

Svenska Elektriska Kommissionen, SEK

Fastställt	Utgåva	Sida	Ingår i
2002-08-14	1	1 (1+14)	SEK Område 31

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Explosionsskyddad elektrisk materiel – Utrustning för automatisk sprutmålning med icke brandfarlig vätska

Automatic electrostatic spraying equipment for non-flammable liquid spraying material

Som svensk standard gäller europastandarden EN 50348:2001. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50348:2001.

ICS 87.100

Denna standard är fastställd av Svenska Elektriska Kommissionen, SEK, som också kan lämna upplysningar om **sakinnehållet** i standarden.
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EUROPEAN STANDARD

EN 50348

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2001

ICS 87.100

English version

Automatic electrostatic spraying equipment for non-flammable liquid spraying material

Matériel de pulvérisation
électrostatique automatique pour
matériau de pulvérisation liquide
non inflammable

Ortsfeste elektrostatische
Sprüheinrichtungen für
nichtbrennbare flüssige
Beschichtungsstoffe

This European Standard was approved by CENELEC on 2000-09-01. CENELEC 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 Central Secretariat or to any CENELEC 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 CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 204, Safety of electrostatic painting and finishing equipment.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50348 on 2000-10-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2002-05-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2003-10-01

Annexes designated "informative" are given for information only.
In this standard, annex A is informative.

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Introduction

Process

In the process of electrostatic paint spraying, liquid is converted into a mist of droplets which are directed onto a surface in order to obtain a uniform layer of the thickness and type required. The droplets are charged by means of a high voltage of the order of some tens of kilovolts so that they are attracted to and deposited on the earthed workpiece.

1 Scope

1.1 This European Standard specifies requirements for automatic electrostatic spraying equipment which is used for spraying non-flammable liquids which do not form explosive atmospheres in the spraying area. This applies also for paints that are classed as non-ignitable while spraying, e.g. water based paints (see annex A).

In this connection a distinction is made between spraying devices which due to their type of construction comply with requirements of personnel protection, and those for which other discharge energies and/or current limits are stipulated.

It also specifies the constructional requirements for the safe operational conditions of the electrical equipment installations including ventilation requirements. Additional requirements as to the construction of the spraying areas such as cabins and booths, etc. are dealt with in other standards, currently in preparation in CEN/TC 271.

NOTE If flammable liquid spraying materials are also used in the equipment, the requirements laid down in EN 50176 for automatic electrostatic spraying equipment for flammable liquid spraying material apply; that means that the spraying areas have to be equipped accordingly.

1.2 This European Standard considers the following types of electrostatic spraying systems:

Type B Systems with a discharge energy limit in excess of 5 mJ but less than 350 mJ and a current limit of less than 0,7 mA

In these systems there is no danger of electric shock.

Type C Systems with a discharge energy in excess of 350 mJ and/or a current in excess of 0,7 mA (see 5.1.2)

In these systems there are dangers of electric shock.

NOTE Type A systems complying with EN 50050:1986 are not relevant for this European Standard.

1.3 This European Standard considers only the hazards specific to the electrostatic characteristics of the electrostatic spraying process.

1.4 For other aspects, such as:

- selection, installation and use of electrical equipment in hazardous areas;
- health hazards, for example toxic and skin effects;
- cleaning of spraying areas;
- fire hazard from external sources;
- fire protection;

where there are no harmonized European Standards then national regulations apply.