



**NSAI**  
Standards

Irish Standard  
I.S. EN 13138-1:2014

# Buoyant aids for swimming instruction - Part 1: Safety requirements and test methods for buoyant aids to be worn

**I.S. EN 13138-1:2014**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):*

*NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.*

*This document is based on:*

EN 13138-1:2014

*Published:*

2014-10-01

*This document was published  
under the authority of the NSAI  
and comes into effect on:*

2014-10-18

ICS number:

13.340.70

97.220.40

NOTE: If blank see CEN/CENELEC cover page

NSAI  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

Sales:  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

**EN 13138-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2014

ICS 13.340.70; 97.220.40

Supersedes EN 13138-1:2008

English Version

## **Buoyant aids for swimming instruction - Part 1: Safety requirements and test methods for buoyant aids to be worn**

Aides à la flottabilité pour l'apprentissage de la natation -  
Partie 1: Exigences de sécurité et méthodes d'essai pour  
les aides à la flottabilité portées au corps

Auftriebshilfen für das Schwimmenlernen - Teil 1:  
Sicherheitstechnische Anforderungen und Prüfverfahren für  
am Körper getragene Auftriebshilfen

This European Standard was approved by CEN on 16 August 2014.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Contents

Page

Foreword.....	4
Introduction .....	5
1 Scope .....	7
2 Normative references .....	7
3 Terms and definitions .....	7
4 Classification.....	9
5 Safety Requirements .....	9
5.1 General.....	9
5.2 Buoyancy .....	10
5.2.1 Buoyancy characteristics of the complete device .....	10
5.2.2 Residual buoyancy .....	10
5.3 Design, fit and positioning.....	11
5.3.1 Adjustability - Class B devices.....	11
5.3.2 Buckles, zippers and other fixings .....	11
5.3.3 Retention of function.....	11
5.3.4 Innocuousness.....	12
5.4 Entire assembly and components .....	12
5.4.1 Integrity of the entire assembly of worn devices .....	12
5.4.2 Thread .....	13
5.4.3 Valves, stoppers and other protruding parts.....	13
5.5 Materials - mechanical properties .....	13
5.5.1 Seam strength and durability of inflatable devices.....	13
5.5.2 Resistance to puncturing.....	13
5.5.3 Resistance of foam and other inherent buoyant materials to compression .....	13
5.6 Materials and markings .....	13
5.6.1 General.....	13
5.6.2 Resistance to chlorinated salt water .....	14
5.6.3 Resistance of the markings to saliva .....	14
5.6.4 Resistance of the markings to perspiration.....	14
5.6.5 Adhesion of markings .....	14
6 Test methods.....	14
7 Warnings and markings .....	15
7.1 General.....	15
7.2 Warnings and markings on the product.....	15
7.3 Information supplied by the manufacturer .....	16
7.4 Consumer information at the point of sale .....	16
Annex A (normative) Procedures for testing resistance of markings to saliva .....	18
Annex B (normative) Procedures for testing efficiency of valves of inflatable devices .....	19
Annex C (normative) Security of the pressure release of buckles .....	20
Annex D (normative) Procedures for testing adjustability, retention of function, edges, corners and points by assessment panel .....	21
D.1 General.....	21
D.2 Assessment of Risks.....	21
D.3 Re-assessment of instructions supplied with the device.....	21

<b>Annex E (normative) Test procedures for seam strength and durability of inflatable devices .....</b>	<b>24</b>
<b>Annex F (normative) Test procedures for determining the puncture resistance of inflatable devices.....</b>	<b>25</b>
<b>Annex G (normative) Test procedures for integrity of the entire assembly.....</b>	<b>26</b>
<b>G.1 Test description .....</b>	<b>26</b>
<b>G.2 Test parameters .....</b>	<b>26</b>
<b>Annex H (informative) Significant changes between this document and the previous edition of EN 13138-1:2008 .....</b>	<b>27</b>
<b>Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC .....</b>	<b>29</b>
<b>Bibliography.....</b>	<b>30</b>

**EN 13138-1:2014 (E)****Foreword**

This document (EN 13138-1:2014) has been prepared by Technical Committee CEN/TC 162 “Protective clothing including hand and arm protection and lifejackets”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2015 and conflicting national standards shall be withdrawn at the latest by April 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13138-1:2008.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA which is an integral part of this document.

Annex H provides details of significant technical changes between this European Standard and the previous edition EN 13138-1:2008.

This European Standard is one of a series consisting of four standards dealing with buoyant devices for swimming instructions for the various stages of the learning process:

- EN 13138-1, *Buoyant aids for swimming instruction — Part 1: Safety requirements and test methods for buoyant aids to be worn*
- EN 13138-2, *Buoyant aids for swimming instruction — Part 2: Safety requirements and test methods for buoyant aids to be held*
- EN 13138-3, *Buoyant aids for swimming instruction — Part 3: Safety requirements and test methods for swim seats*
- prEN 13138-4, *Buoyant aids for swimming instruction — Part 4: Test manikin for in water performance testing of buoyant aids to be worn*

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Introduction

The entire process of learning to swim is considered to include two stages:

- getting familiar with the water environment and movements in it;
- acquiring skills in standard swimming strokes.

