

UJUMISBASSEINI SEADMED. OSA 11: LIIGUTATAVATE  
BASSEINIPÕHJADE JA LIIGUTATAVATE VAHESEINTE  
TÄIENDAVALD SPETSIAALSSED OHUTUSNÕUDED JA  
KATSEMEETODID

Swimming pool equipment - Part 11: Additional  
specific safety requirements and test methods for  
moveable pool floors and moveable bulkheads  
installed in pools for public use

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

|   |  |
|---|--|
| See Eesti standard EVS-EN 13451-11:2022 sisaldab Euroopa standardi EN 13451-11:2022 ingliskeelset teksti.           | This Estonian standard EVS-EN 13451-11:2022 consists of the English text of the European standard EN 13451-11:2022.                                  |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.  | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation. |
| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 21.12.2022. | Date of Availability of the European standard is 21.12.2022.   |
| Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.  | The standard is available from the Estonian Centre for Standardisation and Accreditation.  |

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 97.220.10

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis- ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis- ja Akrediteerimiskeskusega: Koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation:

Homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

EUROPEAN STANDARD

EN 13451-11

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2022

ICS 97.220.10

Supersedes EN 13451-11:2014

English Version

Swimming pool equipment - Part 11: Additional specific  
safety requirements and test methods for moveable pool  
floors and moveable bulkheads installed in pools for public  
use

Équipement de piscine - Partie 11 : Exigences de  
sécurité et méthodes d'essai complémentaires propres  
aux fonds de bassins mobiles et cloisons mobiles  
installés dans des piscines à usage public

Schwimmbadgeräte - Teil 11: Zusätzliche besondere  
sicherheitstechnische Anforderungen und  
Prüfverfahren für höhenverstellbare Zwischenböden  
und bewegliche Beckenabtrennungen

This European Standard was approved by CEN on 28 November 2022.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

| <b>Contents</b>  | Page |
|--|------|
| European foreword.....   | 3    |
| Introduction .....   | 5    |
| 1 Scope.....   | 6    |
| 2 Normative references.....  | 6    |
| 3 Terms and definitions .....  | 7    |
| 4 Classification of movable pool floors and movable bulkheads .....                      | 7    |
| 5 Safety requirements.....   | 8    |
| 5.1 General.....   | 8    |
| 5.2 Moveable pool floors.....  | 9    |
| 5.2.1 General.....   | 9    |
| 5.2.2 Structural integrity.....  | 9    |
| 5.2.3 Abnormal movements.....  | 10   |
| 5.2.4 Prevention of entrapment .....   | 10   |
| 5.2.5 Slip resistance .....  | 10   |
| 5.2.6 Prevention of falling off .....  | 10   |
| 5.2.7 Prevention of swimming underneath.....   | 11   |
| 5.2.8 Prevention of hazards during movement of the floor .....                           | 11   |
| 5.2.9 Prevention of hazards coming from water depth.....                                 | 11   |
| 5.2.10 Prevention of hazards coming from diving .....                                    | 12   |
| 5.2.11 Prevention of hazards coming from interference with other equipment .....         | 12   |
| 5.3 Moveable bulkheads .....   | 12   |
| 5.3.1 General.....   | 12   |
| 5.3.2 Dimensions.....  | 12   |
| 5.3.3 Structural integrity.....  | 12   |
| 5.3.4 Prevention of entrapment .....   | 12   |
| 5.3.5 Slip resistance .....  | 12   |
| 5.3.6 Prevention of hazards during movement of the bulkhead .....                        | 13   |
| 5.3.7 Prevention of hazards coming from rails.....                                       | 13   |
| 6 Test methods .....   | 13   |
| 6.1 General.....   | 13   |
| 6.2 Closure devices for perimeter gaps – Flexible closure devices – Test procedure ..... | 14   |
| 7 Instructions and information .....   | 16   |
| 7.1 General.....   | 16   |
| 7.2 User manual (Instruction handbook).....  | 16   |
| Annex A (informative) List of significant hazards.....                                   | 18   |
| Bibliography.....  | 21   |

## European foreword

This document (EN 13451-11:2022) has been prepared by Technical Committee CEN/TC 136 “Sports, playground and other recreational facilities and equipment”, 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 June 2023, and conflicting national standards shall be withdrawn at the latest by June 2023.

