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Mini-pools — Specific requirements including safety and test methods for mini-pools

bsi.

National foreword

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This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Mini-pools - Specific requirements including safety and test methods for mini-pools

Piscinettes - Exigences spécifiques, exigences de sécurité et méthodes d'essai pour piscinettes

Mini-Pools - Spezielle Anforderungen einschließlich Sicherheit und Prüfverfahren für Mini-Pools

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European foreword

This document (EN 16927:2017) has been prepared by Technical Committee CEN/TC 402 “Domestic pools and spas”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by August 2017, and conflicting national standards shall be withdrawn at the latest by August 2017.

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.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document specifies general and safety requirements and test methods that are applicable to domestic mini-pools.

The users of this standard could be either in a business to consumer (B to C) relationship, such as manufacturers, retailers, etc. or in a business to business (B to B) relationship, such as manufacturers, suppliers, distributors, local authorities, etc. Safe products are the basis of the consumers' safety and therefore, this European standard takes into account the following topics:

— product safety requirements;

— safe construction and installation;

— safe use, including information and safety warnings for consumers (e.g. “Don’t leave your child unattended in the mini-pool”).

It should be highlighted that the risk of drowning, particularly for children under 5 years of age, continues to exist during recreational activities in mini-pools, despite their smaller size and volume of water compared to swimming pools.

Attention should also be paid to environmental aspects, according to CEN Guide 4 (e.g. minimizing water being misused when the water is regularly replaced in mini-pools, etc.).

1 Scope

This European Standard specifies the general safety and quality requirements and test methods for domestic mini-pools.

These requirements and test methods are applicable to mini-pool structures, including their installation and possible means of access.

This European Standard does not apply to:

— pools for public use covered by EN 15288-1;

— swimming pools for domestic use covered by EN 16582 series;

— spas for domestic or public use;

— paddling pools according to EN 71-8

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 335, *Durability of wood and wood-based products - Use classes: definitions, application to solid wood and wood-based products*

EN 350, *Durability of wood and wood-based products - Testing and classification of the durability to biological agents of wood and wood-based materials*

EN 351-1, *Durability of wood and wood-based products - Preservative-treated solid wood - Part 1: Classification of preservative penetration and retention*

EN 460, *Durability of wood and wood-based products - Natural durability of solid wood - Guide to the durability requirements for wood to be used in hazard classes*

EN 16582-1:2015, *Domestic swimming pools - Part 1: General requirements including safety and test methods*

EN ISO 4628-3, *Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 3: Assessment of degree of rusting (ISO 4628-3)*

EN ISO 9227, *Corrosion tests in artificial atmospheres - Salt spray tests (ISO 9227)*

ISO 20712-1, *Water safety signs and beach safety flags — Part 1: Specifications for water safety signs used in workplaces and public areas*

3 Terms and definitions

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

3.1
mini-pool
non permanently installed artificial aboveground basin:

— with a maximum wall height < 850 mm;

— with a water depth, measured between the overflow level and the deepest point within the pool of > 400mm;

— with a maximum effective water volume of < 6m^3;

— and where the means of filtration and water treatment are not required

3.2
basin
specific water tank where water-related activities are carried out

3.3
class 4 wood
wood with specific properties for sustaining the situation where the wood or wood-based product is in contact with the ground or fresh water and therefore permanently exposed to wetting

3.4
class 3 wood
wood with specific properties for sustaining the situation where a wood based product is aboveground and exposed to the weather (particularly rain)

3.5
point-of-purchase information
information given to consumer prior to purchase so that they can make informed choices

[SOURCE: EN 16582-1:2015, 3.3]

3.6
water tightness
the degree to which water is prevented from leaking from the pool basin

3.7
liner
removable independent pocket, factory-made from flexible, expandable, plasticized poly(vinyl chloride) (PVC-P) membranes, capable of achieving a certain level of water tightness

3.8
coping
independent add-on feature, which forms the total or partial edge of a basin, on its periphery, in the upper part of the wall

Note 1 to entry: Add-on features with a width greater than or equal to 5 cm are considered as copings.

Note 2 to entry: On some mini-pools, the top coping also functions as the liner lock.

3.9
reinforced membrane
composite made of various thermoplastic sheets, applied on a layer comprising a reinforcement

3.10
membrane
sheet made of calendared or extruded, waterproof and gas-pervious, plasticized poly(vinyl chloride) (PVC-P), packaged in rolls, for use in the manufacture of mini-pool liners

3.11
installation and maintenance manual
document providing instructions and guidelines for set up, operation/use, safety and maintenance

3.12
tool
hand held device that can be used to secure, perform or facilitate mechanical operations

Note 1 to entry: A screw driver, key or coin are considered as tools.

3.13
effective volume of water
capacity guaranteed by the manufacturer and determined from the water depth recommended by the manufacturer

Note 1 to entry: Commonly the proper fill level of the mini-pool will be slightly below the overflow point depending on the specific mini-pool structure (e.g. circa 80 % of overflow volume for self-stabilizing mini-pools, circa 90 % of overflow volume for frame supported mini-pools)

3.14
means of access
design feature to facilitate entry and/or exit of the basin

3.15
ladder
structure used for entering and exiting the basin, formed from rails connected by steps or treads, and/or platform(s)

3.16
entrapment
hazard presented by the situation in which a body, or part of a body, or clothing can become trapped

Note 1 to entry : Entrapment is only considered where the user is not able to free himself/herself.

3.17
adult supervisor
parent or responsible adult appointed by a parent to look after the child(children) to ensure its(their) safety and the safe use of the product

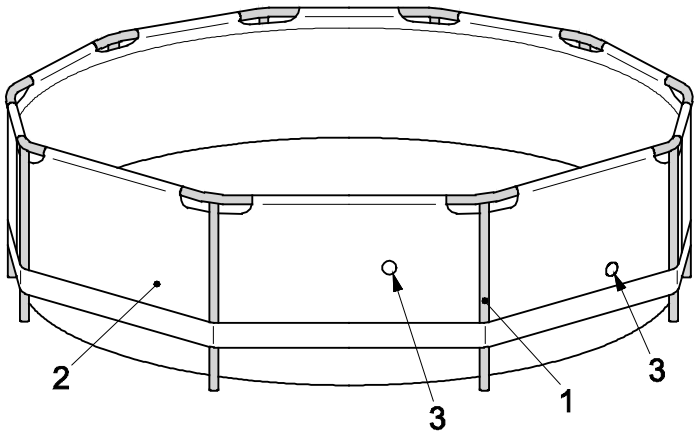
3.18
frame
all of the resistant parts that support and/or reinforce the wall in view of forming the peripheral structure

Note to entry: see Figure 1.

