



**SLOVENSKI STANDARD**  
**PSIST prEN 1872:1996**

**01-oktober-1996**

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**Stroji za rudarska podzemeljska dela - Varnostne zahteve za ventilatorske postroje v rudarstvu - Električni ventilatorji v podzemni rabi**

Machines for underground mines - Safety requirements for mining ventilation machinery - Electrically driven fans for underground use

Maschinen für den Bergbau unter Tage - Sicherheitsanforderungen an Grubenbewetterungsmaschinen - Elektroventilatoren für den Untertageeinsatz

Machines pour mines souterraines - Prescriptions de sécurité pour les machines d'aérage en exploitations minières - Ventilateurs électriques pour utilisation souterraines

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**ICS:**

73.100.20	Prezračevalna, klimatizacijska in razsvetljevalna oprema	Ventilation, air-conditioning and illumination equipment
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requirements for mining ventilation machinery -  
Electrically driven fans for underground useMachines pour mines souterraines -  
Prescriptions de sécurité pour les  
machines d'aérage en exploitations  
minières - Ventilateurs électriques  
pour utilisation souterrainesMaschinen für den Bergbau unter Tage -  
Sicherheitsanforderungen an  
Grubenbewetterungsmaschinen -  
Elektroventilatoren für den  
Untertageeinsatz

This draft European Standard is submitted to the CEN members for CEN enquiry.  
It has been drawn up by Technical Committee CEN/TC 196 .

If this draft becomes a European Standard, 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.

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CEN

European Committee for Standardization  
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**Foreword**

This European Standard has been prepared by CEN/TC 196 "Machines for underground mining - safety" under a mandate given to CEN by the Commission of the European Communities and the European Free Trade Association and supports essential requirements of EC Directives.

Experts from the following countries participated in its preparation:  
Finland, France, Germany, Italy, Spain, Sweden, United Kingdom.

## Introduction

This European Standard has been prepared to be a harmonized standard to provide one means of conforming with the essential safety requirements of the machine Directive and associated EFTA regulations.

The purpose of this standard is to reduce to a minimum the risk from hazards to people and objects caused by the use underground of electrically operated fans.

The extent to which hazards are covered is indicated in the scope of this standard. In addition machinery should comply as appropriate with EN 292 for hazards which are not covered by this standard.

## 1 Scope

This European standard specifies the safety requirements for all electrically driven fans, used underground in mines, having impellers of up to and including 1250 mm diameter, together with their associated ancillaries.

This European Standard identifies and takes account of the hazards arising from the use in mines of such equipment and describes methods for the elimination or reduction of these hazards. These hazards are listed under clause 4.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate place in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revised of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated reference the latest edition of the publication referred to applies:

- EN 294: 1992 Safety of machinery: Safety distances to prevent danger zones being reached
- EN 50 014 Electrical apparatus for potentially explosive atmospheres; general requirements
- EN 50 018 Electrical apparatus for potentially explosive atmospheres; flameproof enclosure "d".
- EN 1677-2 Components for slings - Safety - Part 2 : Forged steel lifting hooks with latch - Grade 8 (CEN/TC 168/WG 4 : WI 00168015)

- EN XXXX <sup>1)</sup> Forged steel shackles for general lifting purposes  
(CEN/TC 168/WG 4 : WI 00168026)
- EN XXX <sup>1)</sup> Forged steel eyebolts for general lifting purposes  
(CEN/TC 168/WG 4 : WI 00168027)
- EN 288 Specification and approval of welding procedures for  
metallic materials
- EN 45001 General criteria for the operation of testing laboratories
- EN XXXX <sup>1)</sup> Non-destructive testing - Magnetic particle testing -  
General rules for magnetic particle inspection  
(CEN/TC 138/WG 5 : WI 00138025)
- EN XXXX <sup>1)</sup> Non-destructive testing of welds - Part 1 : Radiographic  
examination of welded joints  
(CEN/TC 121/SC 5 : WI 00121040)
- EN XXXX <sup>1)</sup> Ultrasonic examination of welded joints  
(CEN/TC 121/SC 5 : WI 00121042)
- prEN 563 Temperatures of touchable surfaces
- prEN 626 Safety of machinery: Principles for machinery  
manufacturers on reduction of risk to health from  
hazardous substances
- prEN 953 Safety of machinery - general requirements for the  
design and construction of guards (fixed, moveable)
- prEN 970 Visual examination of welded joints
- ISO 5801 Industrial fans: performance testing in standardized  
airways
- ISO 281: 1990 Rolling bearings - dynamic load ratings and rating life
- ISO 1940-1: 1986 Mechanical vibration - balance quality requirements of  
rigid motors - Part 1: determination of permissible  
residual unbalance
- ISO 4952: 1981 Structural steels with improved atmospheric corrosion  
resistance
- ISO 5753: 1991 Rolling bearings - radial internal clearance
- ISO 3864: 1984 Safety colours and safety signs
- IEC 34-5 Rotating electrical machines - classification of degrees  
of protection provided by enclosures

<sup>1)</sup> In preparation

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- ISO 9001            Quality systems - model for quality assurance in design/development, production, installation and servicing
- ISO 286: 1988    ISO system of limits and fits
- ISO 3522: 1984   Cast aluminium alloys - chemical composition and mechanical properties
- ISO 13349        Industrial fans - Classification and terminology
- ISO 13348        Industrial fans - Tolerances - Methods of conversion and technical data presentations
- ISO 3743: 1988   Acoustics - Determination of sound power levels of noise sources - Engineering methods for special reverberation test rooms
- ISO 3744: 1981   Acoustics - Determination of sound power levels of noise sources - Engineering methods for free-field conditions over a reflecting surface
- ISO 4871: 1984   Acoustics - Noise labelling of machinery and equipment
- ISO 5136: 1990   Acoustics - Determination of sound power radiated into a duct by fans - In-duct method

### 3 Definitions - terminology - symbols and abbreviations

For the purposes of this standard, the following definitions together with those given in ISO 13349, apply.

#### 3.1 In line fan

A fan with a cylindrical casing of constant internal diameter in which the driving motor is located in the airstream.