



Test Report

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Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

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Test Conducted:

Buoyant Aids for Swimming Instruction - EN 13138-1:2014 Safety requirements and test methods for buoyant aids to be worn

Device Classification	B
Device Categorization	<input checked="" type="checkbox"/> Garment / <input type="checkbox"/> Collar / <input type="checkbox"/> Arm Band / <input type="checkbox"/> Chest Belt / <input type="checkbox"/> Backpack
Sample Sizes:	5 pieces

Clause	Test Method/Requirement	Rating /Result
5.1 General	Not inherent buoyant device shall have a minimum of two independent chambers.	Pass (Qty. of chambers: 3)
	For safety reasons these products shall be in bright colors. Wholly transparent or materials in any shade of undercoated blue in the visible areas when in use are not acceptable. For garments, these color requirements apply only to the neck, shoulder and upper chest area.	Pass (color: orange)
	The visible areas of these products when being used shall clearly visible from the water's edge or the poolside when the water is crowded, moving or may not be clear.	Pass
5.2 Buoyancy		
5.2.1 Buoyancy Characteristics of the Complete Device.	Devices shall have minimum buoyancy with all of its components as required, 20 N for garment(3-6 years)	Pass (65 N)
5.2.2 Residual Buoyancy	Any inflatable device shall provide a residual buoyancy at least 50% of minimum buoyancy after complete deflation of one chamber.	Pass (Residual Buoyancy: 38 N)
	Where an inflatable device or component consists of two or more components, after deflating the one chamber most likely to fail in the component, this component shall provide at least 25% of the total minimum buoyancy.	N/A
5.3 Design, fit and positioning		
5.3.1 Adjustability (Class B Devices)	The position of device shall be as high as possible.	Pass
	Device can be securely fitted to appropriate size wearer.	Pass
	Device's position on body, when correctly fitted, shall not allow it be able to be accidentally displaced in normal use.	Pass
	Device's position on body permits the wearer to adopt the correct position for the stroke being learned.	Pass
5.3.2 Buckles, Zippers and other fixings	Buckles, zippers and other detachable fastening devices shall require at least two simultaneous or sequential actions for their release or opening.	Pass
	Where one single action can be applied and it relies on pressure for release it shall be necessary to apply a force of at least 50 N	N/A

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Clause	Test Method/Requirement	Rating /Result																								
5.3.3 Retention of Function.	Class B device shall retain intended function even if there is a failure of a component or part of the device.	Pass																								
5.3.4 Innocuousness																										
5.3.4.1 General	Class B devices shall be of a design and construction such that they cannot cause harm to the user.	Pass																								
5.3.4.2 Edges, Corners & Points	Edges and corners of hard and rigid materials shall be chamfered or rounded	Pass																								
	Round edges or corners shall have a minimum radius of 1 mm.	Pass																								
	Chamfers shall be of $45^\circ \pm 5^\circ$ and at least 1mm in width if it is part of the design.	Pass																								
	There shall be no barbs or other sharp points or features	Pass																								
5.3.4.3 Small Parts	Attached small parts shall withstand a pull force of 90 ± 2 N in the direction most likely to cause failure without becoming detached from the device. Parts which can become detached shall not fit wholly into the small parts cylinder.	Pass																								
5.4 Entire assembly and components																										
5.4.1 Integrity of the Entire Assembly of Worn Devices	The entire assembly shall have an overall strength in accordance with below table. If it may consist of a number of components, each component shall meet the test requirements.	Pass																								
	<table border="1"> <thead> <tr> <th colspan="3">Category of user</th> </tr> <tr> <th>Age^a years</th> <th>Mass * kg</th> <th>Load F in Annex G, Figure G.1 * N</th> </tr> </thead> <tbody> <tr> <td>≤ 1</td> <td>≤ 11</td> <td>50</td> </tr> <tr> <td>> 1 to 2</td> <td>> 11 to 15</td> <td>70</td> </tr> <tr> <td>> 2 to 3</td> <td>> 15 to 18</td> <td>100</td> </tr> <tr> <td>> 3 to 6</td> <td>> 18 to 30</td> <td>120</td> </tr> <tr> <td>> 6 to 12</td> <td>> 30 to 60</td> <td>250</td> </tr> <tr> <td>> 12</td> <td>> 60</td> <td>500</td> </tr> </tbody> </table> <p>^a Age groups for orientation only. The correlation between the age and the body mass can vary considerably.</p>		Category of user			Age ^a years	Mass * kg	Load F in Annex G, Figure G.1 * N	≤ 1	≤ 11	50	> 1 to 2	> 11 to 15	70	> 2 to 3	> 15 to 18	100	> 3 to 6	> 18 to 30	120	> 6 to 12	> 30 to 60	250	> 12	> 60	500
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Slippage of buckles or other fastenings shall be < 25 mm in the direction of the applied load.	Pass																									
Webbing, tapes and straps next to body shall be ≥20mm in width and shall resist roping or rolling.	Pass																									
Toggle ends on drawstrings for adjustment of the device are not permitted.	Pass																									
5.4.2 Thread	To sew load bearing components, only threads manufactured from synthetic materials shall be used.	N/A																								
	After a simple burn test, fibres must not leave an ash when burned but should melt or burn to leave a black pellet like residue.	N/A																								
5.4.3 Valves & Stoppers	Inflatable class B devices shall fitted with none return valves on every inflatable chamber.	Pass																								
	Stoppers shall be connected to the body of the valve.	Pass																								