3.19
wall
separating surface forming the boundaries of a closed enclosure with a more or less vertical appearance and delimiting the pool

3.20
frame-supported wall
soft wall whose stability is ensured solely by a provided rigid frame structure

Note 1 to entry: Foundation or ground-anchoring elements are not considered as reinforcements (see Figure 1).



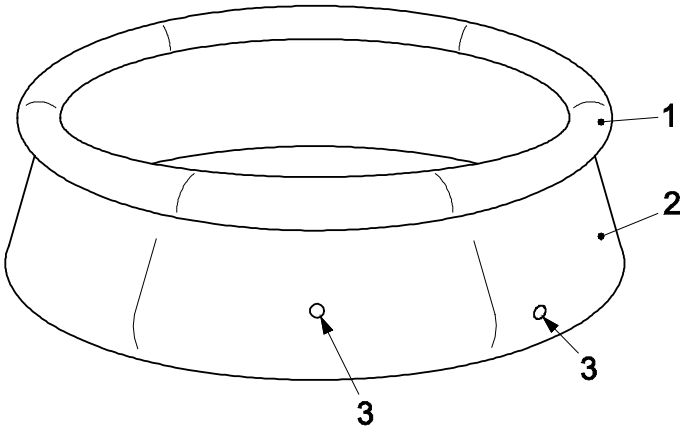
Key
1 Frame
2 Waterproof structure membrane
3 Accessory connections

Figure 1 — Example of frame-supported wall

3.21
self-stabilising wall
flexible wall whose stability is ensured by the presence of water in the mini-pool

Note 1 to entry: see Figure 2

Note 2 to entry Mini-pools with self-stabilizing walls may be equipped with lateral devices that help maintain the product's final shape.



Key

1 Floating tube

2 Watertight flexible structure (e.g. reinforced membrane)

3 Accessory connections

Figure 2 —Example of self-stabilizing wall

3.22
inflatable wall
soft wall made of flexible airtight material whose form and stability is achieved through inflation with air

Note 1 to entry: see Figure 3

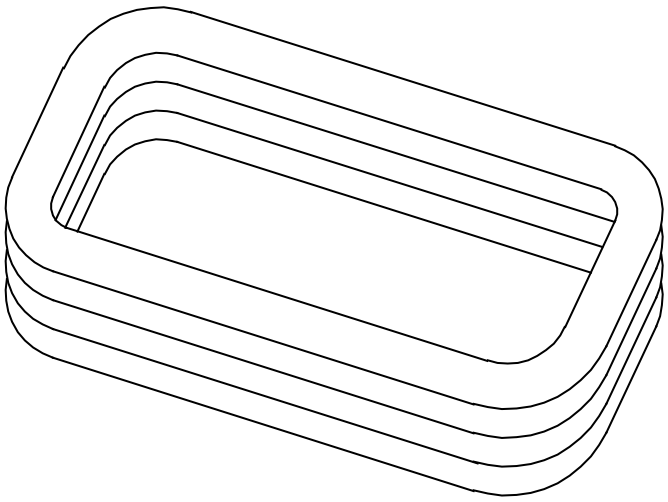
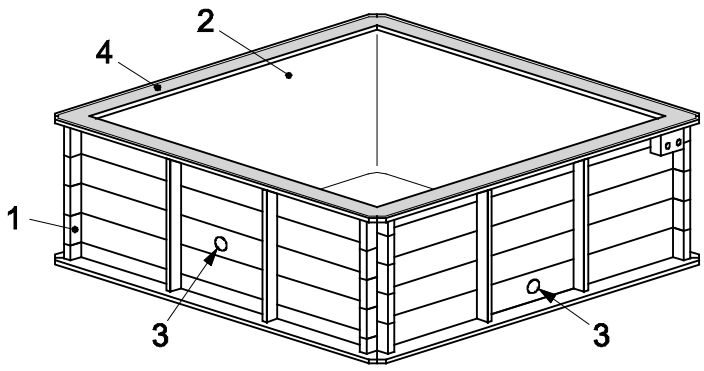


Figure 3 — Example of inflatable walls

3.23
rigid wall
self-supporting wall whose stability is ensured by the rigidity of the material and by the technique of parts to assembly

Note 1 to entry: See Figure 4



Key

1 rigid structure
2 waterproof membrane
3 accessory connections
4 coping (example)

Figure 4 — Example of rigid walls

4 General requirements and test methods

4.1 General

When installed according to the installation and maintenance manual and during use, the mini-pool shall meet the requirements of this document.

When a membrane is used as a watertight system, it is not mandatory to have a minimum thickness, as long as the mini-pools structure passes the performance requirements specified in 4.2 to 4.5.

All the tests are performed on the same sample.

4.2 Mini-pools with frame-supported walls and rigid walls

4.2.1 Resistance to horizontal deformation

4.2.1.1 Requirements

On completion of the test defined in 4.2.1.2, the mini-pool shall not collapse or suffer any permanent deformation affecting its structural integrity (e.g. creating sharp edges, visual breakings, etc.).

4.2.1.2 Test method

Install the mini-pool according to the manufacturer's instructions:

— Fill it with water to the maximum filling level recommended by the manufacturer.

— Place a 400 mm long, 100 mm wide angle bracket on the top of the wall at the most unfavourable place.

— Apply a steadily increasing force, parallel to the ground, over a period of 30 s until it reaches 300 N. Maintain this force for 5 s (see Figure 5).

