

**Maa-aluste kaevanduste masinad. Hüdroenergial
töötavate katusetugede ohutusnõuded. Osa 2:
Jõuseadme jalad ja rammid**

Machines for underground mines - Safety requirements for
hydraulic powered roof supports - Part 2: Power set legs and
rams

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1804-2:2001+A1:2010 sisaldab Euroopa standardi EN 1804-2:2001+A1:2010 ingliskeelset teksti.

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English Version

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

Machines pour mines souterraines - Exigences de sécurité
relatives aux soutènements marchants applicables aux
piles - Partie 2: Etançons et vérins à pose mécanisée

Maschinen für den Bergbau unter Tage -
Sicherheitsanforderungen für hydraulischen Schreitausbau
- Teil 2: Stempel und Zylinder

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 1804-2:2001+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of an identical text or by endorsement, at the latest by July 2010, and conflicting national standards shall be withdrawn at the latest by July 2010.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 1804-2:2001.

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 1: Support units and general requirements

Part 3: Hydraulic control systems

Part 4¹⁾: Electro-hydraulic control systems

Annexes A and B are 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;
- negotiations have taken place between the user and the manufacturer of the legs and rams (manufacturer of the roof support unit or final user in case of replacement parts) concerning the use of the machinery.

1 Scope

This standard specifies the safety requirements for legs and rams when used as specified by the manufacturer or his authorised representative. Examples covered by the standard include legs, support rams and rams with their mechanical extensions, internal valves and safety devices, seals, hydraulic connections (up to the first hose or Type B valve, see Part 3) and their lifting points but excluding protective pipes and gaiters, external valves and hydraulic and electrohydraulic control systems.

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

This standard applies to legs, support rams and rams used at ambient temperatures from $-10\text{ }^{\circ}\text{C}$ to $60\text{ }^{\circ}\text{C}$.

This standard identifies and takes account of:

- Possible hazards which may be caused by the operation of legs, support rams and rams;
- 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 standard is applicable to all legs, support rams and rams placed on the market for the first time and which are manufactured after the date on which this standard was published.

This European standard does not establish the additional requirements for:

- Specially corrosive environments;
- Hazards occurring during construction, transportation, decommissioning;
- Earthquake.

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

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

EN 1804-1:2001, *Machines for underground mines - Safety requirements for hydraulic powered roof supports – Part 1: Support units and general requirements*

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

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

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*

ISO 7745:1989, *Hydraulic fluid power - Fire-resistant (FR) fluids - Guidelines for use*

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

3 Terms and definitions

For the purposes of this standard the following terms and definitions apply.

3.1

support unit

type of hydraulic powered roof support e.g. frame support, chock support, shield support, consisting of support components and support accessories [EN 1804-1:2001]