



BSI Standards Publication

Plastics — Plasticized poly(vinyl chloride) (PVC-P) membranes for inground swimming pools

Part 2: Reinforced membranes of nominal thickness equal to or greater than 1,5 mm

National foreword

This British Standard is the UK implementation of EN 15836-2:2010.

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A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

**Plastics - Plasticized poly(vinyl chloride) (PVC-P) membranes
for inground swimming pools - Part 2: Reinforced membranes of
nominal thickness equal to or greater than 1,5 mm**

Plastiques - Membranes en poly(chlorure de vinyle) plastifié
(PVC-P) pour piscines enterrées - Partie 2: Membranes
armées d'épaisseur nominale supérieure ou égale à 1,5
mm

Kunststoffe - Kunststoffbahnen aus weichmacherhaltigem
Polyvinylchlorid (PVC-P) für erdverlegte Schwimmbäder -
Teil 2: Verstärkte Bahnen mit einer Nenndicke von
mindestens 1,5 mm

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Foreword

This document (EN 15836-2:2010) has been prepared by Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by NBN.

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of an identical text or by endorsement, at the latest by December 2010, and conflicting national standards shall be withdrawn at the latest by December 2010.

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.

EN 15836, *Plastics — Plasticized poly(vinyl chloride) (PVC-P) membranes for inground swimming pools*, consists of the following parts:

- *Part 1: Homogenous membranes of nominal thickness equal to or greater than 0,75 mm*
- *Part 2: Reinforced membranes of nominal thickness equal to or greater than 1,5 mm* [this standard]

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies the visual, dimensional, mechanical and durability characteristics of reinforced membranes made of plasticized poly(vinyl chloride) (PVC-P) sheets assembled together a polyester reinforcement, whose nominal thickness is greater than or equal to 1,5 mm, intended to be used to contribute to the leaktightness of inground swimming pools, implemented in situ. It also specifies the characteristics of the composition of the PVC-P used to produce the membranes.

It applies specifically to reinforced membranes intended for use in swimming pools where the water temperature is less than or equal to 32 °C. If the membrane manufacturer permits a temperature of water continuously maintained above 32 °C, this document also applies.

2 Normative references

The following referenced documents are indispensable for the application 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 438-2:2005, *High-pressure decorative laminates (HPL) — Sheets based on thermosetting resins (usually called Laminates) — Part 2: Determination of properties*

EN 495-5, *Flexible sheets for waterproofing — Determination of foldability at low temperature — Part 5: Plastic and rubber sheets for roof waterproofing*

EN 1107-2, *Flexible sheets for waterproofing — Determination of dimensional stability — Part 2: Plastic and rubber sheets for roof waterproofing*

EN 1848-2, *Flexible sheets for waterproofing — Determination of length, width, straightness and flatness — Part 2: Plastic and rubber sheets for roof waterproofing*

EN 1849-2, *Flexible sheets for waterproofing — Determination of thickness and mass per unit area — Part 2: Plastic and rubber sheets*

EN 1850-2:2001, *Flexible sheets for waterproofing — Determination of visible defects — Part 2: Plastic and rubber sheets for roof waterproofing*

EN 12310-2, *Flexible sheets for waterproofing — Determination of resistance to tearing — Part 2: Plastic and rubber sheets for roof waterproofing*

EN 12311-2:2000, *Flexible sheets for waterproofing — Determination of tensile properties — Part 2: Plastic and rubber sheets for roof waterproofing*

EN 12316-2, *Flexible sheets for waterproofing — Determination of peel resistance of joints — Part 2: Plastic and rubber sheets for roof waterproofing*

EN 20105-A02, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour (ISO 105-A02:1993)*

EN ISO 62:2008, *Plastics — Determination of water absorption (ISO 62:2008)*

EN ISO 175:2000, *Plastics — Methods of test for the determination of the effects of immersion in liquid chemicals (ISO 175:1999)*

EN ISO 291, *Plastics — Standard atmospheres for conditioning and testing (ISO 291:2008)*

EN ISO 846:1997, *Plastics — Evaluation of the action of microorganisms (ISO 846:1997)*

EN ISO 4892-2:2006, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps* (ISO 4892-2:2006)

EN ISO 5470-1:1999, *Rubber- or plastics-coated fabrics — Determination of abrasion resistance — Part 1: Taber abrader* (ISO 5470-1:1999)

3 Terms, definitions, symbols and abbreviations

3.1 Terms and definitions

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

3.1.1

reinforced membrane

sheet made of plasticized poly(vinyl chloride) sheets and a polyester reinforcement

NOTE 1 These membranes can be manufactured e.g. by extrusion, calendering or cast spreading.

NOTE 2 The membrane is waterproof and gas-pervious, package in roll form and intended to be implemented in situ.

3.1.2

inground swimming pool

permanent installation containing treated water for water activities totally or partially realized under the ground level with a water depth $\geq 0,85$ m or a water volume ≥ 8 m³

3.2 Symbols

E_n thickness of the membrane declared by the manufacturer, in millimetres

I_n width declared by the manufacturer, in metres or millimetres

L_n length of the roll declared by the manufacturer, in metres

M_s mass per unit area declared by the manufacturer, in grams per square metre

3.3 Abbreviations

CaCO₃ calcium carbonate

PVC-P plasticized poly(vinyl chloride)

4 Sampling and conditioning

4.1 Sampling

The test pieces shall be taken only from rolls of unused membranes.

4.2 Conditioning of test pieces

Unless otherwise specified by the applicable test method, the test pieces used for the determination of the characteristics shall be conditioned before testing for at least 4 h in standard atmosphere 23/50 [(23 ± 2) °C, (50 ± 10) % HR] according to EN ISO 291.