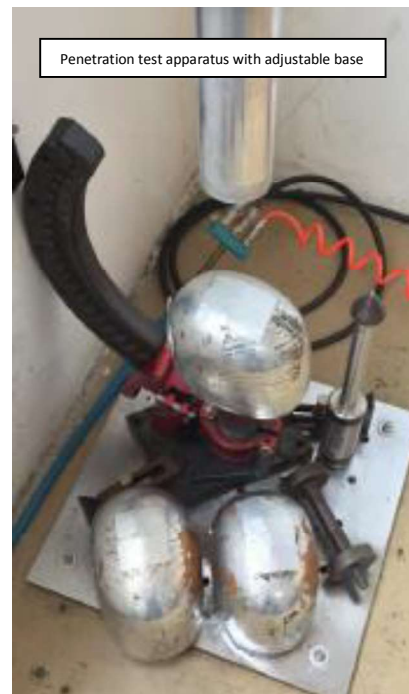
Test File: 003

Control Document: Official ACT FMVSS No.218 Report Template TP-07 CN 18 April 2022 Rev.19
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Low temperature conditioning cabinet



Water immersion equipment



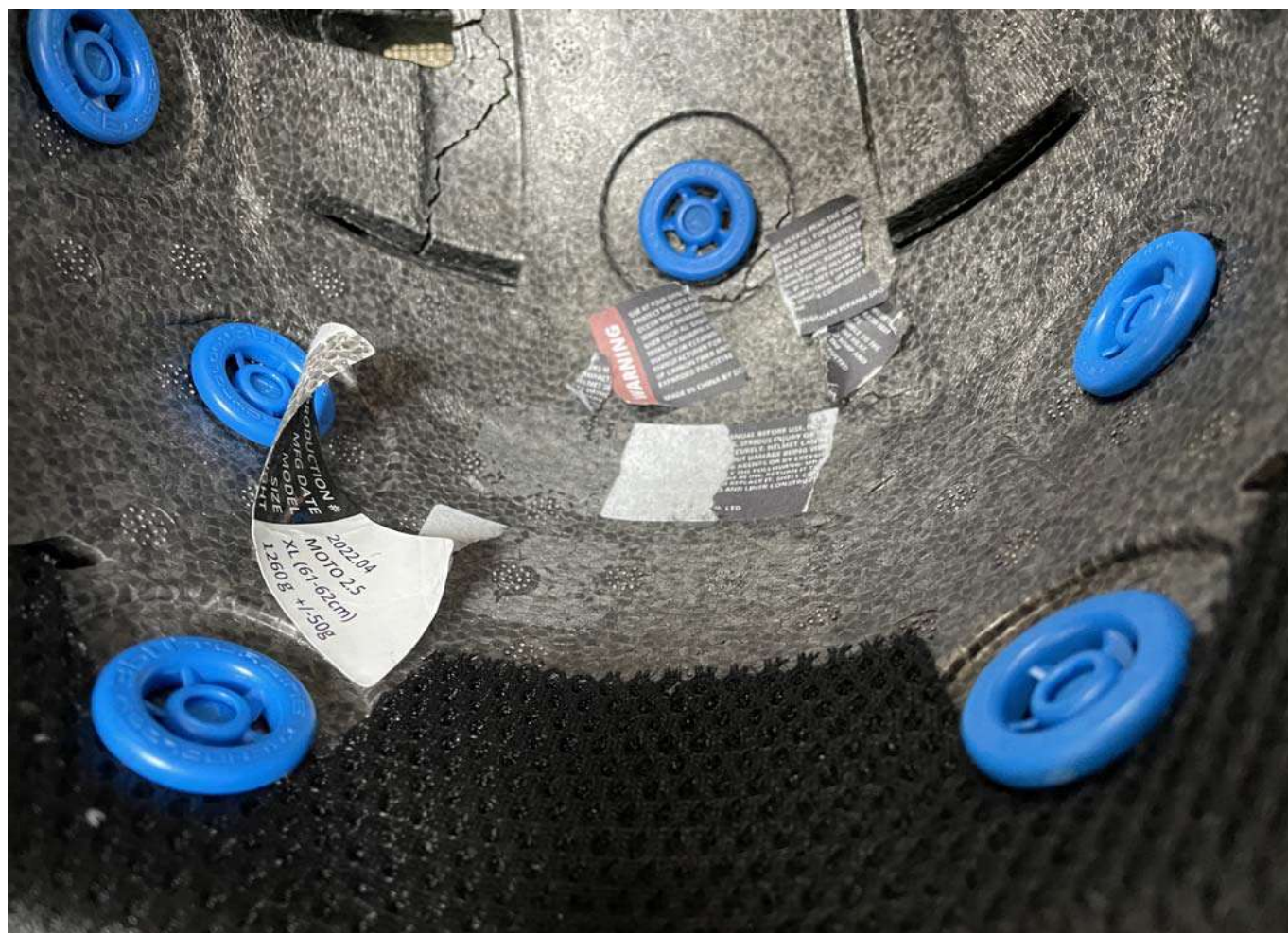
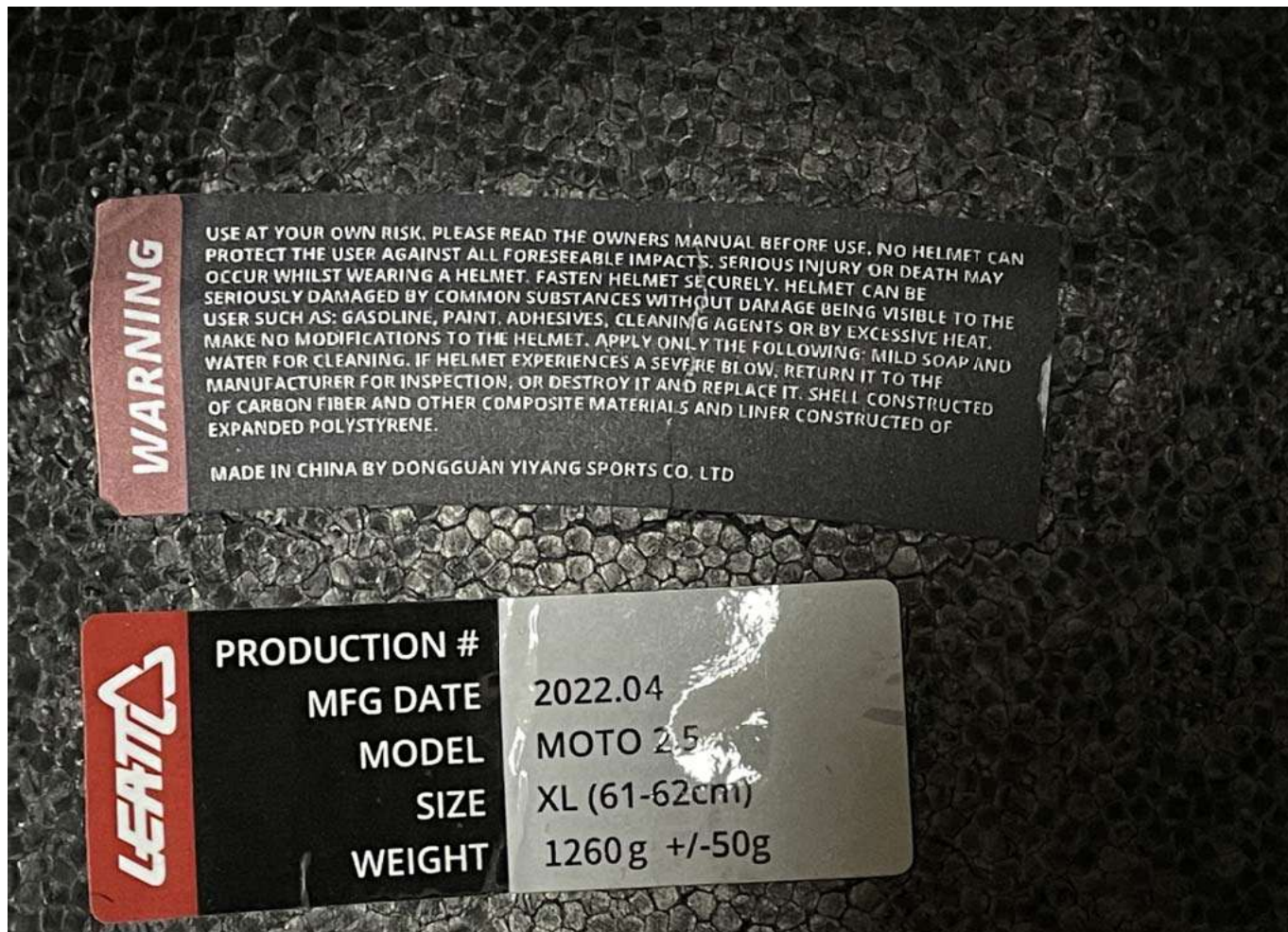
High temperature chamber