— The force shall be applied horizontally at the appropriate position on the angle bracket to ensure that the bracket does not tilt and remains parallel to the floor when the force is applied to it.

Dimensions in millimetres

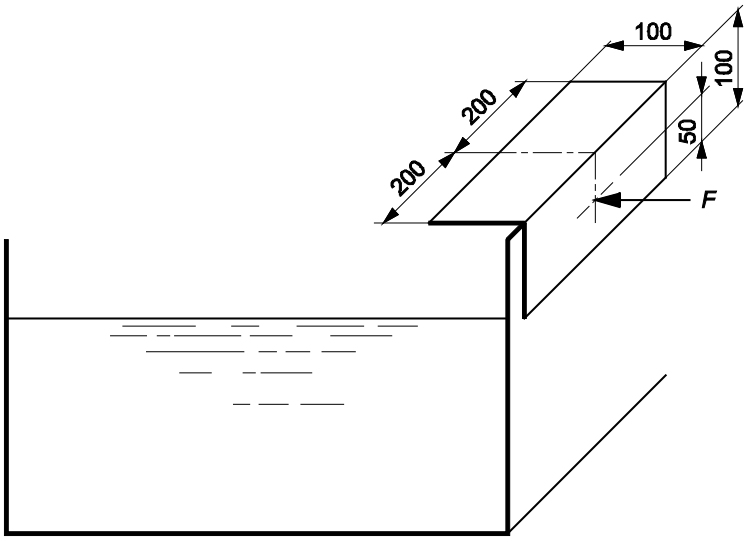


Figure 5 — Resistance to horizontal deformation

4.2.2 Resistance to vertical deformation

4.2.2.1 Requirements

On completion of the test defined in 4.2.2.2, the mini-pool shall not collapse or suffer any permanent deformation affecting its structural integrity (e.g. creating sharp edges, visual breakings, etc.).

4.2.2.2 Test method

Install the mini-pool according to the manufacturer's instructions:

— Fill it with water to the maximum filling level recommended by the manufacturer.

— If the thickness of the top wall is > 50mm, apply a force of 900 N vertically in the axis of the wall, at the position most likely to fail, for 5 min. The test shall be performed on a 300 mm diameter disc.

— If the thickness of the top wall is ≤ 50 mm, apply a force of 300 N vertically in the axis of the wall, at the position most likely to fail, for 5 min. The test shall be performed on a 300 mm diameter disc.

4.2.3 Bursting strength

4.2.3.1 General

The bursting strength test defined in 4.2.3.3 is performed after carrying out the resistance tests for horizontal deformation (4.2.1.2) and vertical deformation (4.2.2.2).

4.2.3.2 Requirements

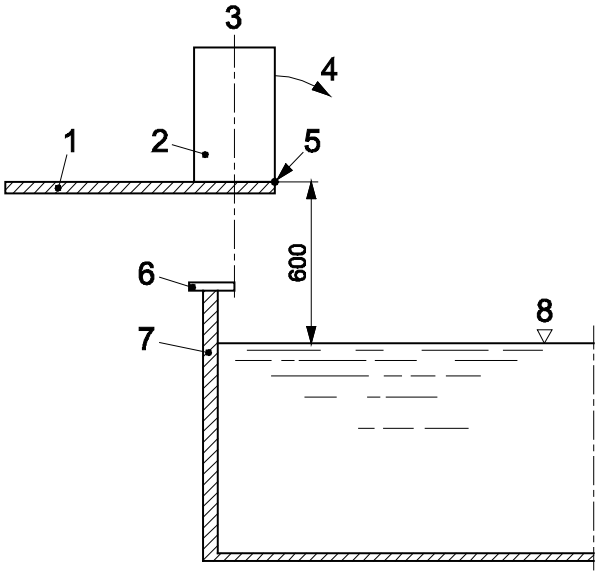
On completion of the test defined in 4.2.3.3, the pool shall not burst and shall not suffer any permanent deformation affecting the product's resistance.

4.2.3.3 Test methods

— Fill the mini-pool with water to the maximum filling level recommended by the manufacturer.

— Bring a plastic cylindrical barrel with a diameter between 400 mm and 500 mm, a capacity of 120 l and a total weight of 120 kg including ballast, in a vertical position, above the pool. The drop height, compared to the water level recommended by the manufacturer, is 600_{0}^{+40} mm. Position the central axis of the barrel vertically aligned with the inner edge (on the water side) of the mini-pool. Apply pressure on the upper edge of the barrel so as to tip the barrel into the pool under its own inertia, at the most unfavourable point. Tip it into the water (see Figure 6)

Dimensions in millimetres



Key

1 barrel support
2 barrel
3 vertical axis of the barrel
4 tip over
5 rotation point for tip over
6 coping
7 wall
8 water level

Figure 6 — Bursting strength test

4.3 Mini-pools with self-stabilizing or inflatable walls

4.3.1 Capacity to stop an overflow

4.3.1.1 Requirement

On completion of the tests described in 4.3.1.2 and in 4.3.1.3, the mini-pool shall not collapse and lose its water retention capability.

4.3.1.2 Mini-pool overflow

— Install the mini-pool, according to the manufacturer's instructions, on a flat horizontal ground (maximum slope allowed is 5 mm/m);

— Fill the mini-pool until it overflows with a flow rate of 2,5 m^3/h minimum and allow it to overflow for 1 min.

4.3.1.3 Behaviour test of the wall under load

— Fill the mini-pool with water to the maximum filling level recommended by the manufacturer.

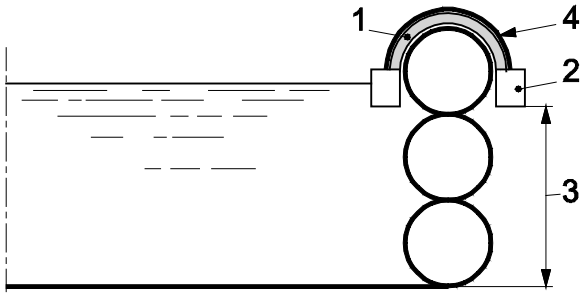
— Place on the tube, at the most unfavourable place, a 0,50 m long rigid half pipe (made of light material e.g. PVC) with a minimum inside diameter of 0,25 m (adapted to the tube size) ballasted with a strap carrying one 40 kg weight on each end (one on the inside of the pool and the other on the outside) (see Figure 7).

