



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 13312-1:2001

ICS 07.080  
07.100.01

**BIOTECHNOLOGY - PERFORMANCE  
CRITERIA FOR PIPING AND  
INSTRUMENTATION - PART 1: GENERAL  
PERFORMANCE CRITERIA**

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*This Irish Standard was  
published under the  
authority of the National  
Standards Authority of  
Ireland  
and comes into effect on  
August 11, 2001*

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**EUROPEAN STANDARD**  
**NORME EUROPÉENNE**  
**EUROPÄISCHE NORM**

**EN 13312-1**

February 2001

ICS 07.080; 07.100.01

English version

**Biotechnology - Performance criteria for piping and  
instrumentation - Part 1: General performance criteria**

Biotechnologie - Critères de performance pour tuyauteries  
et instrumentation - Partie 1: Critères généraux de  
performance

Biotechnik - Leistungskriterien für Leitungssysteme und  
Instrumentierung - Teil 1: Allgemeine Leistungskriterien

This European Standard was approved by CEN on 13 January 2001.

CEN 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 Management Centre or to any CEN 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 CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom



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## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 233 "Biotechnology", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by August 2001, and conflicting national standards shall be withdrawn at the latest by August 2001.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This standard is one of a series of European Standards concerned with performance criteria for piping and instrumentation. These standards are :

EN 13312-1, *Biotechnology - Performance criteria for piping and instrumentation - Part 1 : General performance criteria.*

EN 13312-2, *Biotechnology - Performance criteria for piping and instrumentation - Part 2 : Couplings.*

EN 13312-3, *Biotechnology - Performance criteria for piping and instrumentation - Part 3 : Sampling and inoculation devices.*

EN 13312-4, *Biotechnology - Performance criteria for piping and instrumentation - Part 4 : Tubes and pipes.*

EN 13312-5, *Biotechnology - Performance criteria for piping and instrumentation - Part 5 : Valves.*

EN 13312-6, *Biotechnology - Performance criteria for piping and instrumentation - Part 6 : Equipment probes.*

This standard includes a Bibliography.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

Use of this European Standard will aid the equipment manufacturer in the classification of couplings, sampling and inoculation devices, tubes and pipes, valves and equipment probes with regard to safe performance in biotechnological processes. The classification is easily understandable and readily utilizable by the user and the regulatory authorities.

## 1 Scope

This European Standard specifies performance criteria for piping and instrumentation used in biotechnological processes with respect to the potential hazards to the worker and the environment from microorganisms in use.

This European Standard applies where the intended use of the equipment includes hazardous or potentially hazardous microorganisms used in biotechnological processes or where exposure of the worker or the environment to such microorganisms is restricted for reasons of safety.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 1672-2, *Food processing machinery - Basic concepts - Part 2: Hygiene requirements.*

EN 12296, *Biotechnology - Equipment - Guidance on testing procedures for cleanability.*

EN 12297, *Biotechnology - Equipment - Guidance on testing procedures for sterilizability.*

EN 12298, *Biotechnology - Equipment - Guidance on testing procedures for leaktightness.*

EN ISO 4287, *Geometrical product specifications (GPS) - Surface texture: Profile method - Terms, definitions and surface texture parameters (ISO 4287:1997).*

EN ISO 4288, *Geometrical Product Specifications (GPS) - Surface texture: Profile method - Rules and procedures for the assessment of surface texture (ISO 4288:1996).*

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