



# SLOVENSKI STANDARD

## SIST EN 50144-2-7:2001

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Nadomešča:

SIST EN 50144-2-7:1999

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### Varnost električnih ročnih orodij - 2-7. del: Posebne zahteve za brizgalne pištole

Safety of hand-held electric motor operated tools -- Part 2-7: Particular requirements for spray guns

Sicherheit handgeführter motorbetriebener Elektrowerkzeuge -- Teil 2-7: Besondere Anforderungen für Spritzpistolen

Sécurité des outils électroportatifs à moteur -- Partie 2-7: Règles particulières pour les pistolets

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#### **ICS:**

25.140.20	Električna orodja	Electric tools
87.100	Oprema za nanašanje premazov	Paint coating equipment

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**en**

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EUROPEAN STANDARD

**EN 50144-2-7**

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2000

ICS 25.140.20; 87.100

Supersedes EN 50144-2-7:1996

English version

**Safety of hand-held electric motor operated tools  
Part 2-7: Particular requirements for spray guns**

Sécurité des outils électroportatifs à  
moteur  
Partie 2-7: Règles particulières pour  
les pistolets

Sicherheit handgeführter  
motorbetriebener Elektrowerkzeuge  
Teil 2-7: Besondere Anforderungen an  
Spritzpistolen

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This European Standard was approved by CENELEC on 1998-10-01. 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.

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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, 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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

## Foreword

This European Standard has been prepared by the Technical Committee CENELEC TC 61F, Hand-held and transportable electric motor operated tools. The text of the draft was submitted to the Unique Acceptance Procedure (UAP) in December 1993 and was approved by CENELEC as EN 50144-2-7 on 1994-10-04.

A draft for an amendment was submitted to UAP in April 1994 and was approved by CENELEC on 1994-10-04 for inclusion into the European Standard.

Amendments to fulfill the essential requirements of the Machinery Directive were submitted to the formal vote in June 1998 and were approved by CENELEC on 1998-10-01 for inclusion, together with the earlier amendment, into a second edition of EN 50144-2-7.

This European Standard supersedes EN 50144-2-7:1996.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at a national level by publication of an identical  
national standard or by endorsement (dop) 2001-07-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2001-12-01

This standard is divided into two parts:

Part 1: General requirements which are common to most hand-held electric motor operated tools (for the purpose of this standard referred to simply as tools).

Part 2: Requirements for particular types of tool which either supplement or modify the requirements given in Part 1 to account for the particular hazards and characteristics of these specific tools.

This European Standard has been prepared under a mandate given to CEN/CENELEC by the European Commission and the European Free Trade Association and supports the essential health and safety requirements of the Machinery Directive.

Compliance with the clauses of Part 1 together with this Part 2 provides one means of conforming with the essential health and safety requirements of the Directive.

For noise and vibration this standard covers the requirements for their measurement, the provision of information arising from these measurements and the provision of information about the personal protective equipment required. Specific requirements for the reduction of the risk arising from noise and vibration through the design of the tool are not given as this reflects the current state of the art. As with any standard, technical progress will be kept under review so that any developments can be taken into account.

CEN TC/255 is producing standards for non-electrically powered tools.

**Warning:** Other requirements and other EC Directives can be applicable to the products falling within the scope of this standard.

This standard follows the overall requirements of EN 292-1 and EN 292-2.

Subclauses which are additional to those in Part 1 are numbered starting from 101.

NOTE In this European Standard the following print types are used:

- Requirements proper;
- *Test specifications;*
- Explanatory matter.

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## 1 Scope

This clause of Part 1 is applicable except as follows:

*Addition:*

This European Standard applies to spray guns for non-flammable materials.

This standard does not give requirements for the design of the tool for the reduction of the risk arising from noise and vibration.

## 2 Definitions

This clause of Part 1 is applicable except as follows:

2.2.18 *Replacement:*

2.2.18 **normal load:** The load obtained when the spray gun is operated in a position of normal use under the following conditions where the container is the receptacle provided with the spray gun to hold the liquid to be sprayed:

Spray guns provided with a reciprocating motor are operated intermittently, each cycle comprising a period of operation as long as is necessary to empty the filled container and a rest period of 5 min with the spray gun switched off, the stroke of the armature being adjusted so as to give the maximum input during the periods of operation. Before each period of operation, the container is filled with water or with the liquid specified by the manufacturer.

Spray guns provided with a rotary motor are operated continuously with the container empty, but with the hose and the sprayer attached as in normal use.

The normal load is based on the rated voltage or on the upper limit of the rated voltage range.

*Additional definition:*

2.2.101 **non-flammable material:** A material having a flash-point above 21 °C.

## 3 General requirements

This clause of Part 1 is applicable.

## 4 General conditions for the tests

This clause of Part 1 is applicable.

## 5 Rating

This clause of Part 1 is applicable.

## 6 Classification

This clause of Part 1 is applicable.

**7 Marking and information for use**

This clause of Part 1 is applicable except as follows:

**7.13.2 Addition:**

Instructions shall also include the substance of the following:

- do not use guns for spraying flammable materials;
- do not clean guns with flammable solvents;
- beware of any hazards presented by the material being sprayed and consult the markings on the container or the information supplied by the manufacturer of the material to be sprayed, including requirements for the use of personal protective equipment;
- do not spray any material where the hazard is not known.

**8 Protection against electric shock**

This clause of Part 1 is applicable.

**9 Starting**

This clause of part 1 is applicable except as follows:

Spray guns are operated under normal load.

**10 Input and current**

This clause of Part 1 is applicable. <https://standards.iteh.ai/catalog/standards/sist/47f1191-de6f-4103-af95-7b767494a954/sist-en-50144-2-7-2001>

**11 Heating**

This clause of Part 1 is applicable.

**12 Leakage current**

This clause of Part 1 is applicable.

**13 Environmental requirements**

This clause of Part 1 is applicable except as follows:

**13.2.3 Replacement:**

Spray guns are tested at no load.

The result to be used shall be the arithmetic mean, rounded off to the nearest decibel, of the values obtained from three consecutive tests.

The tool is suspended in such a way as to correspond to normal use.

#### 13.2.4 *Addition:*

The spray gun container shall be either directly up or down depending on type.

#### 13.3.7 *Replacement:*

Spray guns are tested at no load.

Three series of seven consecutive tests are carried out using a different operator for each series. The operator shall be skilled in the use of the tool under test.

NOTE 1 It should be noted that even small differences in operating conditions can affect the vibration intensity.

NOTE 2 The vibrations of the tool can be influenced by the operator, in particular the grip force has a considerable influence when the tool is very light.

### 14 **Moisture resistance**

This clause of Part 1 is applicable.

### 15 **Insulation resistance and electric strength**

This clause of Part 1 is applicable.

### 16 **Endurance**

This clause of Part 1 is applicable except as follows:

#### 16.2 *Modification:*

*Spray guns are operated under normal load.*

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### 17 **Abnormal operation**

This clause of Part 1 is applicable.

### 18 **Mechanical hazards**

This clause of Part 1 is applicable except as follows:

#### 18.1 *Addition:*

Spray guns where the material is ejected at high pressure shall be guarded at the nozzle to prevent inadvertent contact with the orifice.

### 19 **Mechanical strength**

This clause of Part 1 is applicable except as follows:

#### 19.3 *Addition:*

*A breakage of the container is disregarded.*



**20 Construction**

This clause of part 1 is applicable except as follows:

*Additional subclause:*

20.101 Spray guns shall be so constructed that, in any position of the gun, their electrical insulation cannot be affected by liquids which might leak from containers, hoses, couplings and the like.

*Compliance is checked by inspection.*

**21 Components**

This clause of part 1 is applicable except as follows:

21.3 *Modification:*

For spray guns, reed-switches are allowed as mains switches and they may have a contact separation of less than 3 mm.

**22 Internal wiring**

This clause of Part 1 is applicable.

**23 Supply connection and external flexible cables and cords**

This clause of Part 1 is applicable.

**24 Terminals for external conductors**

This clause of Part 1 is applicable.

**25 Provision for earthing**

This clause of Part 1 is applicable.

**26 Screws and connections**

This clause of Part 1 is applicable.

**27 Creepage distances, clearances and distances through insulation**

This clause of part 1 is applicable except as follows:

27.1 *Addition:*

The values specified in Table 16 do not apply to reed-switches.