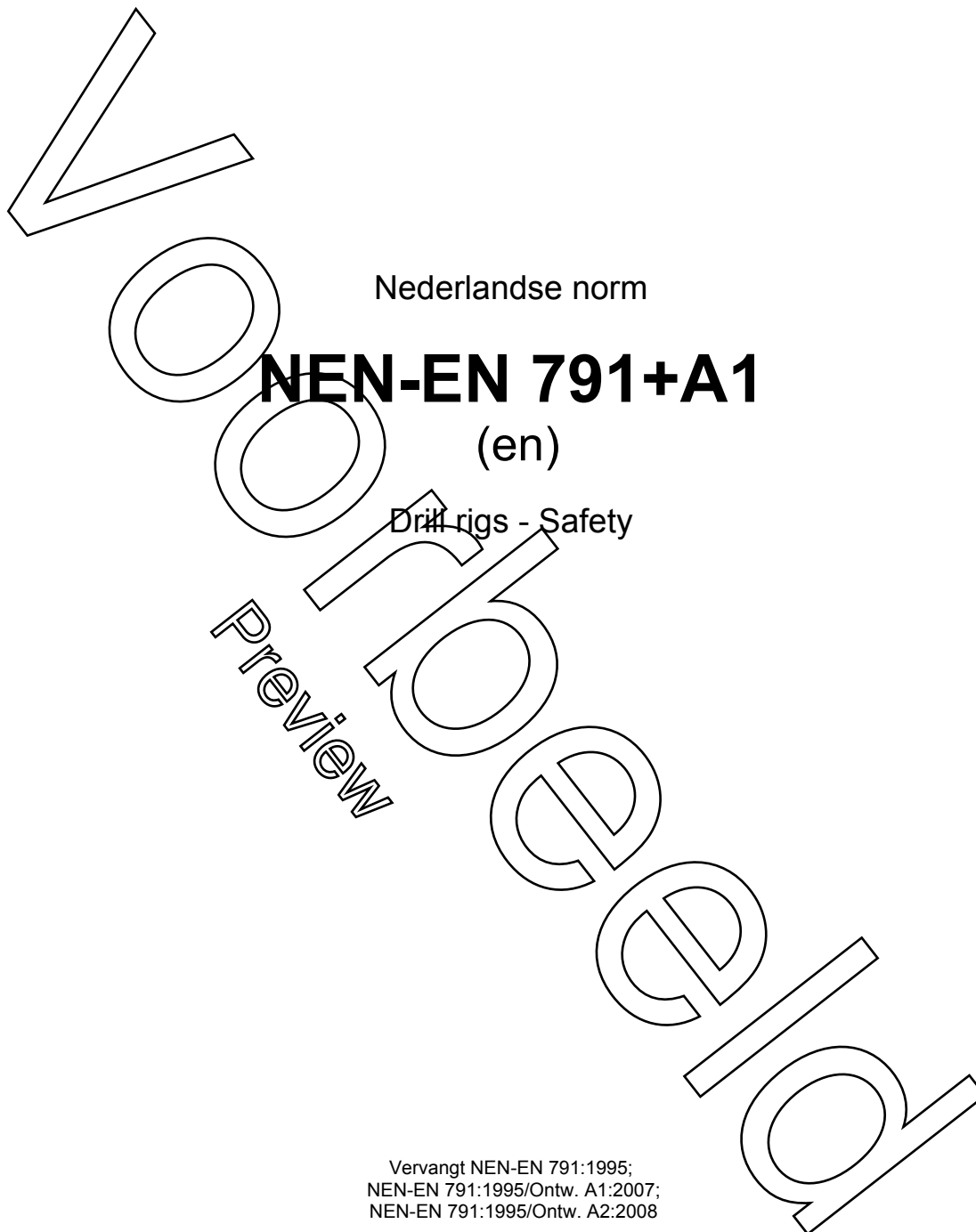


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Nederlandse norm

NEN-EN 791+A1

(en)

Drill rigs - Safety

Vervangt NEN-EN 791:1995;
NEN-EN 791:1995/Ontw. A1:2007;
NEN-EN 791:1995/Ontw. A2:2008

ICS 91.220
maart 2009

Als Nederlandse norm is aanvaard:
 - EN 791:1995+A1:2009, IDT

Voorbeeld
 Preview

Normcommissie 341044 "Mobiele toonmachines"

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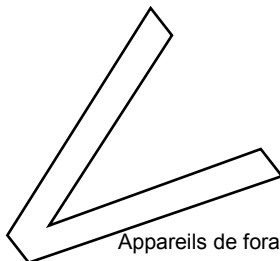
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Nederlands voorwoord

Voor de in deze norm vermelde normatieve verwijzingen bestaan in Nederland de volgende equivalenten:

