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Standards

Irish Standard  
I.S. EN ISO 11608-1:2015

# Needle-based injection systems for medical use - Requirements and test methods - Part 1: Needle-based injection systems (ISO 11608-1:2014)

## I.S. EN ISO 11608-1:2015

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*This document is based on:*

EN ISO 11608-1:2015

*Published:*

2015-01-14

*This document was published  
under the authority of the NSAI  
and comes into effect on:*

2015-02-24

ICS number:

11.040.25

NOTE: If blank see CEN/CENELEC cover page

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**EUROPEAN STANDARD**

**EN ISO 11608-1**

**NORME EUROPÉENNE**

**EUROPÄISCHE NORM**

January 2015

ICS 11.040.25

Supersedes EN ISO 11608-1:2012

English Version

**Needle-based injection systems for medical use - Requirements  
and test methods - Part 1: Needle-based injection systems (ISO  
11608-1:2014)**

Systèmes d'injection à aiguille pour usage médical -  
Exigences et méthodes d'essai - Partie 1: Systèmes  
d'injection à aiguille (ISO 11608-1:2014)

Kanülenbasierte Injektionssysteme zur medizinischen  
Verwendung - Anforderungen und Prüfverfahren - Teil 1:  
Kanülenbasierte Injektionssysteme (ISO 11608-1:2014)

This European Standard was approved by CEN on 11 October 2014.

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**EN ISO 11608-1:2015 (E)**

<b>Contents</b>	<b>Page</b>
<b>Foreword.....</b>	<b>3</b>
<b>Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 93/42/EEC.....</b>	<b>4</b>

## **Foreword**

This document (EN ISO 11608-1:2015) has been prepared by Technical Committee ISO/TC 84 “Devices for administration of medicinal products and catheters” in collaboration with Technical Committee CEN/TC 205 “Non-active medical devices” the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by July 2015, and conflicting national standards shall be withdrawn at the latest by July 2015.

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.

This document supersedes EN ISO 11608-1:2012.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive.

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

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

### **Endorsement notice**

The text of ISO 11608-1:2014 has been approved by CEN as EN ISO 11608-1:2015 without any modification.

**Annex ZA**  
(informative)

**Relationship between this European Standard and the Essential  
Requirements of EU Directive 93/42/EEC**

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide one means of conforming to Essential Requirements of the New Approach Directive 93/42/EEC, Medical devices.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements of that Directive and associated EFTA regulations.

**WARNING:** Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

# INTERNATIONAL STANDARD

**ISO  
11608-1**

Third edition  
2014-12-15

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## **Needle-based injection systems for medical use — Requirements and test methods —**

### **Part 1: Needle-based injection systems**

*Systèmes d'injection à aiguille pour usage médical — Exigences et  
méthodes d'essai —*

*Partie 1: Systèmes d'injection à aiguille*



Reference number  
ISO 11608-1:2014(E)

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Published in Switzerland



# Contents

	Page
<b>Foreword</b> .....	<b>v</b>
<b>Introduction</b> .....	<b>vii</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Symbols and abbreviated terms</b> .....	<b>3</b>
<b>5 Requirements</b> .....	<b>4</b>
5.1 General.....	4
5.2 System designations.....	5
5.3 Risk analysis requirements.....	5
5.4 Uncertainty of measurement and conformance with specifications.....	5
5.5 General design requirements.....	5
<b>6 Reagent and apparatus</b> .....	<b>7</b>
6.1 General.....	7
6.2 Test liquid.....	7
6.3 Balance.....	7
6.4 Test surface for free-fall testing.....	7
<b>7 Determination of dose accuracy</b> .....	<b>7</b>
7.1 General.....	7
7.2 Dosing regions.....	8
7.3 Dose settings.....	9
7.3.1 Multi-dose containers (system designations A and C).....	9
7.3.2 Single-dose containers (system designations B and D).....	9
7.4 Assessment.....	9
7.4.1 General.....	9
7.4.2 Determination of dose accuracy limits.....	10
7.4.3 Determination of last-dose error and last-dose accuracy limits (system designations A and C).....	11
7.4.4 Calculation of dose delivery efficiency (system designations B1 and D1, user-filled).....	11
7.4.5 Calculation of tolerance intervals.....	12
<b>8 Preparation and operation of NISs</b> .....	<b>12</b>
<b>9 Test matrix</b> .....	<b>13</b>
<b>10 Test descriptions</b> .....	<b>16</b>
10.1 General.....	16
10.2 Cool, standard and warm atmosphere testing.....	16
10.2.1 Pre-conditioning.....	16
10.2.2 Testing.....	16
10.3 Last-dose testing (system designations A and C only).....	17
10.3.1 General.....	17
10.3.2 Pre-conditioning.....	17
10.3.3 Testing.....	17
10.4 Life-cycle testing (systems designations A and B only) — Pre-conditioning.....	17
10.5 Free-fall testing.....	17
10.6 Dry-heat and cold-storage testing — Pre-conditioning.....	19
10.7 Damp-heat testing (system designations A and B only) — Pre-conditioning.....	19
10.8 Cyclical testing (system designations A and B only) — Pre-conditioning.....	19
10.9 Vibration testing — Pre-conditioning.....	20

