BRITISH STANDARD

BS EN 791:1995 +A1:2009

Drill rigs — Safety

ICS 91.220

National foreword

This British Standard is the UK implementation of EN 791:1995+A1:2009. It supersedes BS EN 791:1996 which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by [A1] [A1] tags.

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Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard, having been prepared under the direction of the Sector Board for Building and Civil Engineering, was published under the authority of the Standards Board and comes into effect on 15 June 1996

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EUROPEAN STANDARD

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English Version

Drill rigs - Safety

Appareils de forage - Sécurité

Bohrgeräte - Sicherheit

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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of an identical text or by endorsement, at the latest by August 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.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 ⟦A1⟩ ⟨A1⟧.

⟦A1⟩ For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. ⟨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 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;