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Machines for underground mines - Safety requirements for hydraulic powered roof supports - Part 1: Support units and general requirements

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English Version

Machines for underground mines - Safety requirements for hydraulic powered roof supports - Part 1: Support units and general requirements

Machines pour mines souterraines - Exigences de sécurité relatives aux soutènements marchants applicables aux piles - Partie 1: Unités de soutènement et exigences générales

Maschinen für den Bergbau unter Tage - Sicherheitsanforderungen für hydraulischen Schreitausbau - Teil 1: Ausbaugestelle und allgemeine Anforderungen

This European Standard was approved by CEN on 21 September 2001 and includes Amendment 1 approved by CEN on 21 December 2009.

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Foreword

This document (EN 1804-1:2001+A1:2010) has been prepared by Technical Committee CEN/TC 196 "Machines for underground mines - 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of an identical text or by endorsement, at the latest by July 2010, and conflicting national standards shall be withdrawn at the latest by July 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document includes Amendment 1, approved by CEN on 2009-12-21.

This document supersedes EN 1804-1:2001.

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

A1 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 document. A1

This standard is Part 1 of a European Standard specifying the safety requirements for hydraulic powered roof supports.

Other parts are:

Part 2: Power set legs and rams

Part 3: Hydraulic control systems

Part 4¹⁾: Electro-hydraulic control systems

Annex A is normative.

This standard includes a 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, 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.

1) in preparation

Introduction

This European Standard is a Type C-standard as stated in EN 1070.

The extent to which hazards are covered is indicated in the scope of the standard.

While producing (or when compiling) this standard it was assumed that:

- only trained and competent persons operate the machine;
- components without specific requirements are:
 - a) designed in accordance with the usual engineering practice and calculation codes;
 - b) of sound mechanical construction;
 - c) free of defects.
- components are kept in good working order;
- a negotiation took place between the user and the manufacturer concerning the use of the machinery.

1 Scope

This standard specifies the safety requirements for support units when used as specified by the manufacturer or his authorised representative. Examples of support units are frame supports, chock supports, shield supports, paired frames and push-pull support systems including the components of advancing and anchoring devices which provide support functions. This part of the standard excludes fixing elements on the conveyor, coal-winning equipment, power set legs and rams, valves, hydraulic and electro-hydraulic control units, lighting and signalling facilities and other ancillary equipment.

NOTE Some components are dealt with in other parts of this standard.

This standard applies to support units used at temperatures from -10°C to 60°C .

This standard also applies to support components and support accessories which are provided if the support unit is fitted with stowing equipment. This standard identifies and takes account of:

- Possible hazards which may be caused by the operation of support units;
- Areas and operating conditions which may create such hazards;
- Hazardous situations which may cause injury or may be damaging to health;

This standard describes methods for the reduction of these hazards.

A list of hazards covered appears in clause 4.

This European standard does not establish the additional requirements for:

- Specially corrosive environments;

- Hazards occurring during construction, transportation, decommissioning;
- Earthquake.

This standard is applicable to all support units placed on the market for the first time, which are manufactured after the date on which this standard was published.

2 Normative references

This European Standard incorporates by dated or undated reference, 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 (including amendments).

EN 287-1, *Approval testing of welders - Fusion welding – Part 1: Steels*

EN 288-1, *Specification and approval of welding procedures for metallic materials – Part 1: General rules for fusion welding*

EN 288-2, *Specification and approval of welding procedures for metallic materials – Part 2: Welding procedure specification for arc welding*

EN 288-3, *Specification and approval of welding procedures for metallic materials – Part 3: Welding procedure tests for the arc welding of steels*

EN 292-1:1991, *Safety of machinery - Basic concepts - General principles for design – Part 1: Basic terminology, methodology*

EN 292-2:1991+A1:1995, *Safety of machinery - Basic concepts - General principles for design – Part 2: Technical principles and specification*

EN 1050:1996, *Safety of machinery – Principles for risk assessment*

EN 1070, *Safety of machinery – Terminology*

EN 1804-2, *Machines for underground mines - Safety requirements for hydraulic powered roof supports – Part 2: Power set legs and rams*

A1 EN 1804-3 **A1**, *Machines for underground mines - Safety requirements for hydraulic powered roof supports – Part 3: Hydraulic control systems*

ENV 1993-1-1:1992, *Eurocode 2: Design of steel structures - General rules and rules for buildings - General rules and rules for buildings*

EN 10002-1, *Metallic material - Tensile testing – Part 1: Method of test*

EN 10025:1990 + A1:1993, *Hot rolled products of non-alloy structural steels - Technical delivery conditions*

EN 10045-1, *Metallic materials - Charpy impact test – Part 1: test method*

prEN 13463-1:1999, *Non-electrical equipment for potentially explosive atmospheres – Part 1: Basic methodology and requirements*

EURONORM 103:1971, *Microscopic determination of the ferrite or austenitic grain size of steels*

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