— Maintain the load for 3 s at the tube's maximum deflection, the weights being liable to touch the ground.

— Lift the load up immediately after 3 s making sure that the loading device does not interfere during this operation.

NOTE In the case of mini-pools fitted with a strut, this test is performed at the most unfavourable point.

The weights should touch the ground as late as possible (e.g. by reducing the length of the straps)



Key
1 half pipe
2 weights
3 ground clearence
4 strap

Figure 7 — Behaviour test of the wall under load

4.3.2 Inflatable compartments

All of the air inlets provided for inflation shall be fitted with caps permanently secured on an accessible part of each inflatable compartment of the mini-pool. Once this part is inflated, the caps located inside the mini-pool shall be able to be pushed back inside the upper part so that they do not protrude from the surface by more than 5 mm.

The caps of the inflation ports should not be able to become detached and should be protected against accidental removal. The valves shall be fitted in order to prevent an instantaneous deflation.

4.3.3 Stability in the event of deflation of the upper tube of mini-pool with self-stabilizing walls

4.3.3.1 Requirement

On completion of the test described in 4.3.3.2, the mini-pool with self-stabilizing walls shall not collapse.

4.3.3.2 Test method

— Install the mini-pool, according to the manufacturer's instructions, on flat horizontal ground (maximum slope allowed is 5 mm/m).

— Fill the pool with water up to the level normally recommended in the installation manual.

— Open the inflatable part by its normal air release device until it is apparently fully deflated.

4.3.4 Bursting strength

4.3.4.1 Requirement

On completion of the test defined in 4.3.4.2, the mini-pool with self-stabilizing walls shall not burst and shall not present any permanent deformation affecting the product's resistance.

4.3.4.2 Test method

— Fill the mini-pool with water to the maximum filling level recommended by the manufacturer.

— Bring a plastic cylindrical barrel with a diameter between 400 mm and 500 mm, a capacity of 120 l and a total weight of 120 kg including ballast, in vertical position, above the pool. The drop height, compared to the water level recommended by the manufacturer, is 600_{0}^{+40} mm. Position the central axis of the barrel vertically aligned with the inner edge (on the water side) of the mini-pool. Apply pressure on the upper edge of the barrel so as to tip the barrel into the pool under its own inertia, at the most unfavourable point.

— Tip it into the water.

4.4 Tolerances

The indicated dimensions and measurements are given with a tolerance of ± 3 % (unless otherwise indicated). Mini-pools with self-stabilizing or inflatable walls commonly have larger acceptable tolerances.

4.5 Minimum performance requirements for structural materials

4.5.1 General

The structural design and materials shall be in accordance with accepted structural engineering practices. Selection of materials for the construction of the mini-pool shall be conducted under consideration of external influences, including but not limited to, temperature, UV, chemicals, etc., when appropriate, that may influence the structural integrity of the material.

Any combination of different materials in direct contact with each other shall be compatible and not negatively affect each other’s properties or structural integrity.

The requirements of this section do not apply to non-structural elements of the mini-pool, including, but not limited to, elements with solely decorative function.

4.5.2 Specific requirements and testing for corrosion resistance

4.5.2.1 Metal products

Subject a sample per type of metallic surface (other than aluminium) of the wall, before fitting, to a salt spray for 96 h in accordance with EN ISO 9227. At the end of the test, evaluate the results obtained by

reference to the requirements of EN ISO 4628-3. The number of rust specks on the surface should conform to class RI 1 or lower.

4.5.2.2 Wood

Structural elements made of wood or wood-based material shall meet the following requirements according to EN 335:

— use class 3 if they are not in direct contact with ground and / or fresh water

— use class 4 if they are in direct contact with ground and / or fresh water

Compatible woods may be chosen according to two distinct approaches:

— using naturally durable woods (excluding sapwood) as defined in EN 350, that meet the requirements for use in applicable hazard classes in EN 460.

— using wood with conferred durability (preservation treatments while conserving the sapwood), that meets the requirements for use in applicable hazard classes in EN 351-1.

4.6 Injury risks

4.6.1 Small elements, edges and corners

When the mini-pool is being used, any protrusion on accessible parts liable to present a risk of injury shall be protected by a method which in order to be removed, requires the use of a tool or a minimum amount of force of 60 N, with an accuracy of 2 N.

During the installation, equipment made of wood, fibreglass, or other materials shall be free of splinters.

Small accessible and grippable elements shall not fully enter into the template shown in Figure 8 (EN 71-1) or they shall be fixed to the item to which they belong such that they cannot be detached under a force of 60 N, with an accuracy of 2 N, applied in any direction whatsoever.

