

SLOVENSKI STANDARD kSIST FprEN 12601:2010

01-julij-2010

Električni generatorji z batnim motorjem z notranjim zgorevanjem - Varnost

Reciprocating internal combustion engine driven generating sets - Safety

Stromerzeugungsaggregate mit Hubkolben-Verbrennungsmotoren - Sicherheit

Groupes électrogènes entrainés par moteurs alternatifs à combustion interne - Sécurité

Internal combustion engines

Ta slovenski standard je istoveten z: FprEN 12601

ICS:

27.020 Motorji z notranjim

zgorevanjem

29.160.40 Električni agregati Generating sets

kSIST FprEN 12601:2010 en,fr

kSIST FprEN 12601:2010

EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

FINAL DRAFT FprEN 12601

April 2010

ICS 27.020; 29.160.40

Will supersede EN 12601:2001

English Version

Reciprocating internal combustion engine driven generating sets - Safety

Groupes électrogènes entrainés par moteurs alternatifs à combustion interne - Sécurité

Stromerzeugungsaggregate mit Hubkolben-Verbrennungsmotoren - Sicherheit

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 270.

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.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, 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.

Warning: This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Cont	Contents Pag		
Forewo	ord	4	
Introdu	iction	5	
	Scope	_	
1	•		
2	Normative References	6	
3	Terms and definitions	8	
4	General	8	
5	Hazards	8	
6	Safety Requirements	9	
6.1	General		
6.2	Starting system		
6.2.1	Requirements		
6.2.2	Verification		
6.3	Stopping		
6.3.1	Requirements		
6.3.2	Verification		
6.4	Emergency stopping		
6.4.1	Requirement		
6.4.2	Verification		
6.5	Control devices		
6.5.1 6.5.2	Design, safety and mechanical strength		
6.5.2 6.5.3	Identification		
6.6	Accessibility		
6.6.1	Requirements		
6.6.2	Verification		
6.7	Warning devices		
6.7.1	Requirements		
6.7.1	Verification		
6.8	Guarding		
6.8.1	General		
6.8.2	Guarding against mechanical hazards		
0.0.2	Guarding against hot surfaces		
6.8.3	13	-	
6.8.4	Guarding against electrical shock by enclosures	15	
6.9	Stability for low power generating sets		
6.9.1	Requirements		
6.9.2	Verification	16	
6.10	Lighting		
6.10.1	Requirement	16	
6.10.2	Verification	16	
6.11	Handling	16	
6.11.1	Requirements		
6.11.2	Verification		
6.12	Fire protection		
6.12.1	General		
6.12.2			
6.12.3			
ド1 3	Hoses pines and electrical harnesses of the RIC engine	12	

6.13.1	Requirements	18	
6.13.2	Verification	18	
6.14	Electrical equipment	18	
6.14.1	Generators	18	
6.14.2	Other electrical equipment	19	
6.15	Noise	19	
6.15.1	Requirements	19	
6.15.2	Verification	20	
6.16	Access systems		
6.16.1	Requirements		
6.16.2	Verification		
6.17	Access to service points		
6.17.1	Requirement		
6.17.2	Verification		
6.18	Gaseous and particulate exhaust emissions		
6.18.1	Requirement		
6.18.2	Verification		
6.19	Drainage		
6.19.1	Requirements		
6.19.2	Verification	21	
7	Operating and maintenance instructions	21	
7.1	Requirements		
7.2	Verification		
0	Safety labels	22	
8 8.1	Requirement		
8.2	Verification		
0.2			
9	Marking		
9.1	Requirements		
9.2	Verification	23	
Annex	A (normative) List of hazards	24	
	Annex B (normative) Application of EN 60204-1 for generating sets		
		20	
Annex ZA (informative) Relationship between this European Standard and the Essential			
	Requirements of EU Directive 2006/42/EC	32	
Riblion	uranhv	33	

Foreword

This document (FprEN 12601:2010) has been prepared by Technical Committee CEN/TC 270 "Internal Combustion Engines", the secretariat of which is held by DIN.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 12601:2001.

This European Standard 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, which is an integral part of this standard.

Introduction

This document is a type C standard as stated in EN ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations and hazardous 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 European Standard specifies the safety requirements for reciprocating internal combustion (RIC) engine driven generating sets up to 1000 V consisting of a RIC engine, an alternating current (a.c.) generator including the additional equipment required for operating, e.g. controlgear, switchgear, auxiliary equipment.

This European Standard is not applicable for generating sets which are manufactured before the date of its publication as EN.

It applies to generating sets for land and marine use, excluding generating sets used on board of seagoing vessels and mobile offshore units as well as on aircraft or to propel road vehicles and locomotives. The special requirements needed to cover operation in potentially explosive atmospheres are not covered in this standard.

The hazards relevant to RIC engine driven generating sets are identified in Annex A.

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 547-2+A1:2008, Safety of machinery — Human body measurements — Part 2: Principles for determining the dimensions required for access openings

EN 981:1996+A1:2008, Safety of machinery — System of auditory and visual danger and information signals

EN 953, Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards

EN 1679-1:1998, Reciprocating internal combustion engines — Safety — Part 1: Compression ignition engines

EN 60204-1:2006, Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)

EN 60529:1991, Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)

EN 61310-1:2008, Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, acoustic and tactile signals (IEC 61310-1:2007)

EN ISO 4871:2009, Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)

EN ISO 12100-1:2003, 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 13732-1:2008, Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces (ISO 13732-1:2006)

EN ISO 13850:2008, Safety of machinery — Emergency stop — Principles for design (ISO 13850:2006)