SLOVENSKI STANDARD
SIST EN 60598-2-18:1995

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Luminaires - Part 2: Particular requirements - Section 18: Luminaires for swimming pools and similar applications

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Leuchten -- Teil 2: Besondere Anforderungen -- Hauptabschnitt 18: Leuchten für Schwimmbecken und ähnliche Anwendungen

Luminaires -- Partie 2: Règles particulières -- Section 18: Luminaires pour piscines et usages analogues

Ta slovenski standard je istoveten z: **EN 60598-2-18:1994**

ICS:

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97.220.40	Oprema za športe na prostem in vodne športe	Outdoor and water sports equipment

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ENGLISH VERSION

Luminaires
Part 2: Particular requirements
Section 18: Luminaires for swimming pools and similar applications
(IEC 598-2-18:1993, modified)

Luminaires
Partie 2: Règles particulières
Section 18: Luminaires pour piscines et usages analogues

(CEI 598-2-18:1993, modifiée)

Leuchten
Teil 2: Besondere Anforderungen
Hauptabschnitt 18: Leuchten für Schwimmbecken und ähnliche Anwendungen

(IEC 598-2-18:1993, modifiziert)

This European Standard was approved by CENELEC on 1994-05-15. CENELEC 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 Central Secretariat or to any CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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FOREWORD

At the request of the CENELEC Technical Committee TC 34Z, Luminaires and associated equipment, the International Standard IEC 598-2-18:1993 was submitted to the CENELEC Unique Acceptance Procedure (UAP) in July 1993 for acceptance as a European Standard.

The text of the International Standard was approved by CENELEC as EN 60598-2-18 on 15 May 1994.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1995-03-01

- latest date of withdrawal of conflicting national standards (dow) 1995-03-01

For products which have complied with EN 60598-2-18:1989 + A2:1991 before 1995-03-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2000-03-01.

ENDORSEMENT NOTICE

The text of the International Standard IEC 598-2-18:1993 was approved by CENELEC as a European Standard with agreed common modifications as given below.

Clause	Common Modification
18.10.4	Delete the text 'those of type 245 IEC 57 ... 450/750 V' and substitute the following: 'cords of the type HO5RN-F.'
18.10.5	Delete the text 'those of type 245 IEC 57 in IEC 245' and substitute the following: 'cords of the type HO5RN-F'.

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Luminaires

Partie 2:
Règles particulières
Section 18: Luminaires pour piscines et usages analogues

Luminaires

Part 2:
Particular requirements
Section 18: Luminaires for swimming pools and similar applications

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LUMINAIRES

Part 2: Particular requirements
Section 18: Luminaires for swimming pools and similar applications

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

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3) They have the form of recommendations for international use published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.

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5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

This part of International Standard IEC 598 has been prepared by sub-committee 34D: Luminaires, of IEC technical committee 34: Lamps and related equipment. It is one section of the multi-section IEC 598.

This second edition of IEC 598-2-18 replaces the first edition (1984), Amendment No. 1 (1987) and Amendment No. 2 (1990).

The text of this standard is based on the following documents:

Six Months' Rule	Reports on Voting
34D(CO)111 34D(CO)169 34D(CO)225	34D(CO)128 34D(CO)185 34D(CO)243

Full information on the voting for the approval of this standard can be found in the reports on voting indicated in the above table.

This publication shall be read in conjunction with IEC 598-1: *Luminaires, Part 1: General requirements and tests.*

LUMINAIRES

Part 2: Particular requirements
Section 18: Luminaires for swimming pools and similar applications

18.1 Scope

This section of Part 2 of IEC 598 specifies requirements for fixed luminaires intended for use in the water, or in contact with the water, in, for example, the basins of swimming pools, fountains, paddling pools, and garden pools, and for use with tungsten filament lamps.

NOTE – Electrical installation rules for swimming pools are given in IEC 364-7-702: *Electrical installations of buildings – Part 7: Requirements for special installations or locations – Section 702: Swimming pools.*

This section does not cover luminaires not in contact with the water (e.g. mounted behind a glass panel which is separate from the luminaire) or hand-held or portable luminaires. It is to be read in conjunction with those sections of Part 1 to which reference is made.

18.2 General test requirements

The provisions of Section Zero of IEC 598-1 apply. The tests described in each appropriate section of Part 1 shall be carried out in the order listed in this section of Part 2; reference to other sections of Part 1 should be made as necessary.

