Gefährdung	Relevante Abschnitte dieses Dokuments
Bedienungsfehler (zurückzuführen auf unzureichende Anpassung der Maschine an menschliche Eigenschaften oder Fähigkeiten, siehe Zeilennummer 8.7)	4.1
Fehlende Möglichkeit, die Maschine unter optimalen Bedingungen still zu setzen	4.1
Ausfall der Energieversorgung	4.1
Ausfall des Steuer- bzw. Regelkreises	4.1
Fehlerhafte Montage	4.1
Herabfallende oder herausgeschleuderte Gegenstände oder Flüssigkeiten	4.1, 4.7.2
Verlust der Standsicherheit/Umkippen von Maschinen	4.1, 4.7.3
Rutschen, Stolpern und Fall von Personen (im Zusammenhang mit Maschinen)	4.1, 4.6
Zusätzliche Gefährdungen, Gefährdungssituationen und Gefährdungsereignisse aufgrund von Bewegungen	
Im Zusammenhang mit der Fortbewegung der Maschine	
Fortbewegung beim Starten der Maschine	4.1
Fortbewegung, ohne dass sich der Maschinenführer auf dem Maschinenführersitz befindet	4.1
Fortbewegung, ohne dass alle Teile gesichert sind	4.1
Fahrfunktion	4.1
Zu starke Schwingungen bei der Fortbewegung	4.1
Ungeeignete Möglichkeiten, die Maschine zu verlangsamen, still zu setzen und unbeweglich zu machen	4.1
Fernsteuerung	4.1
In Verbindung mit dem Arbeitsplatz (einschließlich Maschinenführerhaus) auf der Maschine	
Fall von Personen beim Zugang zum (oder am/vom) Fahr-/Arbeitsplatz (zu (oder an/von den) Fahr-/Arbeitsplätzen)	4.1, 4.6
Abgase/Sauerstoffmangel am Arbeitsplatz	4.1
Feuer (Entflammbarkeit der Kabine, Mangel an Feuerlöscheinrichtungen)	4.1
Mechanische Gefährdungen am Arbeitsplatz: Kontakt mit den Rädern; Überschlag; Herabfallen von Gegenständen, Eindringen von Objekten.	 4.1, 4.6 4.1 4.1, 4.7.2
Ungenügende Sicht aus der (den) Fahr-/Arbeitsposition(en)	4.1, 4.2
Ungenügende Arbeits-/Fahrbeleuchtung	4.1

Gefährdung	Relevante Abschnitte dieses Dokuments
Ungeeigneter Sitz	4.1
Lärm am Arbeitsplatz	4.1, 4.10
Vibration am (an) Fahr-/Arbeitsplatz(-plätzen)	4.1
Unzureichende Evakuierungsmöglichkeiten/Notausgänge	4.1, 4.6
Zurückzuführen auf das Steuerungssystem	
Ungeeignete Konstruktion hinsichtlich der Energie/Steuerkreise	4.1
Ungeeignete Positionierung von Stellteilen	4.1, 4.7.2.3
Ungeeignete Konstruktion der Stellteile und ihrer Betriebsweisen	4.1
Durch Arbeiten mit der Maschine (Stabilitätsverlust)	4.1, 4.7.3
Zurückzuführen auf die Energiequelle und Energieübertragung	
Gefährdungen durch Motor und Batterien	4.1
Gefährdungen durch Bergung, Transport, Heben und Abschleppen	4.1
Durch/für dritte Personen	
Unerlaubtes Starten/Benutzen	4.1
Bewegung eines Maschinenteils über seine Halteposition hinaus	4.1
Fehlen oder mangelnde Eignung von optischen oder akustischen Warneinrichtungen	4.1
Unzureichende Anweisungen für den Maschinenführer/Bediener (Betriebsanleitung, Zeichen, Warnungen und Kennzeichnungen)	4.1, 6

Literaturhinweise

[1] DHHS (NIOSH) Publication No. 2015-105, *Best Practice Engineering Control Guidelines to Control Worker Exposure to Respirable Crystalline Silica during Asphalt Pavement Milling*

[2] ISO 29042-1:2008, *Safety of machinery — Evaluation of the emission of airborne hazardous substances — Part 1: Selection of test methods*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 195, *Building construction machinery and equipment*.

ISO 20500 consists of the following parts, under the general title *Mobile road construction machinery — Safety*:

— *Part 1: Common requirements*

— *Part 2: Specific requirements for road-milling machines*

— *Part 3: Specific requirements for soil-stabilising machines and recycling machines*

— *Part 4: Specific requirements for compaction machines*

— *Part 5: Specific requirements for paver-finishers*

— *Part 6: Specific requirements for mobile feeders*

— *Part 7: Specific requirements for slip form pavers and texture curing machines*

A list of all parts in the ISO 20500 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This International Standard is a type C standard as stated in ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this International Standard.

When provisions of this type C standard are different from those stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

Mobile road construction machinery — Safety —

Part 2:
Specific requirements for road-milling machines

1 Scope

This part of ISO 20500, together with part 1, deals with all significant hazards for road-milling machines when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Annex D).

The requirements of this part are complementary to the common requirements formulated in ISO 20500-1.

This document does not repeat the requirements from ISO 20500-1, but adds or replaces the requirements for application for road-milling machines.

The following significant and relevant hazards are not covered in this document:

— Lightning.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2867:2011, *Earth-moving machinery — Access systems*

ISO 3744:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for an essentially free field over a reflecting plane*

ISO 9244:2008+Amd 1:2016, *Earth-moving machinery — Machine safety labels — General principles; Amendment 1*

ISO 11201:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections*

ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs*

ISO 15645:2018, *Road construction and maintenance equipment — Road milling machinery — Terminology and commercial specifications*

ISO 20500-1, *Mobile road construction machinery — Safety — Part 1: Common requirements*