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Underground mining machinery - Specification for the safety requirements of armoured face conveyors CONSOLIDATED TEXT

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 12321:2003+A1:2009 sisaldab Euroopa standardi EN 12321:2003+A1:2009 ingliskeelset teksti.	This Estonian standard EVS-EN 12321:2003+A1:2009 consists of the English text of the European standard EN 12321:2003+A1:2009.
Standard on kinnitatud Eesti Standardikeskuse 29.05.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 29.05.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 01.05.2009.	Date of Availability of the European standard text 01.05.2009.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 73.100.30

Võtmesõnad:

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12321:2003+A1

April 2009

ICS 73.100.40

Supersedes EN 12321:2003

English Version

Underground mining machinery - Specification for the safety requirements of armoured face conveyors

Machines d'exploitation souterraine - Spécification relative aux prescriptions de sécurité des transporteurs blindés à chaîne à raclettes

Bergbaumaschinen unter Tage - Sicherheitsanforderungen an Kettenkratzerförderer

This European Standard was approved by CEN on 11 March 2003 and includes Amendment 1 approved by CEN on 24 February 2009.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists 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.

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Ref. No. EN 12321:2003+A1:2009: E

Contents

Foreword

This document (EN 12321:2003+A1:2009) 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 October 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2009-02-24.

This document supersedes EN 12321:2003.

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

This document 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).

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

Annex A is informative.

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

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 this standard. When compiling this standard it has been assumed that:

components are:

— designed in accordance with good engineering practice, taking account of expected shocks and vibrations and calculation codes, including all failure modes;

— of sound mechanical and electrical construction;

— made of materials with adequate strength and of suitable quality; and

— free of defects.

— harmful materials, such as asbestos are not used;

— components are kept in good repair and working order, so that the required dimensions remain fulfilled despite wear;

— negotiations have taken place between the manufacturer or authorised representative, purchaser and/or user (e.g. for fire resistant fluids, safety equipment and load restraining devices).

1 Scope

1.1 This European Standard specifies the safety requirements for armoured face conveyors and covers, conveyor drive units, return units, line pans, chain assemblies, devices for tensioning and locking chains.

This European Standard does not apply to stage loader ancillaries, armoured face conveyors which form part of mineral bunker systems or operate as spillage conveyors, to haulage systems and guides utilised by extraction machines, to the technical requirements for cable-less remote controls, to compressed air powered machines, or to the interfaces between the elements of the conveyor and other machine installations.

Armoured face conveyors are designed for the transport of minerals and rock only.

NOTE Armoured face conveyors can be used as a base for guiding the extraction machine and as a link between the face roof support and the extraction machine if required.

This European Standard deals with all hazards, hazardous situations and events for the use in mines, when they are used as intended and for the conditions foreseen by the manufacturer. See clause 4 for the hazards dealt with.

1.2 This European Standard does not cover any hazards resulting from the electrical equipment associated with the machine. It does not contain any requirements relating to dust suppression or firedamp hazards. Hazards due to noise are also excluded from this European Standard, but a separate European Standard is in preparation where hazards due to noise will be addressed.

It is intended for manufacturers producing and marketing complete machines, and for manufacturers assembling new parts from different origins or assembling new machines even for their own use. These are called “manufacturers” in this European Standard.

1.3 This European Standard applies to armoured face conveyors which are manufactured after the date of issue of this European 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 (including amendments).

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 457, *Safety of machinery — Auditory danger signals — General requirements, design and testing (ISO 7731:1986, modified).*

EN 547-3, *Safety of machinery — Human body measurements — Part 3: Anthropometric data.*

EN 563, *Safety of machinery - Temperatures of touchable surfaces – Ergonomics data to establish temperature limit values for hot surfaces.*

EN 894-1, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 1: General principles for human interactions with displays and control actuators.*

EN 894-2, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 2: Displays.*

EN 894-3, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 3: Control actuators.*

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

EN 982, *Safety of machinery — Safety requirements for fluid power systems and their components — Hydraulics.*

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

EN 1070:1998, *Safety of machinery — Terminology.*

EN 13202:2000, *Ergonomics of the thermal environment — Temperatures of touchable hot surfaces - Guidance for establishing surface temperature limit values in production standards with the aid of EN 563.*

EN 61310-2, *Safety of machinery — Indication, marking and actuation — Part 2: Requirements for marking (IEC 61310-2:1995).*

EN ISO 8030, *Rubber and plastic hoses — Methods of test for flammability (ISO 8030:1987)*

ISO 3864, *Safety colours and safety signs.*

ISO 6805, *Rubber hoses and hose assemblies for underground mining — Wire-reinforced hydraulic types for coal mining — Specification.*