Dimensions in millimetres

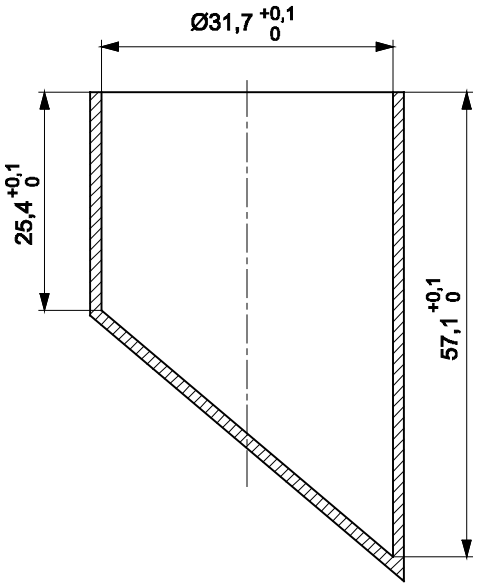


Figure 8 — Template for small elements

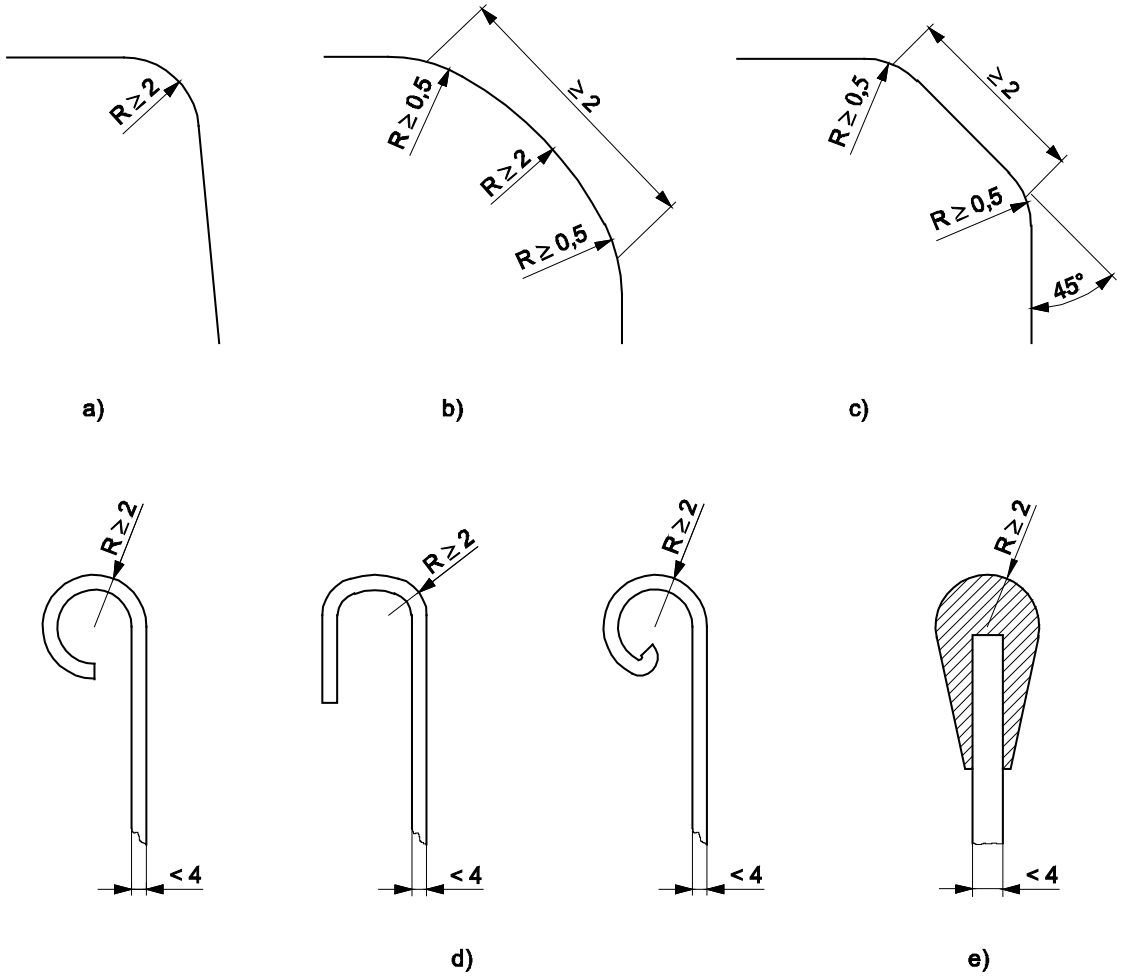
All edges, protruding parts and corners accessible without use of tools or minimum amount of force of 60 N (±2 N) shall be designed not to cause any injury. When necessary they shall be treated appropriately to remove this risk (see Figure 9).

For example, edges can be bevelled or rounded, and surfaces shall be smooth and free from burrs. Examples are provided in Figure 9. If they are due to a wall thickness lower than 4 mm, one of the following requirements applies:

— they shall be folded, rolled or wound in spirals according to Figure 9 d);

— they shall be protected by a plastic coating or by any other suitable means as shown in Figure 9 e).

Dimensions in millimetres



Key

R radius

Figure 9 — Examples of configuration of edges

4.6.2 Permissible openings

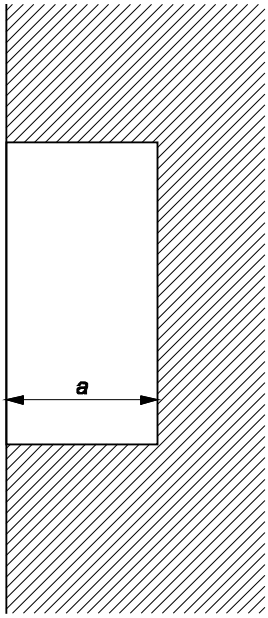
4.6.2.1 Principle

To prevent entrapment hazards inside the pool structure, accessible openings with the lowest point located beyond 500 mm below the maximum water level recommended by the manufacturer shall be

restricted to the range of opening or gap size dimensions specified in 4.6.2.2 to 4.6.2.3, unless specifically permitted in other clauses/annexes of this standard and/or parts of this standard series.

Test methods for entrapment are given in Annex C.

If the depth of penetration (see Figure 10) is less than 10mm, no requirements apply.



Key

a maximum depth penetration: < 10 mm

Figure 10 — Depth of penetration less than 10 mm

4.6.2.2 Finger and toe entrapment

Where there is a risk of finger or toe entrapment, the permissible opening shall be ≤ 8 mm or ≥ 25 mm (see C.2).

4.6.2.3 Head and neck entrapment

Where there is a risk of head or neck entrapment, the permissible opening shall be ≤ 110 mm or ≥ 230 mm.

Where an opening is ≥ 230 mm it should not permit passage to further entrapment hazards.

Where there is a combination of risks, the lesser of the permitted opening sizes shall be used.

4.6.2.4 Other body entrapment

Other permissible openings include the range between 25 mm and 110 mm. When such openings are necessary for the functionality of the mini-pool or its specific features, the manufacturer shall provide the proper safety instructions for safe operation of such feature and alert the consumer of potential risk of entrapment when applicable.