Buoyant aids for swimming instruction (in brief: swimming device(s)) are intended to assist users (in particular children) to learn to swim. The design and purpose of the devices are related to the above stages.

Swimming devices are intended to give the user positive buoyancy in the water while maintaining the correct body position for swimming. However, it should not be assumed that standard conformity of the devices will by itself eliminate the risk of drowning as this depends also on the behaviour of the user and any supervision.

Although this European Standard sets performance requirements to ensure that swimming devices perform appropriately, it is essential that the devices are used correctly and under constant and close supervision. It is important to ensure that they are securely fitted to the appropriate size of user and that when correctly fitted, they cannot become displaced. Swim seats however should allow immediate escape in case of capsizing. Therefore the use of these devices is recommended to be restricted to water out of standing depth of the user.

The highest degree of protection against drowning can only be achieved by using lifejackets. It is essential that there is a clear distinction between devices intended to preserve life and those which are intended only to assist buoyancy for the user when learning to swim. As swimming devices are not life preservers, they should only be used in swimming pools and other situations free from current, tides and waves.

The bulk storage of some types of swimming devices could, under certain conditions, result in a potential fire hazard. The perceived risk of such a hazard was evaluated against the actual risk to the user from materials treated with certain known toxic fire retardant chemicals. However, the fire hazard is less of a problem to the user than the risk associated with the swimming devices being put in the mouth, especially by children. For this reason, flammability requirements do not apply to this European Standard.

For the above reasons and to differentiate these devices from aquatic toys, advisory safety measures, including marking, warning notices and user instructions are included in this standard.

The range both of the design and function of buoyant aids for swimming instruction varies considerably and for this reason, the standard for swimming devices has been prepared in three parts, namely devices that are intended to allow the user to become familiar with water (passive user), devices that are worn (active user) and those devices that are held by the user to improve swimming strokes.

Part 1 of this European Standard is only for devices that are securely attached to the body (class B devices = for an active user). They are intended to introduce the user to the range of swimming strokes.

Part 2 of this European Standard is for devices that are held either in the hands or by the body (class C devices = for an active user) and are intended to assist with improving specific elements of the swimming stroke. For adult beginners or more advanced users they can also be used for further stages of the process to learn to swim.

Part 3 of this European Standard deals only with swim seats to assist children up to 36 months in their first attempts to learn to swim (i.e. to get familiar with the “in-water-environment” and moving through it). The child is positioned inside the buoyant structure, which provides buoyancy and lateral support to the body, thereby keeping the child's head above water level (class A devices = for a passive user).

Swim seats allow young children to experience the water environment and being moved through it. Movements of lower limbs and arms are possible. The use of swim seats does however not replicate any form of a correct swimming stroke.

**EN 13138-1:2014 (E)**

Swim seats complying with this standard provide a stable, floating position for a child sitting in the swim seat and avoids entrapment in case of capsizing. Children in swim seats do however require very close parental supervision. Overload beyond specified body weight, breaking waves and violent external forces are remaining risks that can cause capsizing. Use of these devices in water that is of the child's standing depth will increase the risk of capsizing and will hinder or block the escape from the seat in case of emergency.



## 1 Scope

This European Standard specifies safety requirements for construction, performance, sizing, marking and information supplied by the manufacturer for swimming aids intended to assist beginners with movement through the water while learning to swim or while learning part of a swimming stroke. It also gives methods of test for verification of these requirements.

This part 1 of EN 13138 applies only to devices that are designed to be worn, to be securely attached to the body and which have either inherent buoyancy or can be inflated. It only applies to Class B devices intended to introduce the user to the range of swimming strokes. It does not apply to Class A or Class C devices, to pull buoys, swim rings, lifebuoys, buoyancy aids, lifejackets or aquatic toys.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 71-1, *Safety of toys — Part 1: Mechanical and physical properties*

EN 15649-1:2009+A2:2013, *Floating leisure articles for use on and in the water — Part 1: Classification, materials, general requirements and test methods*

EN 15649-2:2009+A2:2013, *Floating leisure articles for use on and in the water — Part 2: Consumer information*

EN 20105-A02, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour (ISO 105-A02)*

EN ISO 105-E03:2010, *Textiles — Tests for colour fastness — Part E03: Colour fastness to chlorinated water (swimming-pool water) (ISO 105-E03:2010)*

EN ISO 105-E04, *Textiles — Tests for colour fastness — Part E04: Colour fastness to perspiration (ISO 105-E04)*

EN ISO 105-X12, *Textiles — Tests for colour fastness — Part X12: Color fastness to rubbing (ISO 105-X12)*

EN ISO 3696:1995, *Water for analytical laboratory use — Specification and test methods (ISO 3696:1987)*

EN ISO 12402-9:2006, *Personal flotation devices — Part 9: Test methods (ISO 12402-9:2006)*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **buoyancy**

resultant upthrust of a swimming device when totally submerged in fresh water with its uppermost part just below the water surface

### 3.2

#### **inherent buoyancy**

upthrust provided by material which is less dense than water or by sealed chambers that are not inflatable and are filled with air or gas

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- Looking for additional Standards? Visit Intertek Inform Infostore
  - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-