
**Earth-moving machinery — Lifting
and tying-down attachment points —
Performance requirements**

*Engins de terrassement — Points d'ancrage pour le levage et
l'arrimage — Exigences de performance*

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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).

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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 3, *Machine characteristics, electrical and electronic systems, operation and maintenance*.

Introduction

This document has been developed to define the performance requirements of lifting and tying-down attachment points fitted on, or incorporated into, earth-moving machinery for the purposes of its effective and safe transportation.

Although manufacturers of machines do not have direct responsibility for such transportation, the method and precautions necessary for lifting, tying down and disassembling for transportation are described in informative annexes which can be used by the manufacturer as guidance when preparing the operator's manual.

The tying-down requirements and recommendations given in this document are intended to match with widely applied practices such as those described in IMO/ILO/UNECE guidelines. However, where this is not the case, another or other supplemental methods for securing the machine can be provided in the operator's manual.

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Earth-moving machinery — Lifting and tying-down attachment points — Performance requirements

1 Scope

This document specifies the performance requirements for the lifting and tying-down attachment points of earth-moving machinery as defined in ISO 6165.

This document also applies to components and subassemblies of earth-moving machinery which the manufacturer intends to be lifted or tied down separately by using lifting or tying-down attachment points.

NOTE 1 Some components (e.g. tyres, tyres with wheels, track shoe assemblies, hydraulic cylinders) can be securely tied down without specific tying-down attachment points.

This document applies to the following modes of transport:

- lifting with cranes (e.g. mobile cranes, gantry cranes);
- road transport (e.g. truck, trailer);
- rail transport, including combined transport (e.g. wagons with containers, swap-bodies, semi-trailers, trucks);
- sea transport.

It is not applicable to

- airlift or transport by air, or
- rail transport of machines on wagons subject to shunting.

NOTE 2 National or local regulations can be more stringent.

This document does not include requirements for attaching the machine to a platform of the rail car, boat, etc., from which the machine is intended to work.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

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

ISO 6405-1, *Earth-moving machinery — Symbols for operator controls and other displays — Part 1: Common symbols*

ISO 7000, *Graphical symbols for use on equipment — Registered symbols*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6165 and the following apply.