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Clause	Test Method/Requirement	Rating /Result
	The protrusion of the valve/stopper or of any other protruding part shall meet the requirement in EN15649-1:2009+A2:2013 clause 5.5.	Pass
	When tested with any opened stopper and after a period of 2 min retain, Buoyancy Retention $\geq 75\%$.	Pass (97.7%)
5.5 Materials-mechanical properties		
5.5.1 Seam Strength and Durability of Inflatable Devices	Device shall remain airtight after being submitted to a cyclic pressure of 0.05 bar for 500 cycles of inflation and deflation alternately for each air chamber.	Pass
5.5.2 Resistance to Puncturing	The chambers shall remain airtight after applying a force of 5 N to the external surface through a steel needle tip with a radius of 0.5 mm and diameter of (1.0 ± 0.05) mm for 5 seconds.	Pass (Airtight)
	For product with inherent buoyant material, Shall lose $\leq 10\%$ Buoyancy after one day and after seven day.	N/A
5.5.3 Resistance of Foam to Compression	Shall lose $\leq 10\%$ Buoyancy	N/A
5.6 Materials and markings		
5.6.1 General	These tests shall not apply where the markings are embossed onto or moulded into the device	N/A
5.6.2 Resistance to Chlorinated Salt Water	Colour change 3 minimum;	Pass (See result page)
	Inflatable devices shall be orally inflated to their maximum volume and inspected for air leakage.	Pass (See result page)
	All devices shall be inspected to ensure markings remain legible.	
5.6.3 Resistance of Markings to Saliva	Colour change 3 minimum and markings remain legible. (Annex A)	Pass (See result page)
5.6.4 Resistance of Markings to Perspiration	Colour change 3 minimum and markings remain legible. (EN ISO 105 E04)	Pass (See result page)
5.6.5 Adhesion of Markings	Markings shall not be damaged and remain legible. (EN ISO 105 -X12, 100 cycles)	Pass (See result page)
6 Test methods		
7 Warnings and markings		
7.1 Warnings & Markings (General)	The markings shall be printed or debossed on the product and must be visible when preparing for use and then donning the product. Devices that have warnings and marking embossed below the mean surface of the device.	Pass
	'WARNING' shall be in BOLD upper case, height $\geq 5\text{mm}$	Pass (5.5 mm)
	Remaining text in lower or upper case, height $\geq 3\text{mm}$	Pass (3.5 mm)

