



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 61098:2007

ICS 31.280

**RADIATION PROTECTION
INSTRUMENTATION - INSTALLED
PERSONNEL SURFACE CONTAMINATION
MONITORING ASSEMBLIES (IEC
61098:2003 (MOD))**

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*This Irish Standard was
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of the National Standards
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comes into effect on:
4 September 2007*

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Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61098

July 2007

ICS 13.280

English version

**Radiation protection instrumentation -
Installed personnel surface contamination monitoring assemblies
(IEC 61098:2003, modified)**

Instrumentation pour la radioprotection -
Ensembles fixes pour la surveillance
de la contamination de surface
du personnel
(CEI 61098:2003, modifiée)

Strahlenschutz-Messgeräte -
Festinstallierte
Personenkontaminationsmonitore
(IEC 61098:2003, modifiziert)

This European Standard was approved by CENELEC on 2007-04-01. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

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Foreword

The text of the International Standard IEC 61098:2003, prepared by SC 45B, Radiation protection instrumentation, of IEC TC 45, Nuclear instrumentation, together with the common modifications prepared by the CENELEC BTTF 111-3, Nuclear instrumentation and radiation protection instrumentation, was submitted to the formal vote and was approved by CENELEC as EN 61098 on 2007-04-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2008-04-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2010-04-01

Clauses, subclauses, notes, tables and figures which are additional to those in IEC 61098:2003 are prefixed “Z”.

Annexes ZA, ZB and ZC have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61098:2003 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

1 Scope and object

First paragraph, first line: **delete** “, meters”.

Second paragraph: **replace** “face” with “head”.

2 Normative references

Replace “IEC 60050(151):2001” with “IEC 60050-151:2001”.

Replace “IEC 60050(393):1996” with “IEC 60050-393:2003, *International Electrotechnical Vocabulary (IEV) – Part 393: Nuclear instrumentation – Physical phenomena and basic concepts*”.

Replace “IEC 60050(394):1995” with “IEC 60050-394:1995 + A1:1996 + A2:2000”.

Replace “IEC 61000-4-2:1995” with “IEC 61000-4-2:1995 + A1:1998 + A2:2000”.

Replace “IEC 61000-4-3:2002” with “IEC 61000-4-3:2002 + A1:2002”.

Replace “IEC 61000-4-5:1995” with “IEC 61000-4-5:1995 + Corr. 1995 + A1:2000”.

Replace “IEC 61000-4-6:2003” with “IEC 61000-4-6:2003 + A1:2004”.

Replace “IEC 61000-4-8:1993” with “IEC 61000-4-8:1993 + A1:2000”.

Replace “IEC 61000-4-12:1995” with “IEC 61000-4-12:1995 + A1:2000”.

Add the following references:

IEC 60038:1983 + A1:1994 + A2:1997, *IEC standard voltages*

IEC 60068 series, *Environmental testing*

IEC 60359:2001, *Electrical and electronic measurement equipment – Expression of performance*

ISO 7503-1:1988, *Evaluation of surface contamination – Part 1: Beta-emitters (maximum beta energy greater than 0,15 MeV) and alpha-emitters*

ISO 8769-2:1996, *Reference sources for the calibration of surface contamination monitors – Part 2: Electrons of energy less than 0,15 MeV and photons of energy less than 1,5 MeV*

ISO 11929 series, *Determination of the detection limit and decision threshold for ionizing radiation measurements*

3 Terms and definitions

3.2

surface emission rate of a source

Add below the definition: “(according to ISO 8769 definition)”.

3.5

high efficiency source

Replace “0,5 keV” with “0,59 keV”.

3.6 small source

Add “surface” between “active” and “dimension”.

3.14 decision threshold

The whole definition to be **replaced** with a note, reading

NOTE Not used in EN 61098, see 3.Z1.

3.15 decay probability

The whole definition to be **replaced** with a note, reading

NOTE Not used in this document.

Add the following definitions:

3.Z1 minimum detectable surface emission rate

specific performance criteria taking account both the statistical fluctuation in the background count rates and nominal factors of the background to take account of short term spatial and temporal changes in background as well as changes due to the operator mass

NOTE This definition is specific for this standard only.

3.Z2 lowest level of detection

minimum count rate above background that will not trigger a false alarm due to statistical fluctuations

3.Z3 lowest limit of detection

limit of detection associated to the lowest level of detection

4 Classification of assemblies

4.1 According to type of radiation to be measured

Replace “contamination warning assemblies and monitors” with “contamination monitors and warning assemblies” all over the clause.

Fourth dash: **add** at the end: “(where the alpha and beta contaminations are indicated separately)”.

Fifth dash: **replace** the text in brackets with “(where the beta and gamma contaminations are indicated separately)”.

Sixth dash: **replace** the text in brackets with “(where the alpha, beta and gamma contaminations are indicated separately)”.

4.2 According to type of surface

First dash: **replace** “face” with “head”.

Second dash: **delete** “hand warning”.

Third dash: **delete** “foot warning”.

Fourth dash: **delete** “hand and foot warning”.

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