# საქართველოს სტანდარტი

შესაფუთი მასალები - კომბინირებული კაბინები - უსაფრთხოების მოთხოვნები

> საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტო თბილისი

## სსტ ენ 13355:2004+A1:2009/2019

### საინფორმაციო მონაცემები

- 1 **შემუშავებულია** საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს სტანდარტების დეპარტამენტის მიერ
- 2 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს 2019 წლის 6 დეკემბრის № 98 განკარგულებით
- 3 მიღებულია გარეკანის თარგმნის მეთოდით სტანდარტიზაციის ევროპული კომიტეტის სტანდარტი ენ 13355:2004+A1:2009 "შესაფუთი მასალები კომბინირებული კაბინები უსაფრთხოების მოთხოვნები"

### 4 პირველად

**5 რეგისტრირებულია** საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2019 წლის 6 დეკემბერი N268-1.3-016332

დაუშვებელია წინამდებარე სტანდარტის სრული ან ნაწილობრივი კვლავწარმოება, ტირაჟირება და გავრცელება სსიპ საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს ნებართვის გარეშე

# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN 13355:2004+A1

April 2009

ICS 87.100

Supersedes EN 13355:2004

#### **English Version**

### Coating plants - Combined booths - Safety requirements

Installations d'application - Cabines mixtes d'application et de séchage - Prescriptions de sécurité

Beschichtungsanlagen - Kombinierte Spritz- und Trocknungskabinen - Sicherheitsanforderungen

This European Standard was approved by CEN on 22 November 2004 and includes Amendment 1 approved by CEN on 22 February 2009.

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 CEN 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 CEN Management Centre has the same status as the official versions.

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



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

## Contents

		Page
Forewo	ord	4
Introdu	uction	5
1	Scope	6
2	Normative references	7
3	Terms and definitions	9
4	List of significant hazards	11
4.1	General	
4.2 4.3	Mechanical hazardsElectrical hazards	
4.3 4.4	Thermal hazards	
4.5	Hazards generated by noise	
4.6	Hazards generated by radiation	
4.7	Hazards resulting from dangerous substances	
4.8 4.9	Fire and explosion hazards	
4.9 4.10	Hazards caused by failure of the energy supply and malfunction of the control system	
5	Safety requirements and/or measures	
5.1	General	
5.2	Mechanical	_
5.3	Electrical	
5.4 5.5	Thermal Noise	
5.6	Radiation	
5.7	Safety requirements against dangerous substances	
5.8	Fire and explosion prevention and protection	
5.9	Failure of energy supply and malfunction of the control system	
5.10	Emergency stop devices	
6	Verification of the safety measure and/or measures	
6.1	General	
6.2 6.3	MechanicalElectrical	
6.4	Thermal	
6.5	Noise	
6.6	Radiation	24
6.7	Dangerous substances	
6.8	Fire and explosion	
6.9 6.10	Failure of energy supply Emergency stop devices	
7 7.1	Information for use	
7.1 7.2	Instruction handbook	_
7.3	Marking	
Annex	A (normative) Determination of concentration of flammable solvents in terms of LEL (spraying	
	mode)	
A.1	Equations	
A.2	Examples of calculation	
Annex	Annex B (normative) Measurement of air velocities	

B.1	Instrumentation	34
B.2	Measurement conditions	
Annex	C (informative) Classification of material's reaction to the fire – National standards	41
Annex	D (informative) References to national exposure limit values	42
Annex	E (informative) Equivalence between zone description and categories of ignition protection	43
Annex	ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC 🗗 , amended by 98/79/EC 🔄	44
Annex	ZB (informative) A Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC 4	45
Bibliog	ıraphy	46

#### **Foreword**

This document (EN 13355:2004+A1:2009) has been prepared by Technical Committee CEN/TC 271 "Surface treatment equipment — Safety", 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 October 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

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(s) 98/37/EC and 94/9/EC.

For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. (A)

This document includes Amendment 1, approved by CEN on 2009-02-22.

This document supersedes EN 13355:2004.

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A].

This document is part of a series of standards in the area of safety for development and construction of machines and plants for the coating of surfaces with organic substances (paints, varnishes and similar products).

This document is mainly based on EN 12215 and EN 1539.

NOTE Although a spray booth, as an integral whole, formally does not fall under the scope of the ATEX Directive 94/9/EC, the document is based upon a fundamental risk analysis according to this directive.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## Introduction

This document is a C-type standard as stated in EN ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.