

Test Report

Number: SZHH01390598

Applicant: MEIZHOU SPOTON SPORTS EQUIPMENT
TECHNOLOGY CO., LTD
NO.1, LIANGNENG ROAD EAST, NO. 206
NATIONAL HIGHWAY, HIGH-TECH INDUSTRY
PARK, SHEJIANG TOWN, MEI COUNTY,
MEIZHOU CITY, GUANGDONG
Attn: KIKI

Date: Aug 26, 2019

Sample Description:

Twelve (12) pieces of submitted sample said to be :

Item Name : **Ski Helmet.**
Item/Model No. : **S731**
Size : S 52-55CM, M 55-58CM, L 59-61CM.
Date Sample Received : Aug 12, 2019.
Testing Period : Aug 12, 2019~Aug 26, 2019.



Tests conducted:

As requested by the applicant, refer to attached page(s) for details.



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中国认可
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检测
TESTING
CNAS L0327

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Conclusion:

Tested sample
Submitted sample

Standard
EN 1077:2007 standard specification for helmets for alpine
skiers and snowboarders.
Excluding:
-Clause 6 Marking
-Clause 7 Information supplied by the manufacturer

Result
Pass

Authorized by:
For Intertek Testing Services
Shenzhen Ltd.

Michael, Zhang Jian
Title: Manager
CNAS Approved Signatory



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1 Standard Specification for Helmets for alpine skiers and snowboarders

As per EN 1077:2007: standard specification for helmets for alpine skiers and snowboarders.

Number of samples tested: Four (4) pieces for size 52-55cm; Four (4) pieces for size 55-58cm; Four (4) pieces for size 59-61cm.

Helmets size: 52-55cm/55-58cm/59-61cm

Class of protection: B

Test headform: E/J/M

Clause	Test Items	Result
4.1	Materials For those parts of the helmet coming into contact with the skin the material used shall not be subject to any known appreciable alteration from contact with sweat or with substances likely to be found in toiletries. Materials shall not be used which are known to cause skin disorders or other adverse effects on health. For a material not in general use advice as to its suitability shall be sought before its introduction.	
4.2	Construction	
4.2.1	General The helmet shall be so designed and shaped that parts of it (for example visor, rivets, ventilators, edges, fastening device etc.) are not likely to injure the user. This can be verified in accordance with 5.2. NOTE Helmets should: - have low weight; - be easy to put on and take off; - be usable with spectacles; - not significantly interfere with the ability of the user to hear; - have good durability and withstand normal handling; - permit cleaning.	P (See Appendix)





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Clause	Test Items	Result
4.2.2	<p>Retention system</p> <p>4.2.2.1 General Means shall be provided for retaining the helmet on the wearer's head. All parts of the retention system shall be securely attached to the system or to the helmet, so it would not come off during its use. This can be verified in accordance with Clauses 5.7 and 5.8</p> <p>NOTE It is recommended that the opening mechanism is marked with red or orange colour. The colour of any part of the retention system shall not be green.</p> <p>4.2.2.2 Chin straps The chin strap shall not include a chin cup. Any chin strap shall be not less than 15 mm wide. This can be verified in accordance with 5.2. Chin straps may be fitted with means of enhancing comfort for the wearer.</p> <p>4.2.2.3 Fastening devices Any retention system shall be fitted with a device to adjust and maintain tension in the system. The strength in the system shall be in accordance with 4.7.1.</p>	<p>P (W: 15.6mm Colour: Black)</p>
4.3	<p>Field of vision When tested in accordance with EN 13087-6, there shall be no occultation in the field of vision bounded by angles as follows: - horizontally 105°; - upwards 25°; - downwards 45°.</p>	<p>P (Horizontally: >105° Upward: >25° Downwards: >45°)</p>



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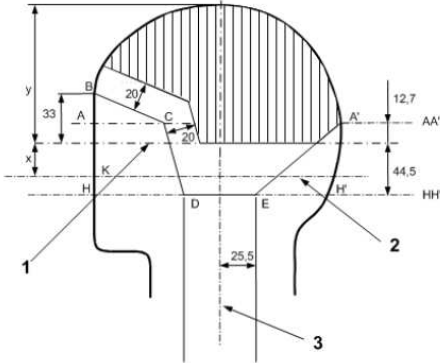
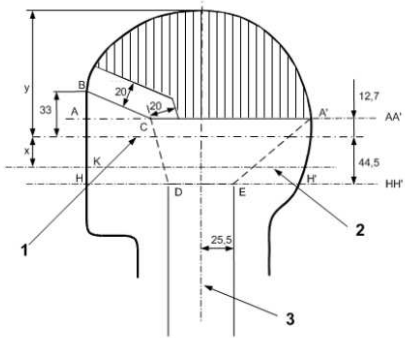
Clause	Test Items	Result
4.4	Extent of coverage	
4.4.1	<p>Class A For Class A, when positioned in accordance with EN 13087-6 on a headform of appropriate size, the helmet shall cover at least the area above the line BCDEA' in Figure 1. No parts of the coverage may be detachable.</p> <p>Those parts covering the area below the reference plane (shaded in Figure 1) shall be designed to give some protection against mechanical risks like abrasion. This can be verified in accordance with 5.2. Smaller openings for better hearing and/or ventilation are allowed.</p>	NA



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Clause	Test Items	Result
	<p>The test area for class A is given in Figure 2.</p> <p style="text-align: right;">Dimensions in millimetres</p>  <p>Key</p> <ul style="list-style-type: none"> 1 reference plane 2 basic plane 3 central vertical axis 	
4.4.2	<p>Class B</p> <p>For Class B, when positioned in accordance with EN 13087-6 on a headform of appropriate size, the helmet shall cover at least the area above the line BCA' in Figure 1. Parts below the AA' plane (shaded part in Figure 1) are optional and may be detachable and/or removable.</p> <p style="text-align: right;">Dimensions in millimetres</p>  <p>Key</p> <ul style="list-style-type: none"> 1 reference plane 2 basic plane 3 central vertical axis <p style="text-align: center;">Figure 3 — Test area for class B</p>	P



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Clause	Test Items	Result								
4.5	<p>Shock absorbing capacity When tested in accordance with 5.5 the peak acceleration shall not, for each impact, exceed 250 g.</p> <p>Only the flat anvil shall be used.</p> <p>Table 3 — Testing parameters</p> <table><tr><th>Sample</th><th>Conditioning</th></tr><tr><td>1</td><td>Ambient temperature</td></tr><tr><td>2</td><td>Low temperature</td></tr><tr><td>3</td><td>Artificial ageing</td></tr></table> <p>Impact each helmet on two sites. The impact sites on the same sample shall be separated by a distance of minimum 100 mm measured as a chord with a divider. The impacts shall be directed towards the centre of gravity of the headform. The velocity of the headform shall be 5,42 m/s +0 -0,1 (this is theoretically equivalent to a drop height of 1 500 mm). The velocity of the headform shall be measured at a distance between 60 mm and 10 mm prior to impact, to an accuracy of 1 %. The testing shall be conducted under recorded conditions of room temperature.</p>	Sample	Conditioning	1	Ambient temperature	2	Low temperature	3	Artificial ageing	P (See Appendix)
Sample	Conditioning									
1	Ambient temperature									
2	Low temperature									
3	Artificial ageing									
4.6	<p>Resistance to penetration When tested in accordance with 5.6 the point of the punch shall not touch the headform. The helmets shall first undergo the process of conditioning according to 5.3, selected by the test laboratory, which is likely to give the least satisfactory results. Perform the test on sample 4 (see Table 2). The velocity of the striker shall be one of the following: a) 3,84 m/s +0 - 0.1 m/s (this is theoretically equivalent to a drop height of 750 mm) for class A helmets; b) 2,71 m/s +0 - 0.1 m/s (this is theoretically equivalent to a drop height of 375 mm) for class B helmets. Each helmet shall be impacted three times, each time in a different site. The sites shall be at least 100 mm apart measured as chords with dividers.</p>	P (See Appendix)								



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Clause	Test Items	Result
4.7	Retention system performance	
4.7.1	Strength When tested in accordance with 5.7, the dynamic extension shall not exceed 35 mm and the residual extension shall not exceed 25 mm. For this purpose, extension includes slippage of the fastening device. Following the test the retention system shall still permit the helmet to be released from the headform by normal operation of the release system. Damage to the retention system shall be accepted provided that the above requirements are met.	P (See Appendix)
4.7.2	Effectiveness When tested in accordance with 5.8 the helmet shall not come off the headform.	P (Did not come off)
4.8	Durability After being tested the helmet shall not show damage that would cause an additional injury to the wearer's head (sharp edges, points etc.). This can be verified in accordance with 5.2	P
5.2	Inspection and determination of mass If no test method is specified in this European Standard the compliance with the requirements have to be checked by visual and/or tactile examination. The width of the chin strap shall be measured prior to testing and without any tension on the strap. Determine the mass of the helmets of the same size submitted for testing. Calculate and record the mean value in grams rounded off to the nearest 10 g stating the size of the helmet.	P (See Appendix)
6	Marking Each helmet shall be permanently marked in such a way that the following information is easily legible by the user and is likely to remain legible throughout the life of the helmet: <ul style="list-style-type: none"> • number of this European Standard, i.e. EN 1077; • name or trademark of the manufacturer; • designation of the model; • designation (on class A helmet only): 'helmet for alpine skiers and for snowboarders – class A'; • designation (on class B helmet only): 'helmet for alpine skiers and for snowboarders – class B'; • size or size range of the helmet, quoted as the circumference (in cm) of the head which the helmet is intended to fit; • weight of the helmet (the average mass in grams of the helmet size in question rounded to the nearest 50 g); • year and quarter of manufacture. 	NR



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Clause	Test Items	Result
7	<p>Information supplied by the manufacturer With every helmet distinct information in the language(s) of the country of sale shall be furnished as follows:</p> <ul style="list-style-type: none"> • maintenance, cleaning and storage; • suitable accessories; • warning if the shell is made of a material that is known to be adversely affected by contact with hydrocarbons, cleaning fluids, paints, transfers or other extraneous additions; • that the helmet shall be adjusted to fit the wearer; • how the helmet should rest on the head to ensure the intended protection (e.g. that it should be placed so as to protect the forehead and not be pushed too far back over the back of the head); • that a helmet subjected to violent impact shall be discarded; • the following text: • 'Class A and class B helmets are for alpine skiers, snowboarders and similar groups. Class A helmets offer comparatively more protection. Class B helmets may offer greater ventilation and better hearing, but protect a smaller area of the head and give a lesser degree of protection from penetration.' 	NR

Abbreviation : P = Pass; NA = Not Applicable; NR = Not Requested by The Applicant

Appendix:

Section 5.2 – Inspection and determination of mass

Size:52-55cm

Samples No.	Mass (g)
1	472.2
2	476.0
3	481.0
4	481.1
Average(rounded off to nearest 10g)	477.6(480)

Size:55-58cm

Samples No.	Mass (g)
1	530.7
2	523.4
3	521.2
4	533.3
Average(rounded off to nearest 10g)	527.2(530)



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Size:59-61cm

Samples No.	Mass (g)
1	591.0
2	586.8
3	593.4
4	595.1
Average(rounded off to nearest 10g)	591.6(590)

Section 4.5—Shock absorbing capacity

Ambient temperature at time of test: 21.3°C

Size:52-55cm/Test headform:E

Sample No.	Environment Impact	Test anvil	Location Impact	Velocity (m/s)	Peak (Gn)	Compliant
1	Ambient	Flat	Front	5.34	204.9	Pass
		Flat	Right	5.34	216.4	Pass
2	Low	Flat	Rear	5.39	166.5	Pass
		Flat	Crown	5.38	203.7	Pass
3	Artificial ageing	Flat	Front	5.39	184.5	Pass
		Flat	Right	5.32	217.7	Pass

Size:55-58cm/Test headform:J

Sample No.	Environment Impact	Test anvil	Location Impact	Velocity (m/s)	Peak (Gn)	Compliant
1	Ambient	Flat	Right front	5.39	204.8	Pass
		Flat	Left	5.40	209.6	Pass
2	Low	Flat	Front	5.36	193.0	Pass
		Flat	Right	5.34	232.6	Pass
3	Artificial ageing	Flat	Rear	5.35	151.9	Pass
		Flat	Crown	5.42	196.6	Pass

Size:59-61cm/Test headform:M

Sample No.	Environment Impact	Test anvil	Location Impact	Velocity (m/s)	Peak (Gn)	Compliant
1	Ambient	Flat	Left	5.37	181.8	Pass
		Flat	Right	5.36	198.1	Pass
2	Low	Flat	Right	5.35	189.8	Pass
		Flat	Left front	5.35	177.6	Pass
3	Artificial ageing	Flat	Front	5.36	161.6	Pass
		Flat	Rear	5.36	166.6	Pass



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Section 4.6—Resistance to penetration

Ambient temperature at time of test: 21.3°C

Size:52-55cm

Sample No.	Location Impact	Velocity (m/s)	The point of the punch touch the headform or not	Compliant
4	Front	2.70	No	Pass
	Crown	2.70	No	Pass
	Right	2.66	No	Pass

Size:55-58cm

Sample No.	Location Impact	Velocity (m/s)	The point of the punch touch the headform or not	Compliant
4	Front	2.68	No	Pass
	Crown	2.65	No	Pass
	Right	2.67	No	Pass

Size:59-61cm

Sample No.	Location Impact	Velocity (m/s)	The point of the punch touch the headform or not	Compliant
4	Front	2.67	No	Pass
	Rear	2.69	No	Pass
	Left	2.69	No	Pass

Section 4.7.1—Retention system strength

Size:52-55cm/Test headform:E

Sample No.	Dynamic extension (mm)	Residual extension (mm)	Compliant
4	23.8	17.8	Pass

Size:55-58cm/Test headform:J

Sample No.	Dynamic extension (mm)	Residual extension (mm)	Compliant
4	27.8	25.8	Pass

Size:59-61cm/Test headform:M

Sample No.	Dynamic extension (mm)	Residual extension (mm)	Compliant
4	18.5	10.8	Pass



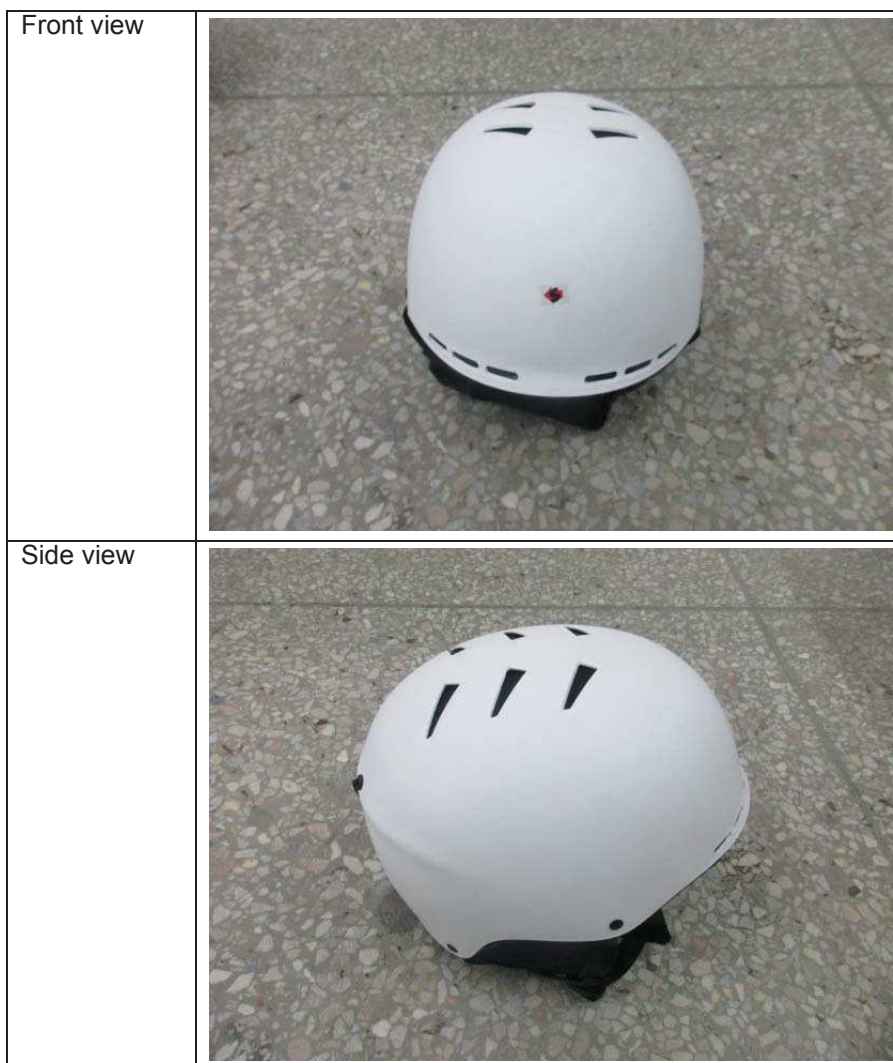
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Photos for reference

