



**SLOVENSKI STANDARD**  
**SIST EN 60357:1999/A9:1999**  
**01-julij-1999**

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**Tungsten halogen lamps (non-vehicle) - Amendment A9 (IEC 60357:1982/A9:1996)**

Tungsten halogen lamps (non-vehicle)

Halogen-Glühlampen (Fahrzeuglampen ausgenommen)

Lampes tungstène-halogène (véhicules exceptés)

**Ta slovenski standard je istoveten z: EN 60357:1988/A9:1996**

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**ICS:**

29.140.20      Žarnice z žarilno nitko      Incandescent lamps

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EUROPEAN STANDARD

**EN 60357/A9**

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 1996

UDC 621.327.534:620.1  
ICS 29.140.20

Descriptors: Lighting fitting, tungsten filament lamp, halogen lamp, electrical characteristic, dimension, maximum pinch temperature, condition of use

English version

**Tungsten halogen lamps (non-vehicle)  
(IEC 357:1982/A9:1996)**Lampes tungstène-halogène  
(véhicules exceptés)  
(CEI 357:1982/A9:1996)Halogen-Glühlampen  
(Fahrzeuglampen ausgenommen)  
(IEC 357:1982/A9:1996)**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**[SIST EN 60357:1999/A9:1999](https://standards.iteh.ai/catalog/standards/sist/4ad6e24a-7597-41a8-8eef-81186435ddd6/sist-en-60357-1999-a9-1999)<https://standards.iteh.ai/catalog/standards/sist/4ad6e24a-7597-41a8-8eef-81186435ddd6/sist-en-60357-1999-a9-1999>

This amendment A9 modifies the European Standard EN 60357:1988; it was approved by CENELEC on 1996-03-05. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

### Foreword

The text of document 34A/612/FDIS, future amendment 9 to IEC 357:1982, prepared by SC 34A, Lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A9 to EN 60357:1988 on 1996-03-05.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1996-12-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 1996-12-01

For products which have complied with EN 60357:1988 and its amendments A4:1991, A5:1993, A6:1994, A7:1994 and A8:1995 before 1996-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2001-12-01.

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### Endorsement notice

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The text of amendment 9:1996 to the International Standard IEC 357:1982 was approved by CENELEC as an amendment to the European Standard without any modification.

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NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC  
357

Deuxième édition  
Second edition  
1982

Modifiée selon les amendements:  
Amended in accordance with amendments:  
1(1984), 2(1985), 3(1987), 4(1989), 5(1992),  
6(1993), 7(1994), 8(1995) et/and 9(1996).

Lampes tungstène-halogène  
(véhicules exceptés)

Tungsten halogen lamps  
(non-vehicle)

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Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## SECTION TWO – PROJECTION LAMPS

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 Lamp data sheets - 1999

## SECTION THREE – PHOTOGRAPHIC LAMPS

*Lamp data sheets*

## SECTION FOUR – FLOODLIGHT LAMPS

*Lamp data sheets*

## SECTION FIVE – SPECIAL PURPOSE LAMPS

*Lamp data sheets*

## SECTION SIX – GENERAL PURPOSE LAMPS

*Lamp data sheets*

## SECTION SEVEN – STAGE LIGHTING LAMPS

*Lamp data sheets*

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## TUNGSTEN HALOGEN LAMPS (NON-VEHICLE)

### SECTION ONE – GENERAL

#### 1 Scope

This standard specifies dimensions and characteristics of tungsten halogen lamps.

The standard has been divided into sections according to the following lamp applications:

PROJECTION  
PHOTOGRAPHIC (including studio)  
FLOODLIGHTING  
SPECIAL PURPOSE  
GENERAL PURPOSE  
STAGE LIGHTING

Lamps for automobile, aircraft and similar applications are not covered by this standard.

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NOTE - Projection lamps include those used for cinematograph and still projection applications.

The specific requirements for tubular low-pressure tungsten halogen lamps are given in Clause 9.

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The requirements for lamp caps are given in IEC Publication 61-1.