4.7 Accessibility

The mini-pools being lower than 850 mm wall height can be accessed relatively easily therefore constant adult supervision of children is imperative and the only reliable method of ensuring children safety.

The risk of drowning is reasonably foreseeable and especially high for children under 5 years. Accordingly, it is necessary for the adult supervisor to keep the children under competent supervision at all times.

Furthermore keep a telephone or a means of communication near the pool in order to be able to call the emergency services.

Even when the pool is not in use, the following actions shall be considered:

— make the mini-pool inaccessible if possible (e.g. lock doors, windows and access paths to the mini-pool); and/or

— install a protection device; and/or

— empty the mini-pool.

If a specific means of access is used (e.g. ladder) such means of access shall comply with requirements for safe means of access specified in EN 16582-1:2015, 5.4.4.

5 Instructions for the consumer

5.1 General principles

All documents shall contain:

— the following statement: “Please read carefully and keep for future reference”;

— the information to identify the model of the basin, mini-pool to which the document relates;

— the name and contact information of the person responsible for placing the product on the market (manufacturer, distributor or importer).

All instructions shall be legible, clear, comprehensible to the buyer and written in official national languages where the product is sold.

For better comprehension, the use of illustrations is recommended.

When the manufacturer's instructions contain several pages, they shall have numbered pages.

The cautions and warnings shall be highlighted.

Illustrations, if any, shall be placed such that they can be seen while the text referring to them is being read.

The visuals shall not contradict the requirements included in this document.

Where it is not specified in other rules and/or it does not conflict with existing regulations, the manufacturer's instructions need to be considered.

5.2 Point-of-purchase information

To allow the buyer to make a choice, the point-of-purchase information shall indicate the following at least:

— the reference to this document and its following parts if applicable;

— the commercial name or reference;

— the maximum total overall dimension (see examples in Annex A);

— the maximum volume of water as specified by the manufacturer;

— in case of mini-pools with rigid walls, the obligation not to install the mini-pool in the ground;

— safety information and/or pictograms related to the following:

  — awareness of the risk of drowning in the mini-pool;

  — adult supervision of children.

5.3 Installation and maintenance information

Mini-pools shall be accompanied by information necessary or applicable for correct set up and proper use and maintenance such as, but not limited to,:

— selection of appropriate location to prevent the hazard of drowning of young children, install the mini-pool in a place where it is possible for the supervision to be constant;

— the list of all of the parts and the description of the installation phases in chronological order;

— the list of the tools required for the installation and of the materials complementary to the installation of the mini-pool as well as its use;

— the address or telephone number or email address where the consumer can obtain additional information during the installation of the mini-pool, in the event of problems;

— the safety instructions (see examples in Annex B);

— recommendations concerning the filling level;

— if applicable, recommendations concerning the inflation level;

— if appropriate, recommendations concerning the need to monitor bolts and screws; splinters or any sharp edges;

— recommendations on winterising and long-term storage;

— instructions for regular water replacement to maintain water hygiene.

5.4 On-product warnings

All mini-pools shall carry the following warnings:

— the safety sign in Figure 11 and/or the following text: ” Keep children under supervision in the aquatic environment “, and

— the safety sign in Figure 12 and/or the following text: “No diving”.

Figure 11 — Safety sign — ISO 20712-1:—, WSM002, Keep children under supervision in the aquatic environment

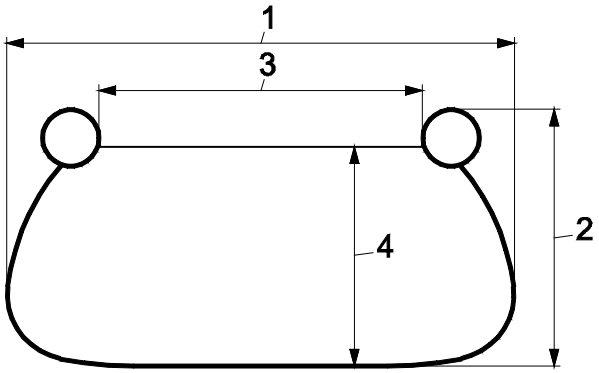
Figure 12 — Safety sign ISO 20712-1:—, WSP005, No diving

Annex A
(informative)

Examples of mini-pool dimensions

Examples of mini-pools dimensions are reported in Figures A.1 to A.4.

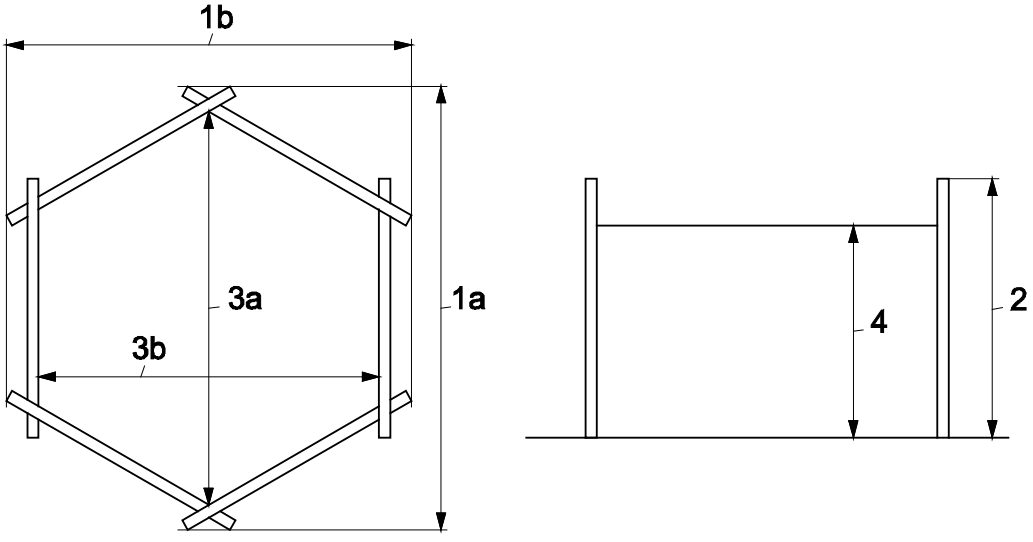
The measures should be taken on the mini-pool installed and filled with the maximum volume of water in accordance with the manufacturer's instructions 10 min after filling.



