

**Pindamisseadmed. Kombineeritud kabiinid.
Ohutusnõuded KONSOLIDEERITUD TEKST**

Coating plants - Combined booths - Safety
requirements CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13355:2005+A1:2009 sisaldab Euroopa standardi EN 13355:2004+A1:2009 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 29.05.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 01.04.2009.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13355:2005+A1:2009 consists of the English text of the European standard EN 13355:2004+A1:2009.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 29.05.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 01.04.2009.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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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.

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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of an identical text or by endorsement, at the latest by October 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.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.

A1 For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. **A1**

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 **A1** **A1**.

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.

1 Scope

This document is applicable to combined booths for the application of organic liquid coating materials by an operator with maximum drying temperature of 100 °C and deals with all hazards significant for combined booths, when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4).

To the extent of this document, a combined booth is considered an assembly of the following equipment:

- forced ventilation by one or more fans,
- ventilation air heating system (e. g. heat exchanger or burner),
- power driven dampers, forced ventilation ducting,
- dry air filtering and/or wet air washing systems,
- automatic fire extinguishing equipment and additional specific electrical equipment,
- control and power circuits joined together for the spraying and drying process of liquid coating material in a space totally enclosed provided with forced ventilation.
- working pit, in special case.

This document does not cover:

- a) booths for automatic spraying, powder spray booths, open booths, and portable heaters.
- b) design of the building foundations upon which a booth is installed;
- c) the civil engineering and building design where a booth is constructed as, or to use part of, a new or existing building;
- d) spraying equipment (see EN 1953), automatic devices for spraying systems like robots (see EN 775) or reciprocators or similar systems, conveyors, lifts and continuous handling equipment and systems (see EN 619).

This document is not applicable to combined booths which are manufactured before the date of publication of this standard by CEN.

2 Normative references

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

EN 418, *Safety of machinery — Emergency stop equipment, functional aspects — Principles for design*

EN 525, *Non-domestic direct gas-fired forced convection air heaters for space heating not exceeding a net heat input of 300 kW*

EN 563, *Safety of machinery — Temperatures of touchable surfaces — Ergonomics data to establish temperature limit values for hot surfaces*

EN 746-1, *Industrial thermoprocessing equipment — Part 1: Common safety requirements for industrial thermoprocessing equipment*

EN 746-2, *Industrial thermoprocessing equipment — Part 2: Safety requirements for combustion and fuel handling systems*

EN 954-1, *Safety of machinery — Safety related parts of control systems — Part 1: General principles for design*

EN 971-1:1996, *Paints and varnishes — Terms and definitions for coating materials — Part 1: General terms*

EN 981, *Safety of machinery — System of auditory and visual danger and information signals*

EN 982, *Safety of machinery — Safety requirements for fluid power systems and their components — Hydraulics*

EN 983, *Safety of machinery — Safety requirements for fluid power systems and their components — Pneumatics*

EN 1037, *Safety of machinery — Prevention of unexpected start-up*

EN 1088, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*

EN 1127-1:1997, *Explosive atmospheres — Explosion prevention and protection — Part 1: Basic concepts and methodology*

EN 1539:2000, *Dryers and ovens, in which flammable substances are released — Safety requirements*

EN 1953, *Atomising and spraying equipment for coating materials — Safety requirements*

EN 12753, *Thermal cleaning systems for exhaust gas from surface treatment equipment — Safety requirements*

EN 12433-1, *Industrial, commercial and garage doors and gates — Terminology — Part 1: Types of doors*

EN 12433-2, *Industrial, commercial and garage doors and gates — Terminology — Part 2: Parts of doors*

EN 12445, *Industrial, commercial and garage doors and gates — Safety in use of power operated doors — Test methods*

EN 12453, *Industrial, commercial and garage doors and gates — Safety in use of power operated doors — Requirements*

EN 12635, *Industrial, commercial and garage doors and gates — Installation and use*

EN 12978, *Industrial, commercial and garage doors and gates — Safety devices for power operated doors and gates — Requirements and test methods*

EN 13463-1:2001, *Non-electrical equipment for potentially explosive atmospheres — Part 1: Basic method and requirements*

EN 13463-5, *Non-electrical equipment intended for use in potentially explosive atmospheres — Part 5: Protection by constructional safety "c"*

EN 13478, *Safety of machinery — Fire prevention and protection*

EN 14462:2005, *Surface treatment equipment — Noise test code for surface treatment equipment including its ancillary handling equipment — Accuracy grades 2 and 3*

EN 14986, *Design of fans working in potentially explosive atmospheres*

EN 60079-0, *Electrical apparatus for explosive gas atmospheres — Part 0: General requirements (IEC 60079-0:2004)*

EN 60079-15, *Electrical apparatus for explosive gas atmospheres — Part 15: Type of protection "n" (IEC 60079-15:2001, modified)*

EN 60204-1:1997, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:1997)*

EN 60529, *Degrees of protection provided by enclosures (IP code)*

EN 61000-6-1, *Electromagnetic compatibility (EMC) — Part 6-1: Generic standards; Immunity for residential, commercial and light-industrial environments (IEC 61000-6-1:1997, modified)*

EN 61000-6-3, *Electromagnetic compatibility (EMC) — Part 6-3: Generic standards; Emission standard for residential, commercial and light-industrial environments (IEC 61000-6-3:1996, modified)*

EN 61000-6-4, *Electromagnetic compatibility (EMC) — Part 6-4: Generic standards; Emission standard for industrial environments (IEC 61000-6-4:1997, modified)*

EN ISO 3746, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746:1995)*

EN ISO 4871, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN ISO 11202, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Survey method in situ (ISO 11202:1995)*

EN ISO 12100-1, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)*

EN ISO 14122-2, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and walkways (ISO 14122-2:2001)*

EN ISO 14122-3, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairs, stepladders and guard-rails (ISO 14122-3:2001)*

EN ISO 14122-4, *Safety of machinery — Permanent means of access to machinery — Part 4: Fixed ladders (ISO 14122-4:2004)*