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

This document supersedes EN 13451-11:2014.

EN 13451-11:2022 includes the following significant technical changes with respect to EN 13451-11:2014:

- normative references have been updated;
- requirements for the recessed ledges and steps have been modified;
- safety requirements for the prevention of interference with the circulation system have been added;
- requirement that no person shall be on the movable floor or bulkhead when moving has been added;
- new Annex A of all thinkable hazards has been added.

The EN 13451 series, under the general title “Swimming pool equipment”, consists of the following parts:

- Part 1: General safety requirements and test methods for equipment installed in pools for public use;
- Part 2: Additional specific safety requirements and test methods for ladders, stepladders and handle bends;
- Part 3: Additional specific safety requirements and test methods for inlets and outlets and water/air based water leisure features installed in pools for public use;
- Part 4: Additional specific safety requirements and test methods for starting platforms;
- Part 5: Additional specific safety requirements and test methods for lane lines and dividing line;
- Part 6: Additional specific safety requirements and test methods for turning boards;
- Part 7: Additional specific safety requirements and test methods for water polo goals;
- Part 10: Additional specific safety requirements and test methods for diving platforms, diving springboards and associated equipment;
- Part 11: Additional specific safety requirements and test methods for moveable pool floors and moveable bulkheads installed in pools for public use.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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

This document is a preview generated by EVS

## Introduction

This document is of relevance, in particular, for the following stakeholder groups representing the market players:

- manufacturers (small, medium and large enterprises);
- health and safety bodies (regulators, accident prevention organizations, market surveillance etc.).

Others can be affected by the level of safety achieved with the means of the document by the above-mentioned stakeholder groups:

- operators/employers (small, medium and large enterprises);
- service providers, e.g. for maintenance (small, medium and large enterprises).

**NOTE** Due to the huge variety of individual drive systems, this document cannot provide specific requirements for each system. A risk assessment based on EN 15288-2 is recommended.

## 1 Scope

This document specifies the safety requirements and the means of their verification for the design and construction of moveable pool floors and moveable bulkheads for use in classified swimming pools as specified in EN 15288-1 and EN 15288-2.

This document deals with all significant hazards, hazardous situations and events, as listed in Annex A, relevant to this equipment when used as intended and under the conditions of misuse reasonably foreseeable by the manufacturer during normal operation and service.

NOTE When requirements of this part of EN 13451 series are different from those which are stated in EN 13451-1, the requirements of this part of EN 13451 series take precedence over the requirements of EN 13451-1 for moveable floors and moveable bulkheads that have been designed and built according to the requirements of this part of EN 13451 series.

This document does not apply to installations or equipment intended to move people into or out of a pool tank.

This document is not applicable to equipment which is manufactured before the date of its publication as a European standard.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13451-1:2020, *Swimming pool equipment — Part 1: General safety requirements and test methods for equipment installed in pools for public use*

EN 13451-4, *Swimming pool equipment — Part 4: Additional specific safety requirements and test methods for starting platforms*

EN 13451-5, *Swimming pool equipment — Part 5: Additional specific safety requirements and test methods for lane lines and dividing line*

EN 13451-6, *Swimming pool equipment — Part 6: Additional specific safety requirements and test methods for turning boards*

EN 15288-1:2018, *Swimming pools for public use — Part 1: Safety requirements for design*

EN 15288-2, *Swimming pools for public use — Part 2: Safety requirements for operation*

EN 62061, *Safety of machinery — Functional safety of safety-related electrical, electronic and programmable electronic control systems*

EN ISO 13849-1, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1)*

EN ISO 13850, *Safety of machinery — Emergency stop function — Principles for design (ISO 13850)*

EN ISO 13857, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857)*

ISO 7010:2019, *Graphical symbols — Safety colours and safety signs — Registered safety signs*