Key

1 Footprint
2 Overall height
3 Dimensions of the water body
4 Maximum effective water depth

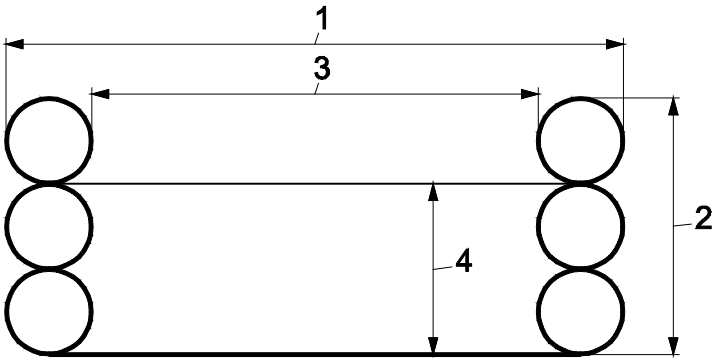
Figure A.1 — Cross-section of mini-pool



Key

1a and 1b	space necessary for installation
2	overall height
3a and 3b	dimensions of the water body
4	maximum effective water depth

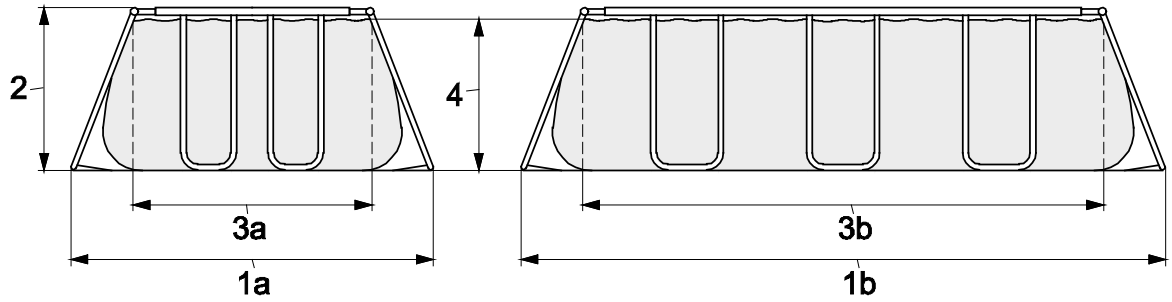
Figure A.2 — Top view and cross-section of a polygonal wooden mini-pool



Key

1 Footprint
2 Overall height
3 Dimensions of the water body
4 Maximum effective water depth

Figure A.3 — Cross section of the mini-pool with inflatable walls



Key

1a and 1b Space necessary for installation
2 Overall height
3a and 3b Dimensions of the water body
4 Maximum effective water depth
NOTE In this case the footprint has to be considered as the largest dimension (e.g. legs extension)

Figure A.4 — Example of frame supported wall

Annex B
(informative)

Safety information in the owner's manual and instruction manual accompanying the mini-pool

This annex provides a non-exhaustive list of examples of safety information regarding risks associated with mini-pools and instructions for proper and safe use of mini-pools as applicable.

Invite the user to carefully read, understand, and follow all information in the user manual before installing and using the mini-pool. These warnings, instructions, and safety guidelines address some common risks of water recreation, but they cannot cover all risks and dangers in all cases. Always use caution, common sense, and good judgment when enjoying any water activity. Retain this information for future use.

Non Swimmers safety

— Continuous, active, and vigilant supervision of weak swimmers and non-swimmers by a competent adult is required at all times (remembering that children under five are at the highest risk of drowning).

— Designate a competent adult to supervise the pool each time it is being used.

— Weak swimmers or non-swimmers should wear personal protection equipment when using the mini-pool.

— When the mini-pool is not in use, remove all toys and appealing objects from the water and the coping to avoid attracting children to the mini-pool

— When the mini-pool is not in use, remove all toys or other objects from its surrounding that could be used by a child as a device to facilitate the access into the mini-pool (e.g. chairs, big toys, etc.).

Safety devices

— It is recommended to install a barrier (and secure all doors and windows, where applicable) to prevent unauthorized access to the mini-pool.

— Personal protective equipment, barriers, pool covers, pool alarms, or similar safety devices are helpful aids, but they are not substitutes for continuous and competent adult supervision.

Safety equipment

— Keep a working phone and a list of emergency phone numbers near the mini-pool.

Safe use of the mini-pool

— Encourage all users especially children to learn how to swim

— Learn Basic Life Support (Cardiopulmonary Resuscitation - CPR) and refresh this knowledge regularly. This can make a life-saving difference in the event of an emergency.

— Instruct all mini-pool users, including children, what to do in case of an emergency

— Never dive into any shallow body of water. This can lead to serious injury or death.

— Do not use the mini-pool when using alcohol or medication that may impair your ability to safely use the mini-pool.

— When pool covers are used, remove them completely from the water surface before entering the pool.

— Replace water regularly according to manufacturer recommendations and, depending on hygienic conditions, its cleanliness, its clarity, and its odour, or if any debris or stains are present in the mini-pool. Use of chemicals in mini-pools without water circulation may result in direct contact with the chemicals or in areas of high chemical concentration resulting in injury to the users.

— If chemicals are occasionally used to reduce the frequency of water replacement, follow chemicals manufacturer instructions closely (especially never use more than recommended), ensure the appropriate mixing of chemicals to avoid possible personal injuries and store chemicals out of reach of children.

— The use and installation of any electrical appliances around mini-pools shall be in accordance with the national regulations

— Where applicable, remove any means of access from the mini-pool and store it out of reach of children whenever the mini-pool is not in use.

— Use of accessories not approved by the mini-pool manufacturer (e.g. ladders, covers, pumps, etc.) may result in risks of injuries or property damages,

— Use the signage as outlined below (see Figure 11 and Figure 12).

Annex C
(normative)

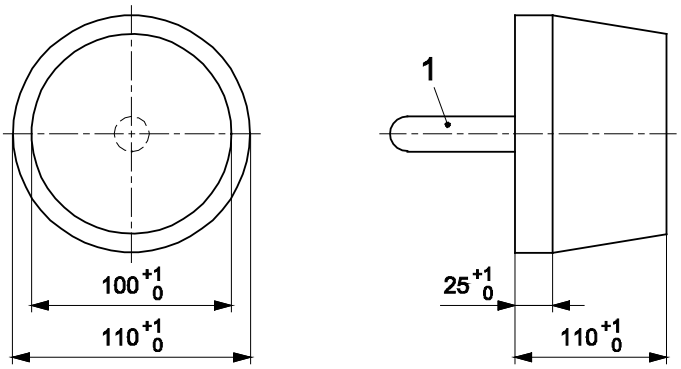
Methods of test for entrapment

C.1 Head and neck entrapment

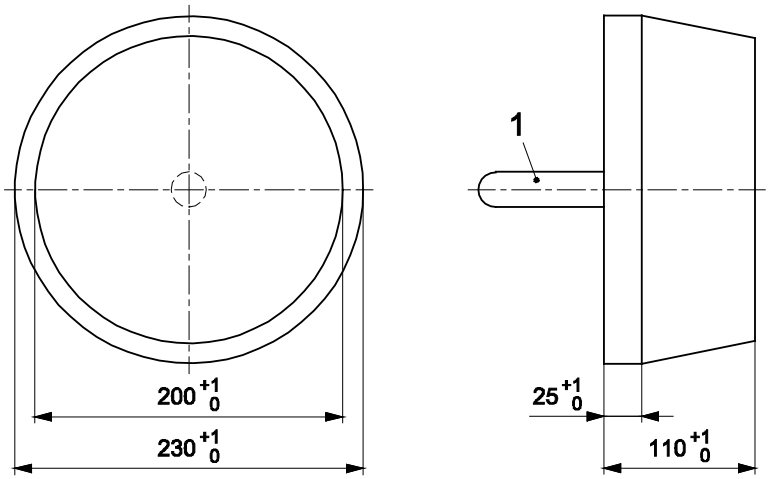
C.1.1 Apparatus

Probes A and B, as illustrated in Figure C.1.

Dimensions in millimetres



a) Probe A



b) Probe B

Key
1 Handle

Figure C.1 — Probes for determination of head and neck entrapment

C.1.2 Test method

Under normal operating conditions apply successively probes A and B to the minimum cross-section of each opening, applying a force of 200 N. Record and report if the probes pass or do not pass through the opening. If probe A passes through the opening; note the clearance dimension.

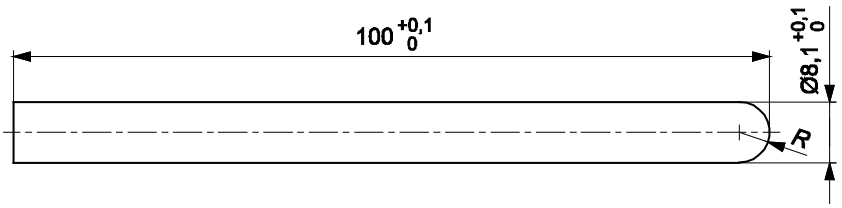
C.2 Finger and toe entrapment

C.2.1 Apparatus

Probe C, as illustrated in Figure C.2.

Probe D, as illustrated in Figure C.3.

Dimensions in millimetres



Key
R radius

Figure C.2 — Probe C for determination of finger and toe entrapment

C.2.2 Test method

Under normal operating conditions apply probe C and probe D to the minimum cross-section of the opening, rotating the probes and moving them through the conical arc shown in Figure C.4, whilst applying a force of 50 N. Record and report if the probes pass or do not pass through the opening. The test is passed if probe C does not pass through the opening or if probes C and D both pass through the opening.

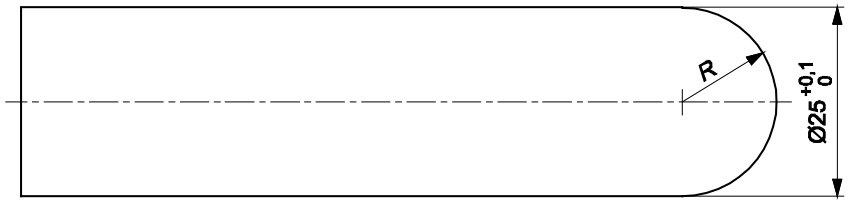
C.3 Other body parts entrapment

C.3.1 Apparatus

Probe D, as illustrated in Figure C.3.

Probe A, as illustrated in Figure C.1.

Dimensions in millimetres



Key
R radius

Figure C.3 — Probe D for determination of other body parts entrapment

C.3.2 Test method

Under normal operating conditions apply successively probes A and D to the minimum cross-section of the opening, applying a force of 50 N. Probe D shall also be rotated and moved through the conical arc shown in Figure C.4. Record and report if the probes pass or do not pass through the opening.

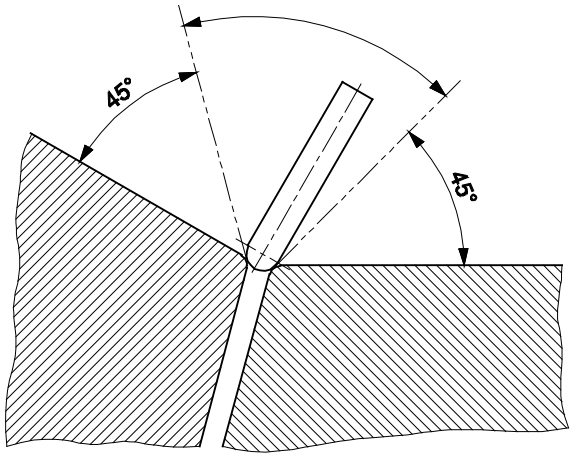


Figure C.4 — Rotation of probes C and D

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