<u>vermelde norm</u>	<u>Nederlandse norm</u>	<u>titel</u>
EN 3:1975	-	-
EN 292-1:1991	NEN-EN 292-1:1994	Veiligheid van machines - Basisbegrippen, algemene ontwerpbeginselen - Deel 1: Basisterminologie, methodologie
EN 292-2:1991	NEN-EN 292-2:1996	Veiligheid van machines - Basisbegrippen, algemene ontwerpbeginselen - Deel 2: Technische beginselen en beschrijvingen
EN 294:1992	NEN-EN 294:1992	Veiligheid van machines - Veiligheidsafstanden ter voorkoming van het bereiken van gevaarlijke zones met de bovenste ledematen
EN 418:1992	NEN-EN 418:1992	Veiligheid van machines - Noodstopvoorzieningen, functionele aspecten - Ontwerpbeginselen
prEN 563	-	-
prEN 953	NEN-EN 953	Veiligheid van machines - Afschermingen - Algemene eisen voor het ontwerp en de constructie van vaste en beweegbare afschermingen
prEN 954-1	-	-
prEN 982	-	-
prEN 983	-	-
prEN 1037	-	-
ENV 1070:1993	NVN-ENV 1070:1993	Veiligheid van machines - Termen en definities
EN 22860:1985	-	-
EN 23164:1985	-	-
EN 23411:1988	-	-
EN 50081-2:1993	NEN-EN 50081-2:1994	Elektromagnetische compatibiliteit - Algemene emissienorm - Deel 2: Industriële omgeving
EN 50082-2:1994	NEN-EN 50082-2:1995	Elektromagnetische compatibiliteit - Algemene immuïteitsnorm - Deel 2: Industriële omgeving
EN 60204-1:1992	NEN-EN 60204-1:1995	Veiligheid van machines - Elektrische uitrusting van machines - Deel 1: Algemene eisen
ISO 2631-1:1985	NEN-ISO 2631-1:1987	Mechanische trillingen - Beoordeling van de invloed van trillingen op het menselijk lichaam - Deel 1: Algemene eisen
ISO 2867:1989	NEN-EN-ISO 2867:1998	Grondverzetmachines - Toegangssystemen
ISO 3449:1992	NEN-ISO 3449:1992	Grondverzetmachines - Beschermende constructies tegen vallende voorwerpen - Laboratoriumbeproevingen en eisen
ISO 3450:1985	NEN-EN-ISO 3450:1996	Grondverzetmachines - Remsystemen van machines met rubberbanden - Systemen, prestatie-eisen en beproevingsprocedures
ISO 3457:1986	NEN-EN-ISO 3457:1995	Grondverzetmachines - Afschermingen - Termen, definities en eisen
ISO 3471-1:1986	-	-
ISO 3795:1989	-	-
ISO 4302:1981	-	-
ISO 4309:1990	-	-
ISO 4872:1978	NEN-ISO 4872:1983	Akoestiek - Meten van luchtgeluid veroorzaakt door bouwmachines bestemd voor gebruik in de open lucht - Methode om te controleren of is voldaan aan geluidseisen
ISO 6682:1986	NEN-EN-ISO 6682:1995	Grondverzetmachines - Comfortgebieden en bedieningsafstanden
ISO 10570:1992	NEN-ISO 10570:2004	Grondverzetmachines - Vergrendeling - Gebruikseigenschappen
IEC 651:1979	NEN 10651:1994	Geluidniveaumeters
IEC 804:1985	NEN 10804:1994	Integrerende, middelende geluidniveaumeters

Voorbeeld
Preview



Appareils de forage - Sécurité

English Version

Drill rigs - Safety

Bohrgeräte - Sicherheit

This European Standard was approved by CEN on 1 July 1995 and includes Amendment 1 approved by CEN on 20 December 2008.

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Preview



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Voorbeeld
 Preview

Foreword

This document (EN 791:1995+A1:2009) has been prepared by CEN/TC 151 "Construction equipment and building material machines - 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 August 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document has been prepared under a mandate given to CEN by the Commission of the European Communities and the European Free Trade Association, and supports the essential requirements of EC Directive(s).

This document includes Amendment 1, approved by CEN on 2008-12-20.

This document supersedes EN 791:1995.

The start and finish of text introduced or altered by amendment is indicated in the text by tags \square_{A1} \square_{A1} .

\square_{A1} For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. \square_{A1}

This standard is a type C-standard in the structure of A-/B-/C-standards as defined in EN 292.

The Annex A is normative and contains "Measurement of noise and vibration", the Annex B is normative and contains "Instructions for the examination and checking of blocks, wire ropes and chains", the Annex C is normative and contains "Brake test for drill rigs excluding truck and tractor mounted drill rigs", the Annex D is normative and contains "Hazards related to operation modes of drill rigs", the Annex E is informative and contains "Symbols and signs" and the Annex F is informative and contains "Bibliography".

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, 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.

Introduction

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.

Those hazards that are relevant for all mechanical, electrical, hydraulic, pneumatic and other equipment of machinery and that are dealt with in standards for common use are not covered by this standard.

Reference to pertinent standards of this kind is made where such standards are applicable and so far as is necessary.

