INTERNATIONAL STANDARD

ISO 20474-11

Second edition
2017-07

Earth-moving machinery — Safety —

Part 11: Requirements for landfill compactors

Engins de terrassement — Sécurité —

Partie 11: Exigences applicables aux compacteurs de remblais et de déchets

Reference number
ISO 20474-11:2017(E)

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Foreword

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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 on 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 the following URL: www.iso.org/iso/foreword.html

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

This second edition cancels and replaces the first edition (ISO 20474-11:2008), which has been technically revised with the following changes:

— normative references have been updated;

— references to national and regional provisions in the withdrawn ISO/TS 20474-14 have been deleted;

— new safety requirements and protective measures have been added, including requirements for stability.

It is intended to be used in conjunction with ISO 20474-1.

A list of all parts in the ISO 20474 series, published under the general title, *Earth-moving machinery — Safety,* can be found on the ISO website.

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 which are 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.

ISO 20474 provides acceptable safety requirements for earth-moving machinery. This standard does not necessarily provide requirements to meet all national and regional regulatory provisions, e.g. Japan does not allow object handling with earth-moving machinery.

Earth-moving machinery — Safety —

Part 11:
Requirements for landfill compactors

1 Scope

This document gives the safety requirements specific to landfill compactors as defined in ISO 6165. It is intended to be used in conjunction with ISO 20474-1, which specifies general safety requirements common to two or more earth-moving machine families. The specific requirements given in this document take precedence over the general requirements of ISO 20474-1.

This document deals with all significant hazards, hazardous situations and events relevant to the earth-moving machinery within its scope (see ISO 20474-1:2017, Annex A) when used as intended or under conditions of misuse reasonably foreseeable by the manufacturer. It specifies the appropriate technical measures for eliminating or reducing risks arising from relevant hazards, hazardous situations or events during commissioning, operation and maintenance.

This document is not applicable to machines manufactured before the date of its publication.

NOTE Roller compactors are dealt with by ISO 20474-13.

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

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

ISO 7546, *Earth-moving machinery — Loader and front loading excavator buckets — Volumetric ratings*

ISO 8811, *Earth-moving machinery — Rollers and compactors — Terminology and commercial specifications*

ISO 14397-1, *Earth-moving machinery — Loaders and backhoe loaders — Part 1: Calculation of rated operating capacity and test method for verifying calculated tipping load*

ISO 20474-1:2017, *Earth-moving machinery — Safety — Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 20474-1, ISO 8811, and the following, apply.

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

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

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

3.1
landfill compactor
self-propelled wheeled compaction machine having front-mounted equipment with a dozing or loading attachment and wheels provided with means to crush and compact waste material, which also moves, grades and loads soil, landfill or sanitary (refuse) materials through its motion

[SOURCE: ISO 6165:2012, 4.9.]

3.2
dozing equipment
equipment for moving or grading material through a motion of the machine

Note 1 to entry: See Annex A for an illustration.

3.3
loading equipment
equipment for loading, transporting, distributing, filling and grading material

Note 1 to entry: See Annex A for an illustration.

3.4
drum
steel wheel affixed to the axle, with chopper, padfoot, sheepfoot or grid drum, etc., used to cut, demolish or compact material

4 Safety requirements and protective measures

4.1 General

Earth and landfill compactors shall comply with the safety requirements and protective measures of ISO 20474-1, in as far as those are not modified by the specific requirements of this clause.

4.2 Access

ISO 20474-1:2017, 4.2, shall apply, with the exception that the height of the first step shall be measured from the horizontal reference plan of the drum body.

4.3 Operator station

4.3.1 General

ISO 20474-1:2017, 4.3, shall apply, with the following addition and those given in 4.3.2 to 4.3.6 below.

Landfill compactors shall be fitted with a cab.

4.3.2 Bottom part of operator's station

The bottom part of the operator's station shall protect against penetrating material.

4.3.3 Cab door guard

ISO 20474-1:2017, 4.3.2.3, shall apply, with the addition that if the lower part of the cab door is fitted with glass, a guard shall be used to protect it, except in the case where the glazing provides equivalent protection against penetrating objects (see, for example, ECE R 43:2004, Annex 10, Clause 4).

4.3.4 Deodorizing filter

ISO 20474-1:2017, 4.3.2.6, shall apply, with the addition that provision shall be made for the installation of a deodorizing filter.

4.3.5 Air-conditioning

The machine shall be so designed and built that an air conditioning unit can be fitted (see ISO 10263-4).

4.3.6 Operator's seat

Landfill compactors shall be equipped with a suspension seat. The seat shall be in accordance with ISO 7096:2000, input spectral class EM 3.

NOTE The edition of ISO 7096 current at the time of publication of this document has no requirement specifically for seat vibration damping for seats used in landfill compactors. In the absence of such a requirement, EM 3 is the most suitable spectral class for these machines.

4.4 Fenders

ISO 20474-1:2017, 4.14.7 does not apply to landfill compactors.

4.5 Brake system

ISO 20474-1:2017, 4.7, shall apply, with the exception that the test of the brake system shall be made with rubber tyres fitted but with the operating mass of the compactor as specified by the manufacturer with steel wheels fitted.

4.6 Stability

ISO 20474-1:2017, 4.11, shall apply with the following additions for machines with loading equipment:

a) All rated capacities as defined hereafter are based on tests, calculation, or both, of machines on a level and firm supporting surface.

b) The mass of the load, its density and the location of its centre of gravity as well as the mass of the attachment and the attachment bracket, if fitted, shall be included in the determination of the rated operating load and the size or capacity of the attachment.

c) To provide sufficient stability, the rated operating load requirements in the intended operating applications shall be determined as follows:

   — tipping load and rated operating load, according to ISO 14397-1;

   — volumetric rating of the bucket, according to ISO 7546.

   NOTE See ISO 20474-3 for the effect on stability of particular applications.

4.7 Warning devices and safety signs

ISO 20474-1:2017, 4.9 shall apply, with the exception that the sound level of the audible warning device (horn) shall be an A-weighted value of 102 dB instead of an A-weighted value of 93 dB at 7 m distance.

5 Information for use

ISO 20474-1:2017, 6.2, shall apply, with the following addition:

— cab deodorizing filters are required for special applications.