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**TEST REPORT:
EN 812:2012
Industrial bump caps**

Report no: 2023-W-106
Client: CCQS UK LTD
Contact: Owen Bian
Date(s) of tests: 2023.01.19-2023.01.29

DESCRIPTION OF SAMPLES

General Information	Model	Colour(s)	Size
	SR-1029	Navy blue	(58-62)cm
Manufacturer	Tianjin Sairuizhida science and technology Co., Ltd.		
Manufacturer Address	No. 10, Luyuan Road, Wuqing Development Area, Tianjin, China (Mainland)		
Numbers of Samples	8		
Cap Materials¹	Shell: ABS		

Note 1. Material information provided by the manufacturer.

Signed:

Issued: 2023.02.08

杨文芬 Yang Wenfen
Authorized Signatory, Lab Director

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Test Results

4 Physical requirements

4.1 Materials and construction Pass

The bump cap may consist of a smooth shell, which may be enclosed by an outer covering. The bump cap shall incorporate means to absorb the energy of an impact.

For those parts of the bump cap that come into contact with the skin, materials which are known to be likely to cause skin irritation or any adverse effect on health shall not be used.

There shall be no sharp edge, roughness or projection on any part of the bump cap which is in contact, or potential contact, with the wearer when the bump cap is worn, such as is likely to cause injury to the wearer.

Any part of the bump cap which can be adjusted, or removed by the wearer for the purpose of replacement, shall be so designed and manufactured as to facilitate adjustment, removal and attachment without the use of tools.

Any adjustment system incorporated within the bump cap shall be so designed and manufactured as not to become incorrectly adjusted without the wearer's knowledge under the foreseeable conditions of use.

4.2 Cradle N/A²

If the bump cap is fitted with a cradle incorporating textile tapes, their individual widths shall be not less than 15 mm, and the total of the widths of the tapes radiating from their intersection shall be not less than 72 mm.

Note2. No cradle.

4.3 Comfort band or sweatband N/A³

If a sweatband is provided, it shall cover the inner front surface of the headband, if fitted, for a length of not less than 100 mm each side of the centre of the forehead. The length shall be measured with a flexible measure along a line (10 ±1) mm above the lower edge of the headband. It shall have a width not less than that of the headband over the length which it covers.

Note3. No comfort band or sweatband.

4.4 Retention Pass⁴

Means shall be provided to secure the bump cap on the wearer's head. Any one of the following is deemed to satisfy this requirement:

- a) external coverings to the shell which incorporate an elasticated rear section, passing below the plane of the headband;
- b) a nape strap;
- c) a chin strap or means of attaching one.

Note4. Elasticated nape strap of Velcro type.

4.5 Headband/nape strap Pass⁵

The length of the headband or the nape strap, if fitted, shall be adjustable in increments of not more than 5 mm.

Note5. No headband, nape strap of velcro type.

4.6 Chin strap N/A⁶

Unless specific provision is made for the bump cap to be retained on the head by other means, the bump cap or the harness shall be fitted with a chin strap or with means of attaching one. Any chin strap supplied with the bump cap shall be not less than 10 mm wide when un-tensioned and shall be attached either to the shell or to the headband, if fitted.

Note6. No chin strap.

4.7 Ventilation Pass

If the bump cap is provided with holes for ventilation purposes, the total area of such holes shall be not less than 150 mm² and not more than 450 mm².

4.8 Accessories N/A⁷

For the fixing of bump cap accessories, specified in the information accompanying the bump cap in accordance with 7.2.3, the required fixing devices, or appropriate holes in the bump cap, shall be provided by the bump cap manufacturer.

Note7. No accessories.

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5 Performance requirements

5.1.1 Impact protection

Refer to Annex A

When a bump cap is tested by the method given in 6.5, the force transmitted to the headform shall not exceed 15,0 kN. This requirement shall be satisfied by bump caps treated in accordance with the appropriate conditioning processes given in 6.2, as specified by the list of tests given in 6.1.

5.1.2 Resistance to penetration

Refer to Annex A

When a bump cap is tested by the method given in 6.6, the point of the striker shall not contact the surface of the headform. This requirement shall be satisfied by bump caps treated in accordance with the appropriate conditioning processes given in 6.2, as specified by the list of tests given in 6.1.

5.1.3 Chin strap anchorages

N/A⁸

When a bump cap is fitted with chin strap anchorages, these shall be tested in accordance with 6.7. The artificial jaw shall be released at a force of not less than 150 N and not more than 250 N, due to failure only of the anchorages.

Note8. No chin strap.

7 Marking and information

Not
tested

7.1 Markings on the bump cap

Every bump cap claimed to comply with the requirements of this European Standard shall carry durable marking giving the following information:

- A) number of this European Standard;
 - B) name or identification mark of the manufacturer;
 - C) year and quarter of manufacture;
 - D) type of bump cap (manufacturer's designation); this shall be marked on both the shell and the harness, if fitted;
 - E) size or size range (in cm); this shall be marked on both the shell and the harness, if fitted.
- The size of such text shall be no less than 8-point.

7.2 Additional information to be supplied by the manufacturer

7.2.1 A durable label shall be attached to each bump cap giving the following information, provided precisely and comprehensively in the language of the country of sale.

"WARNING! THIS IS NOT AN INDUSTRIAL SAFETY HELMET."

"This bump cap does not provide protection against the effects of falling or thrown objects, or moving suspended loads. It should not be used instead of an industrial safety helmet as specified in EN 397."

"This bump cap is made to absorb the energy of a blow by partial destruction or damage to the shell and the harness, if fitted, and even though such damage may not be readily apparent, any bump cap subjected to severe impact should be replaced."

"For adequate protection this bump cap must fit or be adjusted to the size of the user's head."

"The attention of users is also drawn to the danger of modifying or removing any of the original component parts of the bump cap, other than as recommended by the bump cap manufacturer. Bump caps should not be adapted for the purpose of fitting attachments in any way not recommended by the bump cap manufacturer."

"Do not apply paint, solvents, adhesives or self-adhesive labels, except in accordance with instructions from the bump cap manufacturer."

The size of such text shall be no less than 8-point.

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7.2.2 Each bump cap shall carry moulded or impressed marking or shall carry a durable selfadhesive label stating the optional requirements complied with. The markings are given in Table 1.

Table 1—Optional requirements

Optional requirement	Marking/Label
Very low temperature	– 20 ℃ or – 30 ℃ as appropriate
Resistance to flame	F
Electrical properties	440 V (a.c.)

The size of such text shall be no less than 8-point.

7.2.3 The following information, provided precisely and comprehensibly in the language of the country of sale, shall accompany each bump cap:

- a) the name and address of the manufacturer;
- b) instructions or recommendations regarding storage, use, cleaning, maintenance, servicing and disinfection. Substances recommended for cleaning, maintenance or disinfection shall have no adverse effect on the bump cap and shall be not known to be likely to have any adverse effect upon the wearer, when applied in accordance with the manufacturer’s instructions;
- c) details of suitable accessories and appropriate spare parts;
- d) the significance of the markings given in accordance with 7.1 and guidance regarding the limits of use of the bump cap, corresponding to the respective risks;
- e) relevant information regarding the obsolescence deadline or period of obsolescence of the bump cap and its component parts;
- f) relevant information regarding details of the type of packaging suitable for transportation of the bump cap.

The size of such text shall be no less than 8-point.

End of Test Results

Annex A: Summarization of Test Data

Clause		Sample	Result				Assessment
4.2	Cradle	No.	Minimum individual width		——		N/A
			Total widths of the tapes		——		
4.3	Comfort band or sweatband	No.1	Comfort band length		——		N/A
4.5	Headband/nape strap	No.	Increment		Velcro type, continuous adjustment		N/A
4.6	Chin strap	No.	Width		No chinstrap		N/A
4.9	Ventilation	No.	Total area		400 mm ²		Pass
5.1.1	Impact protection		Conditioning	Angle(°)	Frontal	Backwards	Pass
		No.2	-10℃	30°	3.60 kN	2.98 kN	
				60°	4.43 kN	4.96 kN	
		No.3	Water immersion	30°	3.36 kN	4.03 kN	
				60°	3.79 kN	5.01 kN	
		No.1	50℃	30°	11.77 kN	11.08 kN	
				60°	10.74 kN	12.01 kN	
		No.4	Artificial ageing	30°	6.39 kN	5.40 kN	
60°	7.76 kN			7.03 kN			
5.1.2	Resistance to penetration		Conditioning				Pass
		No.5	-10℃		The striker didn't contact the surface of the headform		
		No.7	Water immersion		The striker didn't contact the surface of the headform		
		No.6	50℃		The striker didn't contact the surface of the headform		
		No.8	Artificial ageing		The striker didn't contact the surface of the headform		

Ambient temperature at time of test:22℃

End of Annex A

ANNEX B PHOTOS OF SAMPLES



Tianjin Sairuizhida Science and Technology Co., Ltd

Approved the European CE EN812:2012 Certificate standards:
Enterprise Standard: Q/120114 SRZD001-2016



WARNING THIS IS NOT AN INDUSTRIAL SAFETY HELMET

- 1. Wearing and Adjustment:** To ensure effective protection, this shock-proof cap must be worn with its visor facing to the front and should be adjusted to the user's head size. It should be adjusted the back of the cap when adjust, and make the head wear comfortable.
- 2. Usage limits:** This cap does not provide protection against the effects of falling of thrown objects, or moving suspended loads. It should not be used, instead of an industrial safety helmet as specified in EN 397.
- 3. Wear:** This cap is made to absorb the energy of a blow by partial destruction or damage to the shell and the harness. It should be checked carefully before wear, and should discard caps which cracked and damaged.
- 4. For adequate protection:** This cap must fit or be adjusted to the size of the user's head. The attention of users is also drawn to the danger of modifying or removing any of the original component parts of the bump cap. Other than as recommended by the cap manufacturer. Caps should not be adapted for the purpose of fitting attachments in any way not recommended by the bump cap manufacturer.

End of Test Report

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