For the purpose of this standard the following voltage designations apply:

<i>Voltage designation</i>	<i>Range of supply voltage</i>
A	< 50 V
B	50-170 V
C	> 170-250 V

#### 2 Limits on maximum watts

Lamps covered by this standard shall have a maximum wattage at rated voltage as follows:

Maximum wattage = rated wattage +8 %

Except where the standard sheet states:

Maximum wattage = rated wattage +12 %

For each type, 95 % of production shall comply with this requirement.

### 3 Guidance for the application of tungsten halogen lamps

The life of tungsten halogen lamps will be adversely affected by switching-on with, and/or operation at, supply voltages which are higher than the lamp rated voltage.

Lamps which are designed for use on higher supply voltages (voltage designations B and C will, in general, tolerate larger increases in supply voltage than those of low rated voltage (voltage designation A) particularly those lamps designed for very high luminous efficacy and/or high correlated colour temperature.

Luminous efficacy and correlated colour temperature are closely related to the attainable lamp life, therefore, rated lamp voltage and declared lamp life are good indicators of the degree of overvoltage which is tolerable to achieve acceptable lamp performance.

For this purpose the following guidelines should be observed.

Declared lamp life (h)	Maximum percentage of rated lamp voltage	
	Voltage designation A	Voltage designation B and C
< 25	100 %	110 %
25 to < 50	105 %	
50 to < 200	108 %	
≥ 200	110 %	

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NOTES <https://standards.iteh.ai/catalog/standards/sist/4ad6e24a-7597-41a8-8eef-81186435ddd6/sist-en-60357-1999-a9-1999>

1 If lamps are marked with a voltage range, the rated voltage shall be taken as the mean of the voltages marked.

2 Better control of voltage fluctuations can be obtained by use of a properly designed power supply. This is particularly applicable to lamps of voltage designation A.

Series operation of ELV lamps (voltage designation A) is not permitted unless the lamps are especially designed for such operation and approved for such use by the lamp manufacturer.

Special circuits which suitably limit the lamp voltage and/or current are also permitted.

### 4 Cautionary notices

#### 4.1 Cautionary notice for photographic and floodlight lamps

It is recommended that cautionary notices should be supplied with tungsten halogen photographic and floodlight lamps. These notices should cover at least the following minimum requirements and should be based on the wording shown below:

"*Caution:* To ensure maximum safety, the following precautions should be observed:

- a) The luminaire should be provided with a protective shield.
- b) Disconnect the luminaire from the power supply before removing or installing a lamp or an equipment fuse.



c) When installing a lamp do not remove the protective cover – if provided – until the lamp has been inserted into the equipment.

If the quartz bulb has been touched by bare fingers it should be cleaned before use, using a clean, lint-free cloth moistened with methylated spirit.

d) Always operate the lamp in series with a fuse rated for a current of \_\_\_\_\_<sup>2)</sup> amperes. and complying with \_\_\_\_\_<sup>2)</sup>.

e) Avoid improper use of the lamp, such as:

- i) burning positions other than those recommended by the manufacturer;
- ii) operation at over-voltage, or for a longer period than specified;

iii) operation in conjunction with improper fuses or equipment not specifically designed for that type and rating of the lamp.

f) Care should be taken when inserting double-ended tubular lamps that the pip of the exhaust tube does not touch any part of the luminaire."

#### NOTES

1 If required by IEC 598 or equivalent National Standard:

2) The manufacturer shall specify the rated value for this fuse and the relevant standard as given in table I, subclause 5.1 or table II, subclause 5.2.

Non observance of these precautions may lead to damage to the lamp and equipment, and, in extreme cases, to bursting of the lamp.

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#### Note to equipment manufacturers

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Since specific conditions may have to be observed to ensure correct and safe operation of the lamp, equipment manufacturers should request the latest detailed information from the lamp manufacturers.

#### 4.2 Cautionary notice for general purpose tungsten halogen lamps

In subclause 4.21 of IEC 598-1, guidance is given on lamps for which the luminaire has to be fitted with a protective shield.

In order to draw the user's attention to this fact, it is recommended that a cautionary notice should be supplied with such lamps, based on the following wording:

"The luminaire shall be provided with a protective shield."

A corresponding pictogram is under consideration.

### 5 Use of external fuses

#### 5.1 Photographic lamps

The current ratings for the fuses that are recommended in the cautionary notices (item d) of clause 4 of the cautionary notices) should be in accordance with table I: