

COMPLIANCE TESTING FOR BS EN 1078:2012+A1:2012 HELMETS USED FOR PEDAL CYCLISTS AND FOR USERS OF SKATEBOARDS AND ROLLER SKATES

Brand : Troy Lee Designs
Model : FLOWLINE MIPS
Tested Size : YOUTH (48-53 cm)
Lot Number : TBD
Country of Origin : China
Age Grading : 5 and older
Children's Product : Yes

Prepared For:

Troy Lee Designs
155 East Rincon Street,
Corona, California



Issue Date: 05 August 2022

Final Report: 889.11339.002

Tested by:

Taicang ACT Sporting Goods Testing Co., Ltd.
No. 35 Zhenghe Road,
Ludu Town, Taicang City, Suzhou,
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Contract File No.: 889.11339
Test File: 002

Technician: Edward Wang
Test Date: 03 August 2022

Control Document: Official ACT BS EN 1078 Report Template CN 1 July 2022 Rev.10
SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/EN

HELMET DATA

Brand:	Troy Lee Designs	Retention System:	ITW
Model:	FLOWLINE MIPS	Age Grading:	5 and older
Manufacturer:	VENDOR	Test Headform Size:	EN 960 Size 495 (A)
Date of Manufacture:	TBD	Helmet Positioning Index (HPI):	ACT Determined: 42 mm *Measured from the basic plane
Tested Size:	48-53 cm	EPS Bead Color:	Black

Helmet Number:	Weight (g):
1	268
2	263
3	257
4	266
Average:	295

Conditioned Temperatures	
Lab Humidity:	57%
Ambient Lab Temp.:	22°C
High Temperature	50°C
Low Temperature:	-20°C
Artificial Aging:	33°C

Comments:

- All helmets were received in undamaged condition and were appropriate for testing.
- The accompanying helmet labels were submitted independently from the test samples and thus could not be checked for any characteristics except for the containing information.
- The average helmet weight reported calculated by manufactures complete helmet weight. The individual weights listed in the table above for samples 1-4 are as prepped for testing to sections 5.4 through 5.6.
- The helmets were exposed to the high (50 ± 2 °C) and low (-20 ± 2°C) temperatures for not less than 4 hours prior to testing and not exposed more than 6 hours.
- Artificial ageing conducted in accordance to section 5.4.2.3: The outer surface of the protective helmet shall be exposed successively to: ultraviolet irradiation by a 125 W xenon-filled quartz lamp for 48 h at a range of 250 mm; spraying for 4 h to 6 h with water at ambient temperature at the rate of 1 l/min.
- The sequence of tests performed on each helmet size and the tests performed on the same sample are given in the table below:

Table 2 — Sequence of Test and Tests per Sample

Performance Test	Sequence of Test	Sample Number		
Retention system effectiveness (5.6)	1st	1	---	---
Shock absorbing capacity (5.4)	2nd	1	2	3
Retention system strength (5.5)	3rd	---	2	3

- The fourth sample is reserved as a reference sample, which can be used by the test laboratory in case of doubt about any of the performance requirements.

Reviewed by: John Bogler

Contract File No.: 889.11339
Test File: 002

Technician: Edward Wang
Test Date: 03 August 2022

COMPLIANCE TESTING FOR BS EN 1078:2012+A1 HELMETS USED FOR PEDAL CYCLISTS AND FOR USERS OF SKATEBOARDS AND ROLLER SKATES

Brand : Troy Lee Designs
Model : FLOWLINE MIPS
Tested Size : M (57-59 cm)
Lot Number : TBD
Country of Origin : China
Age Grading : 5 and older
Children's Product : No

Prepared For:

Troy Lee Designs
155 East Rincon Street,
Corona, California



Issue Date: 16 March 2022

Final Report: 889.09943.005

Tested by:

Taicang ACT Sporting Goods Testing Co., Ltd.
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Contract File No.: 889.09943
Test File: 005

Technician: Edward Wang
Test Date: 16 February 2022

Control Document: Official ACT BS EN 1078 Report Template CN 18 January 2022 Rev.7
SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/EN

HELMET DATA

Brand:	Troy Lee Designs	Retention System:	ITW
Model:	FLOWLINE MIPS	Age Grading:	5 and older
Manufacturer:	VENDOR	Test Headform Size:	EN 960 Size 575 (J)
Date of Manufacture:	TBD	Helmet Positioning Index (HPI):	ACT Determined: 45 mm *Measured from the basic plane
Tested Size:	57-59 cm	EPS Bead Color:	Black

Helmet Number:	Weight (g):
1	321
2	313
3	319
4	321
Average:	319

Conditioned Temperatures	
Lab Humidity:	57%
Ambient Lab Temp.:	22°C
High Temperature:	50°C
Low Temperature:	-20°C
Artificial Aging:	33°C

Comments:

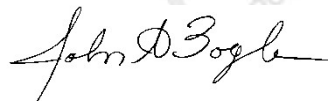
- All helmets were received in undamaged condition and were appropriate for testing.
- The helmets were exposed to the high (50 ± 2 °C) and low (-20 ± 2°C) temperatures for not less than 4 hours prior to testing and not exposed more than 6 hours.
- Artificial ageing conducted in accordance to section 5.4.2.3: The outer surface of the protective helmet shall be exposed successively to: ultraviolet irradiation by a 125 W xenon-filled quartz lamp for 48 h at a range of 250 mm; spraying for 4 h to 6 h with water at ambient temperature at the rate of 1 l/min.
- The sequence of tests performed on each helmet size and the tests performed on the same sample are given in the table below:

Table 2 — Sequence of Test and Tests per Sample

Performance Test	Sequence of Test	Sample Number		
Retention system effectiveness (5.6)	1st	1	---	---
Shock absorbing capacity (5.4)	2nd	1	2	3
Retention system strength (5.5)	3rd	---	2	3

- The fourth sample is reserved as a reference sample, which can be used by the test laboratory in case of doubt about any of the performance requirements.

Reviewed by: John Bogler



Contract File No.: 889.09943
Test File: 005

Technician: Edward Wang
Test Date: 16 February 2022

Control Document: Official ACT BS EN 1078 Report Template CN 18 January 2022 Rev.7
SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/EN

COMPLIANCE TESTING FOR BS EN 1078:2012+A1:2012 HELMETS USED FOR PEDAL CYCLISTS AND FOR USERS OF SKATEBOARDS AND ROLLER SKATES

Brand : Troy Lee Designs
Model : FLOWLINE MIPS
Tested Size : XS/S (53-56 cm)
Lot Number : TBD
Country of Origin : China
Age Grading : 5 and older
Children's Product : No

Prepared For:

Troy Lee Designs
155 East Rincon Street,
Corona, California



Issue Date: 19 July 2022

Final Report: 889.11181.002

Tested by:

Taicang ACT Sporting Goods Testing Co., Ltd.
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Contract File No.: 889.11181
Test File: 002

Control Document: Official ACT BS EN 1078 Report Template CN 1 July 2022 Rev.10
SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/EN

Technician: Edward Wang
Test Date: 11 July 2022

HELMET DATA

Brand:	Troy Lee Designs	Retention System:	ITW
Model:	FLOWLINE MIPS	Age Grading:	5 and older
Manufacturer:	VENDOR	Test Headform Size:	EN 960 Size 535 (E)
Date of Manufacture:	TBD	Helmet Positioning Index (HPI):	ACT Determined: 23 mm *Measured from the basic plane
Tested Size:	53-56 cm	EPS Bead Color:	Black

Helmet Number:	Weight (g):
1	310
2	308
3	312
4	310
Average:	310

Conditioned Temperatures	
Lab Humidity:	57%
Ambient Lab Temp.:	22°C
High Temperature	50°C
Low Temperature:	-20°C
Artificial Aging:	33°C

Comments:

- All helmets were received in undamaged condition and were appropriate for testing.
- The accompanying helmet labels were submitted independently from the test samples and thus could not be checked for any characteristics except for the containing information.
- The average helmet weight reported calculated by manufactures complete helmet weight. The individual weights listed in the table above for samples 1-4 are as prepped for testing to sections 5.4 through 5.6.
- The helmets were exposed to the high (50 ± 2 °C) and low (-20 ± 2°C) temperatures for not less than 4 hours prior to testing and not exposed more than 6 hours.
- Artificial ageing conducted in accordance to section 5.4.2.3: The outer surface of the protective helmet shall be exposed successively to: ultraviolet irradiation by a 125 W xenon-filled quartz lamp for 48 h at a range of 250 mm; spraying for 4 h to 6 h with water at ambient temperature at the rate of 1 l/min.
- The sequence of tests performed on each helmet size and the tests performed on the same sample are given in the table below:

Table 2 — Sequence of Test and Tests per Sample

Performance Test	Sequence of Test	Sample Number		
Retention system effectiveness (5.6)	1st	1	---	---
Shock absorbing capacity (5.4)	2nd	1	2	3
Retention system strength (5.5)	3rd	---	2	3

- The fourth sample is reserved as a reference sample, which can be used by the test laboratory in case of doubt about any of the performance requirements.

Reviewed by: John Bogler

Contract File No.: 889.11181
Test File: 002

Technician: Edward Wang
Test Date: 11 July 2022

Control Document: Official ACT BS EN 1078 Report Template CN 1 July 2022 Rev.10
SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/EN

COMPLIANCE TESTING FOR BS EN 1078:2012+A1:2012 HELMETS USED FOR PEDAL CYCLISTS AND FOR USERS OF SKATEBOARDS AND ROLLER SKATES

Brand : Troy Lee Designs
Model : FLOWLINE MIPS
Tested Size : XL/XXL (60-63 cm)
Lot Number : TBD
Country of Origin : China
Age Grading : 5 and older
Children's Product : No

Prepared For:

Troy Lee Designs
155 East Rincon Street,
Corona, California



Issue Date: 05 August 2022

Final Report: 889.11339.005

Tested by:

Taicang ACT Sporting Goods Testing Co., Ltd.
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Contract File No.: 889.11339
Test File: 005

Technician: Edward Wang
Test Date: 03 August 2022

Control Document: Official ACT BS EN 1078 Report Template CN 1 July 2022 Rev.10
SharePoint/GlobalResourceLibrary/Reporting/ReportTemplates/Helmets/EN

HELMET DATA

Brand:	Troy Lee Designs	Retention System:	ITW
Model:	FLOWLINE MIPS	Age Grading:	5 and older
Manufacturer:	VENDOR	Test Headform Size:	EN 960 Size 625 (O)
Date of Manufacture:	TBD	Helmet Positioning Index (HPI):	ACT Determined: 48 mm *Measured from the basic plane
Tested Size:	60-63 cm	EPS Bead Color:	Black

Helmet Number:	Weight (g):
1	388
2	384
3	393
4	382
Average:	390

Conditioned Temperatures	
Lab Humidity:	57%
Ambient Lab Temp.:	22°C
High Temperature	50°C
Low Temperature:	-20°C
Artificial Aging:	33°C

Comments:

- All helmets were received in undamaged condition and were appropriate for testing.
- The accompanying helmet labels were submitted independently from the test samples and thus could not be checked for any characteristics except for the containing information.
- The average helmet weight reported calculated by manufactures complete helmet weight. The individual weights listed in the table above for samples 1-4 are as prepped for testing to sections 5.4 through 5.6.
- The helmets were exposed to the high (50 ± 2 °C) and low (-20 ± 2°C) temperatures for not less than 4 hours prior to testing and not exposed more than 6 hours.
- Artificial ageing conducted in accordance to section 5.4.2.3: The outer surface of the protective helmet shall be exposed successively to: ultraviolet irradiation by a 125 W xenon-filled quartz lamp for 48 h at a range of 250 mm; spraying for 4 h to 6 h with water at ambient temperature at the rate of 1 l/min.
- The sequence of tests performed on each helmet size and the tests performed on the same sample are given in the table below:

Table 2 — Sequence of Test and Tests per Sample

Performance Test	Sequence of Test	Sample Number		
Retention system effectiveness (5.6)	1st	1	---	---
Shock absorbing capacity (5.4)	2nd	1	2	3
Retention system strength (5.5)	3rd	---	2	3

- The fourth sample is reserved as a reference sample, which can be used by the test laboratory in case of doubt about any of the performance requirements.

Reviewed by: John Bogler

Contract File No.: 889.11339
Test File: 005

Technician: Edward Wang
Test Date: 03 August 2022