



NSAI
Standards

Irish Standard
I.S. EN 1953:2013

Atomising and spraying equipment for coating materials - Safety requirements

I.S. EN 1953:2013

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SWIFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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English Version

Atomising and spraying equipment for coating materials - Safety requirements

Equipements d'atomisation et de pulvérisation pour produits de revêtement - Exigences de sécurité

Spritz- und Sprühgeräte für Beschichtungsstoffe - Sicherheitsanforderungen

This European Standard was approved by CEN on 19 July 2013.

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Foreword

This document (EN 1953:2013) 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of an identical text or by endorsement, at the latest by March 2014, and conflicting national standards shall be withdrawn at the latest by March 2014.

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 1953:1998+A1:2009.

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).

For relationship with EU Directive(s), see informative Annex ZA and informative Annex ZB, which are an integral part of this document.

Compared with EN 1953:1998+A1:2009, the following changes have been made:

- the Scope has been limited to applicators with maximum pneumatic pressure < 15 bar;
- ATEX requirements have been integrated into the standard;
- safety requirements against ejection of fluids have been detailed for handheld applicators;
- testing requirements for mechanical strength have been revised.

This document is part of a series of standards related to safety of design and construction of machinery and systems for surface coating with organic materials (paints, varnishes and similar products).

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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.

Introduction

This European Standard is a type C standard as stated in EN ISO 12100:2010.

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

When provisions of this type C standard are different from those which are stated in type A or type 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 European Standard deals with all significant hazards, hazardous situations and events which are relevant for both manual and automatic atomising and spraying equipment for application of coating materials on workpieces.

In this standard, the term “machine” is used equivalently to “atomising and spraying equipment” and “applicator”.

Together with this standard, EN 50050, EN 50059, EN 50176, EN 50177 or EN 50348 give requirements for electrostatic applicators.

The specific significant risks related to the use of this machinery with foodstuffs and pharmaceutical products are not dealt with in this standard.

This standard is only applicable to machinery which is used as intended. It also covers hazards arising from conditions which are reasonably foreseeable by the manufacturer.

Applicators can consist of the following parts:

- atomising or spraying system;
- trigger;
- filter;
- swivel joint;
- safety and control systems;
- non-pressurised gravity or siphon feed cup.

This European Standard is not applicable to:

- applicators designed for operating pneumatic pressure above 15 bar;
- non-atomising equipment (e.g. extruding equipment, dispenser);
- fluidised bed powder coating machinery;
- equipment for the automated application of flock;
- spray guns covered by EN 50580;
- supply hoses and ducts;
- high-pressure cleaner equipped with high pressure water jet machines according to EN 1829-1;
- airbrushes for graphic and artistic works;
- machinery for the supply and circulation of coating materials under pressure according to EN 12621;
- water-jet cutters;
- automated devices like robots or reciprocators (EN ISO 10218-1).

This standard is not applicable to machinery manufactured before the date of its publication as a European Standard.

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.

EN 614-1, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles*

EN 13463-1:2009, *Non-electrical equipment for use in 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 14462, *Surface treatment equipment — Noise test code for surface treatment equipment including its ancillary handling equipment — Accuracy grades 2 and 3*

EN 50050, *Electrical apparatus for potentially explosive atmospheres — Electrostatic hand-held spraying equipment*

EN 50059, *Specification for electrostatic hand-held spraying equipment for non-flammable material for painting and finishing*

EN 50176, *Stationary electrostatic application equipment for ignitable liquid coating material — Safety requirements*

EN 50177, *Stationary electrostatic application equipment for ignitable coating powders — Safety requirements*

EN 50223, *Stationary electrostatic application equipment for ignitable flock material — Safety requirements*

EN 50348, *Stationary electrostatic application equipment for non-ignitable liquid coating material — Safety requirements*

EN 60079-0, *Explosive atmospheres — Part 0: Equipment — General requirements (IEC 60079-0, modified)*

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

EN ISO 4414, *Pneumatic fluid power — General rules and safety requirements for systems and their components (ISO 4414)*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13732-1, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces (ISO 13732-1)*

EN ISO 13849-1, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1)*

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