18.3 Definitions

For the purposes of this section the definitions of Section One of IEC 598-1 apply.

18.4 Classification of luminaires

Luminaires shall be classified in accordance with the provisions of Section Two of IEC 598-1 together with the requirements of sub-clauses 18.4.1 to 18.4.3.

18.4.1 Luminaires shall be Class III for protection against electric shock and shall have external and internal circuits which operate on voltages not exceeding 12 V.

18.4.2 Luminaires shall be classified according to the degree of protection against the ingress of moisture and dust as follows:

18.4.2.1 For those parts of luminaires which are in contact with the water of the pool, fountain, etc., the classification shall be pressure watertight (IPX8).

18.4.2.2 For those parts of luminaires which are not in contact with the water of the pool, fountain, etc., the classification shall be at least dustproof and splashproof (IP54).

18.4.3 Luminaires shall be classified according to the manner of mounting, lamp changing and connection to the supply as follows:

18.4.3.1 *Category A.* Luminaires for which connection to the supply and replacement of lamps takes place from the side of the luminaire which is not in contact with the water.

18.4.3.2 *Category B.* Luminaires for which replacement of lamps takes place from the side of the luminaires in contact with the water but after the water of the pool has been partially or completely drained.

18.4.3.3 *Category C.* Luminaires which are completely removed from the water for replacement of lamps.

18.5 Marking

The provisions of Section Three of IEC 598-1 apply together with the requirements of subclauses 18.5.1 to 18.5.4.

18.5.1 Luminaires intended only for use in water shall be marked:

"For use only when immersed in water"

18.5.2 Luminaires intended for use with safety isolating transformers shall be marked:

"For operation only with safety isolating transformer"

according to IEC 742: *Isolating transformers and safety isolating transformers – Requirements.*

Symbol:

The output of the transformer (in voltamperes) shall be given on the luminaire or in the installation leaflet supplied with the luminaire.

18.5.3 Luminaires shall be supplied with the installation instructions firmly attached to the luminaire. These instructions shall detail all information necessary for mounting, connecting to the supply, operation and maintenance of the luminaire.

18.5.4 In the instruction leaflet supplied with the luminaire, the manufacturer shall provide advice on the mounting of the luminaire with particular regard to corrosion, for example aluminium and its alloys in contact with concrete or similar materials and the electro-chemical action of dissimilar metals.

In providing information for the correct installation of luminaires, the manufacturer shall take account of the requirements of IEC 364-7-702.

18.6 Construction

The provisions of Section Four of IEC 598-1 apply together with the requirements of subclauses 18.6.1 and 18.6.2.

18.6.1 Luminaires shall be subjected to a test for mechanical strength as follows:

Those parts of the luminaire, including protective glasses, which are in contact with the water in normal use shall be subjected to an impact test with an impact energy of 0,7 Nm in the direction of the water pressure. The test shall be carried out in free air. After this test the sample shall show no unacceptable damage (see Part 1, subclause 4.13).

18.6.2 Luminaires shall be subjected to a corrosion test as follows:

Those parts of the luminaire which are in contact with water in normal use shall be immersed in artificial sea water at a temperature of (25 ± 2) °C for a period of 14 days. After this treatment the parts shall show no signs of corrosion or roughening of their surfaces. Traces of corrosion removable by rubbing shall be ignored.

Artificial sea water is made as follows:

Solution A

28,0 g NaCl

5,0 g $MgCl_2 \cdot 6H_2O$

2,4 g $CaCl_2 \cdot H_2O$

Solution B

7,0 g $MgSO_4 \cdot 7H_2O$

0,2 g $NaHCO_3$

dissolved in 100 ml of distilled water.

Solution B is added to solution A slowly and well mixed. The mixture is allowed to stand for 24 h and is then filtered. Finally the pH value of the mixture is adjusted to between 7 and 8 by adding additional sodium bicarbonate ($NaHCO_3$). It is convenient to pass air bubbles through the mixture during the stabilization of the pH value.

The materials of the test device shall be such that they have no influence on the results of the test.

18.7 Creepage distances and clearances

The provisions of Section Eleven of IEC 598-1 apply.

18.8 Provisions for earthing

The provisions of Section Seven of IEC 598-1 do not apply.