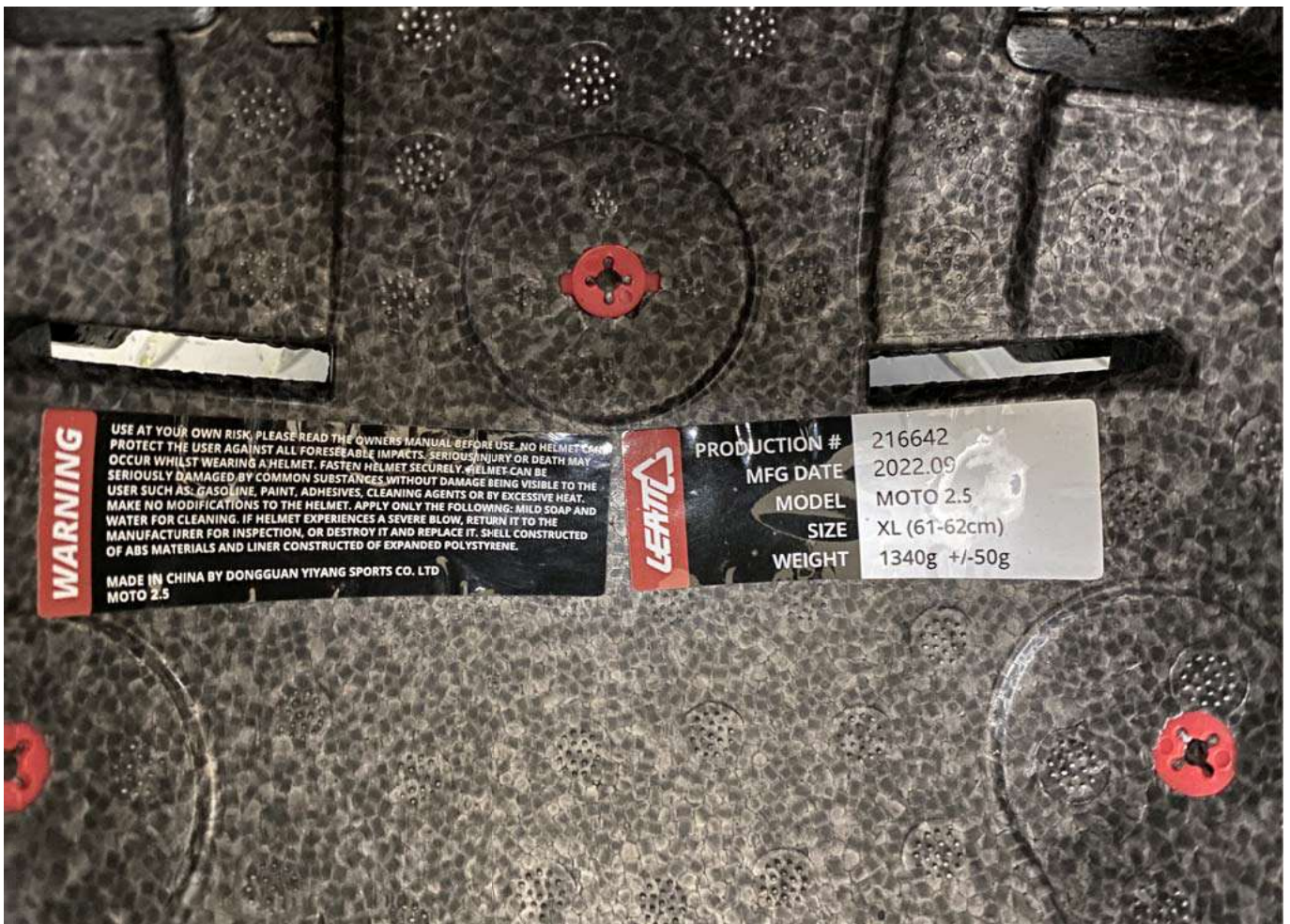


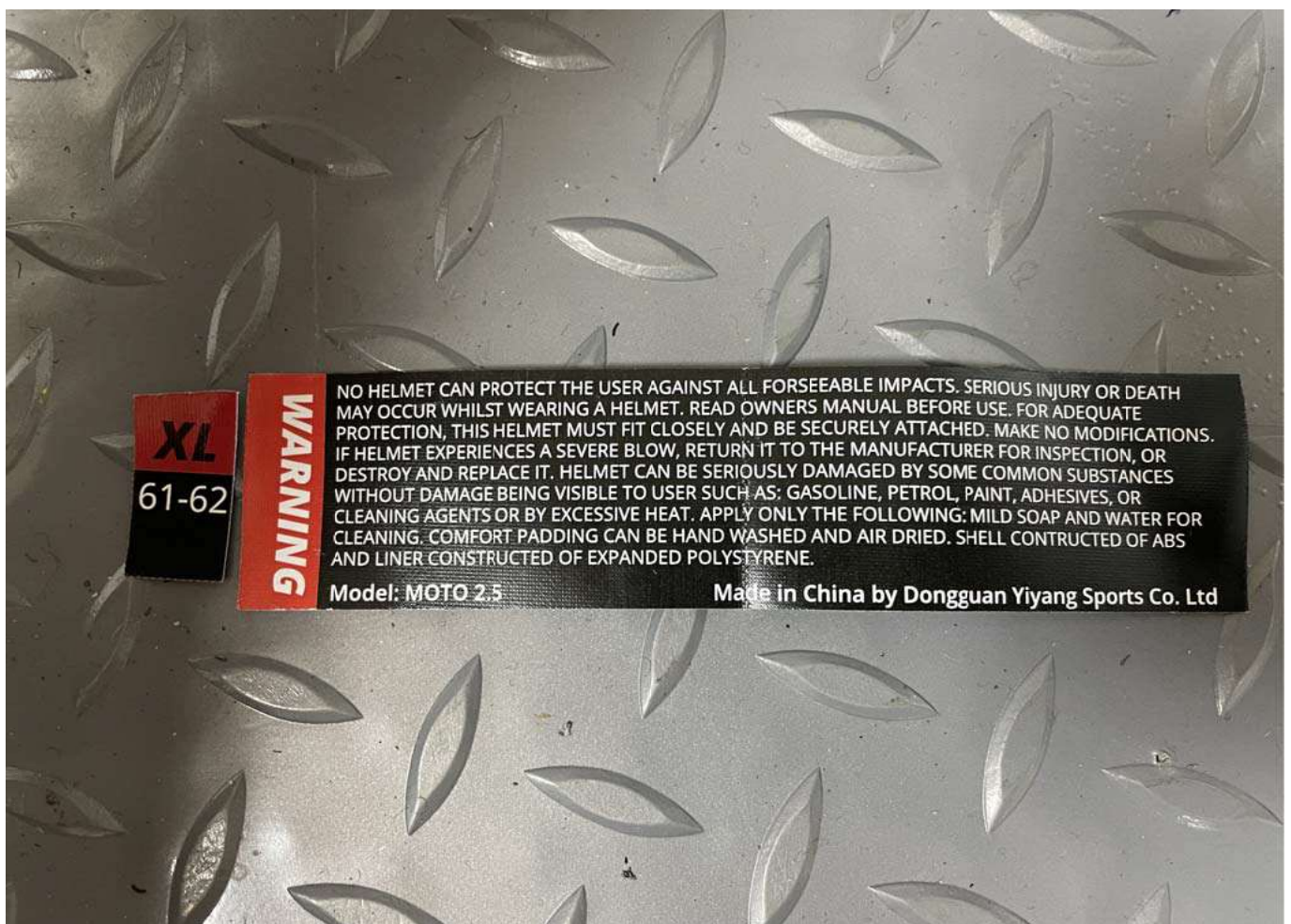
















NOTICE

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

Contract File No.: 904.10600

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