
Earth-moving machinery — Safety —
Part 6:
Requirements for dumpers

Engins de terrassement — Sécurité —

Partie 6: Exigences applicables aux tombereaux



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Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 20474-6 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 2, *Safety, ergonomics and general requirements*.

ISO 20474 consists of the following parts, under the general title *Earth-moving machinery — Safety*:

- *Part 1: General requirements*
- *Part 2: Requirements for tractor-dozers*
- *Part 3: Requirements for loaders*
- *Part 4: Requirements for backhoe loaders*
- *Part 5: Requirements for hydraulic excavators*
- *Part 6: Requirements for dumpers*
- *Part 7: Requirements for scrapers*
- *Part 8: Requirements for graders*
- *Part 9: Requirements for pipelayers*
- *Part 10: Requirements for trenchers*
- *Part 11: Requirements for earth and landfill compactors*
- *Part 12: Requirements for cable excavators*
- *Part 13: Requirements for rollers*
- *Part 14: Information on national and regional provisions [Technical Specification]*

Introduction

This document is a type-C standard as stated in ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

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

Provisions that are applicable for Australia, the EU, Japan or the USA, and which are mandatory for compliance with specific governmental laws, directives or regulations in force in the particular country or region, are given in ISO/TS 20474-14.

NOTE Other countries or regions may also have regional requirements.

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Earth-moving machinery — Safety —

Part 6: Requirements for dumpers

1 Scope

This part of ISO 20474 gives the safety requirements specific to wheeled and crawler dumpers as defined in ISO 6165, including compact dumpers and compact dumpers with standing operator. It is not applicable to road-truck-mounted dumpers. It is intended to be used in conjunction with ISO 20474-1, which specifies general safety requirements common to earth-moving machine families, and with ISO/TS 20474-14, which gives information on provisions that are mandatory in particular countries or regions. The specific requirements given in this part of ISO 20474 take precedence over the general requirements of ISO 20474-1.

This part of ISO 20474 deals with all significant hazards, hazardous situations and events relevant to the earth-moving machinery within its Scope, when used as intended or under conditions of misuse reasonably foreseeable by the manufacturer (see also ISO/TS 20474-14). It specifies the appropriate technical measures for eliminating or reducing risks arising from significant hazards, hazardous situations or events during commissioning, operation and maintenance. It is not applicable to machines manufactured before the date of its publication.

2 Normative references

The following referenced documents are indispensable for the application 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 3449:2005, *Earth-moving machinery — Falling-object protective structures — Laboratory tests and performance requirements*

ISO 3471, *Earth-moving machinery — Roll-over protective structures — Laboratory tests and performance requirements*

ISO 6165, *Earth-moving machinery — Basic types — Identification and terms and definitions*

ISO 6016, *Earth-moving machinery — Methods of measuring the masses of whole machines, their equipment and components*

ISO 6683, *Earth-moving machinery — Seat belts and seat belt anchorages — Performance requirements and tests*

ISO 7096:2000, *Earth-moving machinery — Laboratory evaluation of operator seat vibration*

ISO 7132, *Earth-moving machinery — Dumpers — Terminology and commercial specifications*

ISO 10268, *Earth-moving machinery — Retarders for dumpers and tractor-scrapers — Performance tests*

ISO 10570, *Earth-moving machinery — Articulated frame lock — Performance requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 20474-1 and ISO 7132, and the following, apply.

3.1 dumper
self-propelled crawler or wheeled machine, with an open body, which transports and dumps or spreads material

NOTE 1 See ISO 6165 and Figures A.1 and A.2.

NOTE 2 Except in the case of compact dumpers, loading is performed by other machines or equipment.

3.2 rigid frame dumper
dumper with a rigid frame and wheel or crawler steering

NOTE See ISO 6165 and Figure A.1 (and Figure A.3).

3.3 articulated frame dumper
dumper with an articulated frame for steering

NOTE See ISO 6165 and Figure A.2.

3.4 swing dumper
dumper having a 360° swing upper structure

NOTE 1 See ISO 6165.

NOTE 2 The upper structure is comprised of a rigid frame, open body and operator's station; the undercarriage consists of a track-type or wheeled unit.

3.5 compact dumper
articulated or rigid dumper having an operating mass in accordance with ISO 6016 of 4 500 kg or less

NOTE 1 See ISO 6165 and Figures A.4, A.5 and A.6.

NOTE 2 A compact dumper may have integral self-loading equipment.

3.6 self-loading equipment
integral mounted bucket-supporting structure and linkage permanently fitted to the dumper, enabling it to fill its own open body with material

NOTE See Figure A.6.