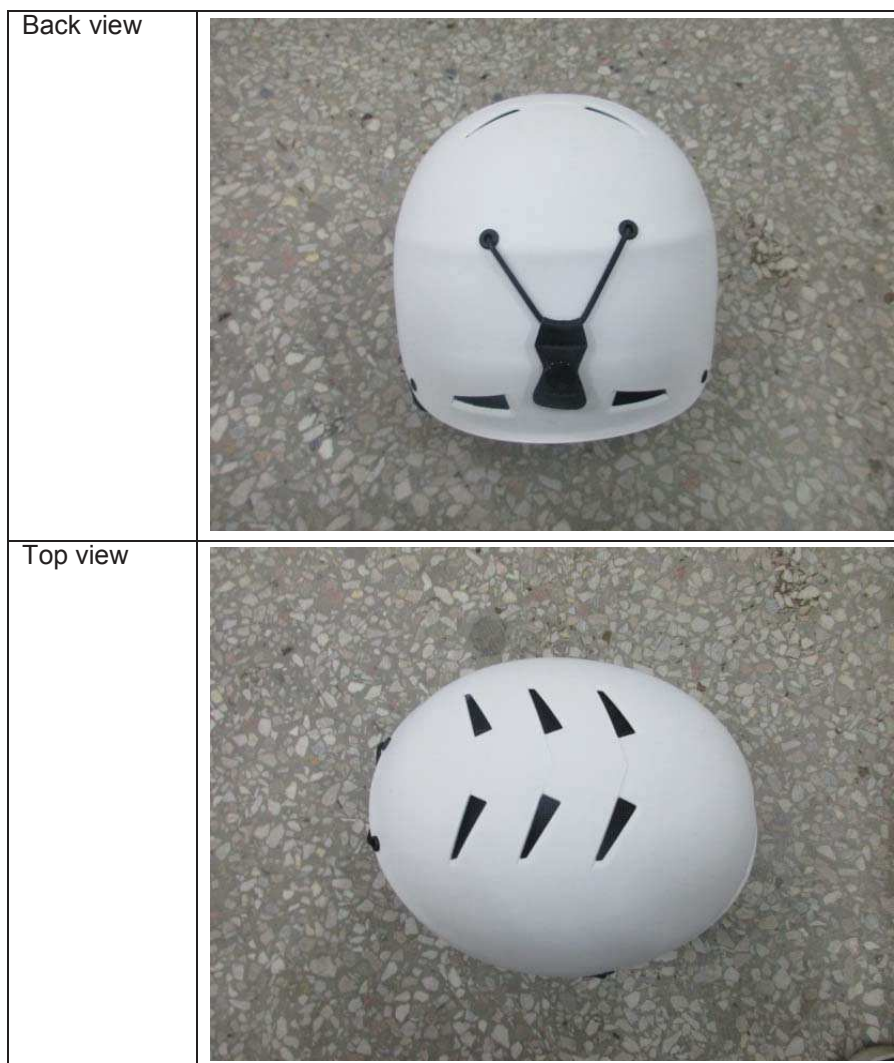


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Bottom view	
Test line (Size:52-55cm/Test headform:E)	





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<p>Test line (Size:55- 58cm/Test headform:J)</p>	
<p>Test line (Size:59- 61cm/Test headform:M)</p>	





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Impact sites #1	
Impact sites #2	





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Penetration site #1	
Penetration site #2	

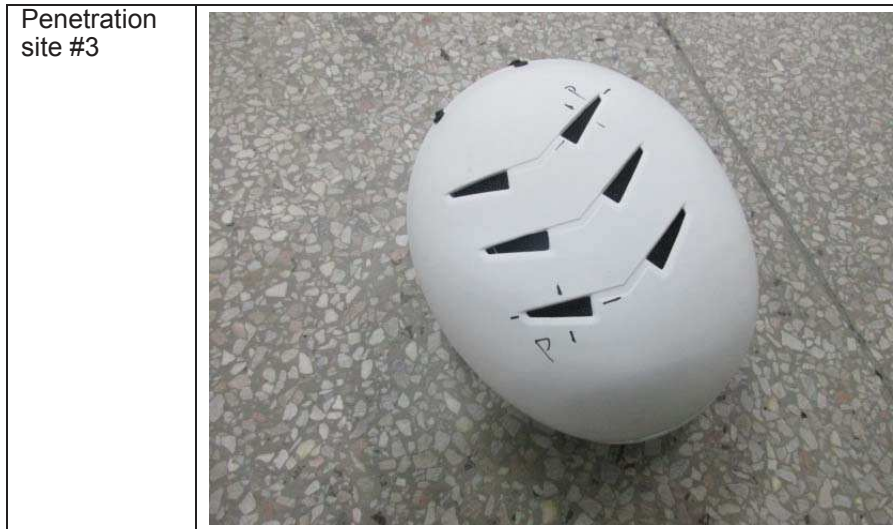


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End of report

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