**ISO 11608-1:2014(E)**

10.10	Electromagnetic compatibility (EMC) (systems with electronics only).....	20
10.10.1	General.....	20
10.10.2	Exposure to electrostatic discharge — Pre-conditioning.....	20
10.10.3	Radiated radio-frequency (RF) fields — Pre-conditioning.....	20
10.10.4	Compliance criteria for electrostatic discharge.....	20
10.10.5	Radiated radio-frequency (RF) fields .....	21
<b>11</b>	<b>Inspection.....</b>	<b>21</b>
11.1	Visual inspection.....	21
11.2	Container inspection.....	21
11.3	Dose accuracy acceptance criteria.....	21
<b>12</b>	<b>Test report.....</b>	<b>22</b>
<b>13</b>	<b>Information supplied by the manufacturer.....</b>	<b>22</b>
13.1	General.....	22
13.2	Marking.....	22
13.2.1	General.....	22
13.2.2	Marking on the NIS.....	23
13.2.3	Marking on the user packaging.....	23
13.3	Instructions for use.....	23
<b>Annex A (informative) Dose replicates, accuracy and testing rationale.....</b>		<b>25</b>
<b>Annex B (normative) One- and two-sided tolerance limit factors, <math>k</math>.....</b>		<b>29</b>
<b>Bibliography.....</b>		<b>40</b>

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#).

The committee responsible for this document is ISO/TC 84, *Devices for administration of medicinal products and intravascular catheters*.

This third edition cancels and replaces the second edition (ISO 11608-1:2012), which has been technically revised.

ISO 11608 consists of the following parts, under the general title *Needle-based injection systems for medical use — Requirements and test methods*:

- *Part 1: Needle-based injection systems*
- *Part 2: Needles*
- *Part 3: Finished containers*
- *Part 4: Requirements and test methods for electronic and electromechanical pen-injectors*
- *Part 5: Automated functions*

This third edition of ISO 11608-1:2014 incorporates the following corrections:

- a) in 4 Y: the term 'pens' is changed to 'NISs';
- b) in 5.5 n): reference to ISO 11608-4 is deleted since 5.5. o) already addresses this;
- c) in Table 3: the word "or" is changed to "and" so that it reads "Condition at 70 °C and –40 °C, then standard DA";
- d) in 10.1, NOTE 1: Explanation is inserted;
- e) in 10.5 a) designation B is deleted;
- f) in 10.5 b) designation D is deleted;
- g) in 10.5 b) 3) iv) the term 'replacements' is changed to 'obvious container failures';

**ISO 11608-1:2014(E)**

- h) in [10.5](#) d) 2) iv) the term ‘replacements’ is changed to ‘obvious container failures’;
- i) in [10.8](#) the temperature range is changed from  $(25 \pm 3) ^\circ\text{C}$  to  $(5 \pm 3) ^\circ\text{C}$ ;
- j) in [10.10.4](#) and [10.10.5](#) “five NISs” is changed to “20 NISs” according to [Table 3](#);
- k) in [Table 3](#) – references to [10.10.4](#) and [10.10.5](#) are added under column A;
- l) in [13.2.3](#) “unit packaging” has been changed into “user packaging”.

## Introduction

This part of ISO 11608 covers needle-based injection systems (referred to as NISs) primarily intended for human use. It provides performance requirements regarding essential aspects so that variations of design are not unnecessarily restricted.

This part of ISO 11608 should be used in conjunction with the other parts of ISO 11608.

The first edition of this part of ISO 11608 introduced the concept of interchangeability and the labelling designations “Type A” (i.e. interchangeable) and “non-Type A” for needles and container systems. Since its promulgation, experience has shown that the complexity of these systems makes it very difficult to ensure functional compatibility as defined in the different parts of this International Standard, particularly when products are made by different manufacturers. Based on this experience, it is believed that the Type A designation does not represent adequate guidance to the user in making decisions on the compatibility of needles and containers with specific needle-based injector systems. As such, the labelling designation “Type A” has been removed. The design requirements related to system function have been maintained as a guide to assist manufacturers during the design phase, supporting the achievement of cross-platform compatibility. However, these design requirements are an insufficient replacement for system testing of the components and, where possible, direct communication and/or quality agreements between system component manufacturers. Therefore, given the patient convenience benefits associated with cross-platform compatibility, manufacturers of needles, containers and needle-based injectors shall label their products with the specific system components that have been tested and demonstrated to be functionally compatible.

The sampling plans for inspection selected for this part of ISO 11608 are intended to verify the design at a high confidence level. The sampling plans for inspection do not replace the more general manufacturing quality systems that appear in standards on quality systems, for example the ISO 9000 series and ISO 13485.

Materials to be used for construction are not specified, as their selection will depend on the design, the intended use and the process of manufacture used by individual manufacturers.

There are other international and national standards and guidance publications and, in some countries, national regulations that are applicable to medical devices and pharmaceuticals. Their requirements might supersede or complement this part of ISO 11608. Developers and manufacturers of NISs are encouraged to investigate and determine whether there are any other requirements relevant to the safety or marketability of their products.

Manufacturers are expected to follow a risk-based approach during the design, development and manufacture of the product. Given the specific medicinal product and intended use, this might result in product-specific requirements and test methods that differ from what is outlined in this part of ISO 11608.



# Needle-based injection systems for medical use — Requirements and test methods —

## Part 1: Needle-based injection systems

### 1 Scope

This part of ISO 11608 specifies requirements and test methods for needle-based injection systems (NISs) intended to be used with needles and with replaceable or non-replaceable containers. Containers covered in this part of ISO 11608 include single- and multi-dose syringe-based and cartridge-based systems, filled either by the manufacturer or by the end-user.

Additional guidance for NISs equipped with electronic or electromechanical components and NISs equipped with automated functions is given in ISO 11608-4 and ISO 11608-5 respectively.

Needle-free injectors, and requirements relating to methods or equipment associated with end-user filling of containers, are outside the scope of this part of ISO 11608.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 10993-1, *Biological evaluation of medical devices — Part 1: Evaluation and testing within a risk management process*

ISO 11608 (all parts), *Needle-based injection systems for medical use — Requirements and test methods*

ISO 13485:2003, *Medical devices — Quality management systems — Requirements for regulatory purposes*

ISO 14253-1, *Geometrical product specifications (GPS) — Inspection by measurement of workpieces and measuring equipment — Part 1: Decision rules for proving conformity or nonconformity with specifications*

ISO 14971, *Medical devices — Application of risk management to medical devices*

ISO/IEC Guide 98-3, *Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

IEC 60068-2-6:2007, *Environmental testing — Part 2-6: Tests — Test Fc: Vibration (sinusoidal)*

IEC 60068-2-30:2005, *Environmental testing — Part 2-30: Tests — Test Db: Damp heat, cyclic (12 + 12 h cycle)*

IEC 60601-1-2:2007, *Medical electrical equipment — Part 1-2: General requirements for basic safety and essential performance — Collateral standard: Electromagnetic compatibility — Requirements and tests*

IEC 62366, *Medical devices — Application of usability engineering to medical devices*

### 3 Terms and definitions

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

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