1 Scope

1.1 The general term "Drill Rig" covers several differing types of machines for use in the construction industry, water well drilling industry, mining and quarrying, for use above ground as well as underground and for tunnel construction. The differing tasks determine the choice of drilling method and type of machine. For this reason there are many possible ways to separate drill rigs into different groups, e.g. in accordance with:

- The task;
- The drilling method used;
- The cutting removal method;
- The type of construction work.

The methods used for drilling can be basically differentiated in percussive and rotary drilling principles.

Percussive drilling is a method by which the hole is produced by crushing the ground or rock at the bottom of the drill-hole by striking it with the drilling tool and removing the cuttings out of the bore-hole.

Rotary drilling is a method in which the drilling tool at the bottom of the borehole is rotated and at the same time, a feed force is applied by a feed system or drill collar. The ground or rock at the bottom of the borehole is crushed or cut by pressure, shear or tensile stress produced by the different drilling tools. The cuttings are periodically or continuously removed out of the bore hole.

Rotary percussive drilling is performed by a piston striking directly on the bit (down the hole hammer drills) or by percussive energy transmitted via a drill string to the bit. The piston is powered by either hydraulic fluid or compressed air.

At the same time the drill bit is rotated either continuously or intermittently.

The cuttings are continuously removed out of the borehole by a flushing medium, air or fluid which is carried to the drilling tool.

Typical examples of drill rigs covered by this standard are:

- Cable tool drill rig;

- Pile drill rigs;
- Pile top drill rig;
- Raise borer;
- Reverse circulation drill rig;
- Rotary and percussive drill rig for underground drilling;
- Rotary and percussive drill rig for surface drilling;
- Rotary drill rig with power swivel;
- Rotary spindle rig;
- Rotary drill rig for underground use.

A casing or a drilling fluid may be used to stabilize the bore hole.

Drill rigs are stationary during drilling. They may move from one place of work to another, under their own power. Self propelled drill rigs may include those mounted on lorries, wheeled chassis, tractors, crawlers, skid bases (pulled by winch). When drill rigs are mounted on lorries, tractors and trailers, or are wheeled based, transportation may be carried out at higher speeds and on public roads. When designing and constructing these units attention is drawn to regulations covering both the drill rig and traffic regulations.

The questions of safety and ergonomic criteria in this standard mainly refer to the principal work, e.g. when the machine is stationary and drilling. In many cases the driver is also the operator of the drill rig.

1.2 This standard deals with the significant hazards pertinent to mechanized drill rigs, when used as intended and under the conditions foreseen by the manufacturer. It specifies requirements of safety concerning the design, construction, operation and maintenance. This standard applies to drill rigs for surface and underground drilling in the tunnelling, mining, construction and water well drilling industries. Casing units are also covered by this standard.

If the base of a drill rig consists of an excavator, crane, etc. it shall be covered by its own standards to the extent the requirements of this standard are not applicable.

NOTE 1 If a drill rig operates with attachments other than those for drilling according to this standard, e.g. pile driving, the safety standards applying to such machines shall also be complied with.

For drill rigs to be used in an explosive atmosphere (coal mining etc.) the relevant standards apply additionally.

NOTE 2 CEN/TC 196 is preparing complementary standards for machines to be used in explosive atmospheres.

Oil and gas industry drill rigs are not covered by this standard.

2 Normative references

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

EN 3:1975, *Portable fire extinguishers*.

EN 292-1:1991, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology*.

EN 292-2:1991, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles and specifications*.

EN 294:1992, *Safety of machinery — Safety distances to prevent danger zones being reached by the upper limbs*.

EN 418:1992, *Safety of machinery — Emergency stop equipment, functional aspects — Principles for design*.

prEN 563, *Safety of machinery — Temperatures of touchable surfaces — Ergonomics data to establish temperature limit values for hot surfaces*.

prEN 953, *Safety of machinery — General requirements for the design and construction of guards (fixed, movable)*.

prEN 954-1, *Safety of machinery — Safety related parts of control systems — Part 1: General principles for design*.

prEN 982, *Safety requirements for fluid power systems and components — Hydraulics*

prEN 983, *Safety requirements for fluid power systems and components — Pneumatics*

prEN 1037, *Safety of machinery — Isolation and energy dissipation — Prevention of unexpected start-up*.

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EN 22860:1985, *Earth-moving machinery — Minimum access dimensions*.

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EN 23411:1988, *Earth-moving machinery — Human physical dimensions of operators and minimum operator space envelope*.

EN 50081-2:1993, *Electromagnetic compatibility — Generic emission standard — Part 2: Industrial environment*.

EN 50082-2:1994, *Electromagnetic compatibility — Generic immunity standard — Part 2: Industrial environment*.

EN 60204-1:1992, *Electrical equipment of industrial machines — Part 1: General requirements*.

ISO 2631-1:1985, *Evaluation of human exposure to whole-body vibration — Part 1: General requirements*.

ISO 2867:1989, *Earth-moving machinery — Access systems*.

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