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Mobile road construction machinery — Safety —

Part 6:
Specific requirements for mobile feeders

ICS: 93.080.10

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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 slipform 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 which are 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 feeders are typically self-propelled machines used in the continuous transfer of paving materials from trucks to paver finishers. Some mobile feeders are capable of feeding multiple paver finishers.

Mobile road construction machinery — Safety —

Part 6: Specific requirements for mobile feeders

1 Scope

This part of ISO 20500, together with part 1, deals with all significant hazards for mobile feeders 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 C).

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 mobile feeder.

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 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 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 15878:2008, *Road construction and maintenance equipment — Asphalt pavers — Terminology and commercial specifications*

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
mobile feeder
self-propelled machine intended to transfer paving material from a truck or a windrow to a paver finisher for continuous paving without physical contact of mobile feeder and paver

Note 1 to entry: Mobile feeders can be either rubber-tyred or crawler-mounted.

3.2
windrow elevator
machine equipped with a windrow material reception and a conveyor intended to transfer paving material into the hopper of a paver- finisher or a hopper insert

Note 1 to entry It can be either self-propelled or rigidly fixed as an interchangeable equipment to a paver-finisher equipped with a windrow material reception and a conveyor.

3.3
windrow material reception
device installed on a windrow elevator or mobile feeder intended to receive paving material laying on the surface as a windrow and to guide it onto a conveyor

3.4
internal storage
device installed on a mobile feeder intended to enlarge the storage capacity of the combination of mobile feeder and paver-finisher

3.5
mixing unit
device installed on the lower side of a hopper insert or at the beginning of the discharge conveyor of a mobile feeder or windrow elevator intended to break up and mix chunky portions of paving material

3.6
discharge conveyor
device intended to transfer paving material from the mobile feeder or windrow elevator to the paver finisher

Note to entry 1 Device can be rigid or slewing type.

3.7
hopper insert
device to increase hopper capacity

[SOURCE: ISO 15878:2008]

4 Safety requirements and/or protective/risk reduction measures

4.1 General

Mobile feeders shall comply with the safety requirements and/or protective/risk reduction measures of this clause. In addition, the machines shall be designed according to the principles of EN ISO 12100:2010 for relevant but not significant hazards which are not dealt with by this document.

Mobile feeders shall comply with the requirements of FprEN 474-1:2019, as far as not modified or replaced by the requirements of this part.

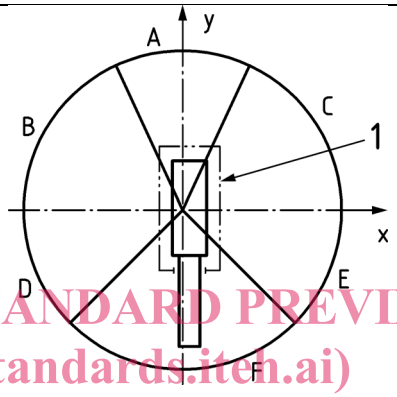
4.2 Visibility

4.2 of ISO 20500-1 applies with the following additions.

4.2.1 Visibility performance criteria

The machine meets the requirements of this International Standard if the measurement results show no maskings or maskings smaller than or equal to the performance criteria with direct or indirect view as specified in Table 2.

Table 1 — Visibility performance criteria



	A	B	C	D	E	F	1[c]
	205 -------- 1 - 700	205[b] -------- 2 – 1300	205 [b] -------- 2 – 1300	205 -------- 2 – 1300	205 -------- 2 – 1300	205 -------- 2 - 1300	405[a] ------ 300

[a] The area below the conveyor will not be evaluated (dimension XX according to Table 4)

[b] If the maskings exceed the given value in Sector B or C, the requirement is also fulfilled, if only one masking remains at a height of 1000 mm above GRP

[c] RB

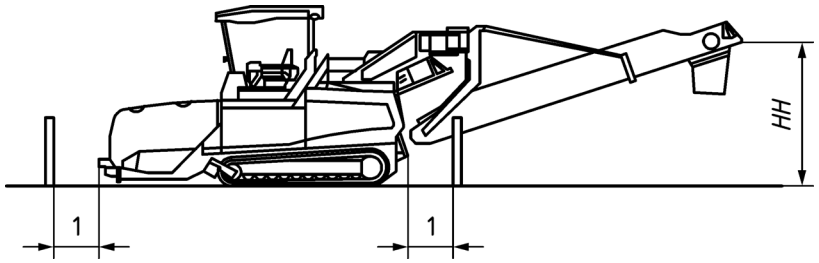
4.2.2 Visibility performance criteria for the RB

The machine meets the requirements of the standard if the measurement results show no maskings or maskings smaller or equal to the acceptable maskings (300 mm) when evaluated using the eye spacing specified in Table 1 for the RB and using the test object height for each region as specified in Table 3.

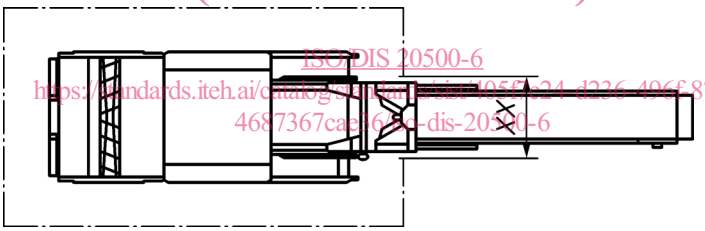
Table 2 — Vertical test object height by region of rectangular boundary

Region of the RB			
Front side	Left hand side	Right hand side	Rear side
1,5 m	1,5 m	1,5 m	1,5 m (with gap XX) under the conveyor, see Table 4)

Table 3 — Setup of the machines



HH: height of pulley center above ground



XX is defined as the width of the conveyor supension+2 x 150mm

Additional information to be recorded:

— dimension *HH*;

— dimension *XX*.

4.3 Operator's station

4.4 of ISO 20500-1 applies with the following exception:

— in sub-clause 4.4.2, the first paragraph does not apply to mobile feeders.

4.4 Controls and indicators

4.6 of ISO 20500-1 applies with the following addition: