

## **Torukujuliste luminofoorlampide liiteseadised. Üld- ja ohutusnõuded**

Ballasts for tubular fluorescent lamps - General and safety requirements

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60920:2001 sisaldab Euroopa standardi EN 60920:1991+A1,2,11:2000 ingliskeelset teksti.

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electric ballast, fluorescent lamp, lighting equipment, protection against electric shocks, safety requirement, test, tubular lamp

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English version

**Ballasts for tubular fluorescent lamps**  
**General and safety requirements**  
(IEC 920 : 1990)

Ballasts pour lampes tubulaires à fluorescence  
— Prescriptions générales et prescriptions de  
sécurité  
(CEI 920 : 1990)

Vorschaltgeräte für röhrenförmige  
Leuchtstofflampen  
Allgemeine und Sicherheitsanforderungen  
(IEC 920 : 1990)

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

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## **Foreword**

Following a decision taken by CENELEC Technical Committee TC 34Z at their meeting in Brussels in February 1989, the International Standard IEC 920 : 1990 was submitted to the CENELEC Unique Acceptance Procedure (UAP) in August 1990 for acceptance as a European Standard.

The text of the reference document was approved by CENELEC as EN 60920 on 15 March 1991.

The following dates were fixed:

- latest date of publication (top) 1992-03-01  
of an identical national  
standard
- latest date of withdrawal (down) 1992-03-01  
of conflicting national  
standards

For products which have complied with the relevant national standard before 1992-03-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1997-03-01.

Annexes designated 'normative' are part of the body of the standard. Annexes designated 'informative' are given only for information. In this standard, annex ZA is normative and annex ZB is informative.

## **Endorsement notice**

The text of the International Standard IEC 920 : 1990 was approved by CENELEC as a European Standard without any modification.

## CONTENTS

	Page
INTRODUCTION .....	4
SECTION ONE - GENERAL REQUIREMENTS	
Clause	
1. Scope .....	5
2. Definitions .....	5
3. General requirements .....	8
4. General notes on tests .....	9
5. Classification .....	9
6. Marking .....	10
SECTION TWO - SAFETY REQUIREMENTS	
7. Protection against accidental contact with live parts .....	12
8. Terminals .....	13
9. Provision for earthing .....	13
10. Moisture resistance and insulation .....	14
11. Thermal endurance of windings .....	14
12. Ballast heating .....	15
13. Screws, current-carrying parts and connections .....	19
14. Creepage distances and clearances .....	19
15. Resistance to heat and fire .....	20
16. Resistance to corrosion .....	21
APPENDIX A - Tests : General requirements and tests referring to Section Two .....	22
APPENDIX B - Particular requirements for thermally protected ballasts .....	32
APPENDIX C - The use of constants $S$ other than 4 500 in $t_w$ tests .....	40
APPENDIX D - Information for carrying out the heating tests of thermally protected ballasts .....	43
FIGURES .....	45
ANNEX ZA (normative) — Other international publications quoted in this standard with the references of the relevant European publications .....	49
ANNEX ZB (informative) — National A-deviations .....	50

## BALLASTS FOR TUBULAR FLUORESCENT LAMPS

### GENERAL AND SAFETY REQUIREMENTS

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#### Introduction

This standard covers general and safety requirements for ballasts for tubular fluorescent lamps; section one describes general requirements and section two gives safety requirements.

Performance requirements for these ballasts are the subject of IEC Publication 921.

*Note.-* Safety requirements ensure that electrical equipment constructed in accordance with these requirements does not endanger the safety of persons, domestic animals or property when properly installed and maintained and used in applications for which it was intended.

Relevant clauses of this standard, for example those dealing with thermal endurance tests for windings, apply also to ballasts which form an integral part of a luminaire and which cannot be tested separately.

The thermal characteristics of ballasts are specified by the rated maximum operating temperature of the winding (symbol  $t_w$ ) which shall not be exceeded in order to ensure a sufficient length of life for the ballast when it is built into a luminaire. In addition, for ballasts which are subjected to abnormal conditions, the limiting temperature is given which shall not be exceeded when the ballast is built into a luminaire. Moreover, an indication of the rated temperature rise of a winding (symbol  $\Delta t$ ) may be added as an optional requirement.

For checking the rated maximum operating temperature  $t_w$ , this standard specifies an endurance test period of 30 days as the standard method. At the manufacturer's choice, optional endurance test periods of 60, 90 or 120 days may be used.

This standard permits the use of constants  $S$  other than 4 500 in  $t_w$  tests. If a claim is not made to the contrary, the endurance testing of ballasts is based on the constant  $S$ , given in Appendix A, having a value of 4 500. A manufacturer may claim the use of other values if this can be justified by either of the tests specified.

Tests in this standard are type tests. Requirements for testing individual ballasts during production are not included.

## SECTION ONE - GENERAL REQUIREMENTS

### 1. Scope

This standard covers ballasts, excluding resistance types, for use on a.c. supplies up to 1 000 V at 50 Hz or 60 Hz, associated with tubular fluorescent lamps with or without pre-heated cathodes operated with or without a starter or starting device and having rated wattages, dimensions and characteristics as specified in IEC Publication 81.

It applies to complete ballasts and to their component parts such as reactors, transformers and capacitors. Particular requirements for thermally protected ballasts are given in Appendix B.

This standard also specifies ballasts for lamps which are not yet fully standardized.

Ballasts for conventional operation of lamps at mains frequency are covered. A.C. supplied electronic ballasts for high frequency operation are excluded. These are specified in IEC Publication 928.

Capacitors having a capacitance greater than 0.1  $\mu\text{F}$  are covered by IEC Publication 566. Capacitors having a capacitance less than or equal to 0.1  $\mu\text{F}$  are specified in IEC Publication 384-14.

### 2. Definitions

For the purposes of this standard, the following definitions apply.

#### 2.1 Ballast

Unit inserted between the supply and one or more discharge lamps which by means of inductance, capacitance, or a combination of inductance and capacitance serves mainly to limit the current of the lamp(s) to the required value. The ballast may consist of one or more separate components.

It may also include means for transforming the supply voltage and arrangements which help to provide starting voltage and pre-heating current, prevent cold starting, reduce stroboscopic effects, correct the power-factor and/or suppress radio interference.

##### 2.1.1 Independent ballast

Ballast which can be mounted separately outside a luminaire without any additional enclosure. This may consist of a built-in ballast housed in a suitable enclosure which provides all the necessary protection according to its markings.