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Clause	Test Method/Requirement	Rating /Result
	Color shall be in contrast or relief to the background and be legible.	Pass (Print: Black Base: Orange)
	All should be given in the language of the country of sale.	Pass
7.2 Warnings & Markings on the Product	The following information shall be given: WARNING	Pass
	“Will not protect against drowning” Or replaced by safety symbol	Pass
	“Always fully inflate all air chambers” if applicable to the product Or replaced by safety symbol	Pass
	“Use only under constant supervision” Or replaced by safety symbol	Pass
	“To be worn on upper arm only” (For arm bands only) Or replaced by safety symbol	N/A
	All components shall be worn. (if applicable to the product) Or replaced by safety symbol	N/A
	The following information is also required:	Pass
	Age and/or mass range	Pass
	EN13138-1:2014	Pass
	Type designation of the product and commercial name, model or code.	Pass
	Name or trademark of manufacturer, importer or supplier	Pass
7.3 Information Supplied by the Manufacturer	Details: how to inflate, deflate and means of securing the stopper on inflatable swimming aids	Pass
	Details of how to fit and remove swimming aids	Pass
	Details of how to ensure correct fit for the swimming aids	Pass
	Details of storage and maintenance procedures	Pass
	Information on determining the suitability of the device for the intended user	Pass
	Information advising that these products should not be bitten or chewed by the user as pieces that may be bitten off / torn from / come away from the material may cause a choking hazard.	Pass
	The full postal address of the manufacturer shall be provided.	Pass
7.4 Consumer information at the Point of Sale	The specified product information label shall be uniformly applied	Pass
	Swim suit garments shall have information on garment size	Pass

N/A = Not Applicable

Result page:

Safety requirements and test methods for buoyant aids to be worn (EN 13138-1: 2014)

Clause 5.6.2 Resistance to Chlorinated Salt Water

- B
- | | |
|--------------------|---|
| 1. Change in shade | 4-5 |
| 2. Assessment | When orally inflated to their maximum volume no air leakage |

Requirement:

- (1) The change in colour shall be tested according to EN 20105-A02 and shall be 3 or better on the grey scale. Grey scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good.
- (2) No air leakage when orally inflated to their maximum volume.
- (3) The markings shall remain legible.

Clause 5.6.3 Resistance of the marking to saliva (EN13138-1:2014 Annex A)

- A
- | | |
|--------------------|-----------------------------|
| 1. Change in shade | 4-5 |
| 2. Assessment | The markings remain legible |

Requirement:

- (1) The change in colour shall be tested according to EN 20105-A02 and shall be 3 or better on the grey scale. Grey scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good.
- (2) The markings shall remain legible.

Clause 5.6.4 Resistance of the markings to Perspiration (EN ISO 105 E04:2013)

- A
- Acidic
- | | |
|-----------------|-----------------------------|
| Change in shade | 4-5 |
| Assessment | The markings remain legible |

- Alkaline
- | | |
|-----------------|-----------------------------|
| Change in shade | 4-5 |
| Assessment | The markings remain legible |

Requirement:

- (1) The change in colour according to EN 20105-A02 and shall be 3 or better on the grey scale. Grey scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good.
- (2) The markings shall remain legible.

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Clause 5.6.5 Adhesion of markings (EN ISO 105 X12:2002, 100 cycles)

A

Dry – Assessment: No damaged and remain legible in all details when assessed by the assessed panel.

Wet – Assessment: No damaged and remain legible in all details when assessed by the assessed panel.

Requirement: The markings shall not be damaged and shall remain legible in all details.

Sample Description : (A)Deluxe swim vest: in orange(original sample)
(B)Deluxe swim vest: in orange(pretreatment)

Sample Photo:



SGS authenticate the photo on original report only

*** End of Report ***