
**Earth-moving machinery — Quick
couplers — Safety**

Engins de terrassement — Attaches rapides — Sécurité



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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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 2, *Safety, ergonomics and general requirements*.

Introduction

This International Standard specifies design criteria for quick couplers related to assisting the operator in ensuring that an attachment is located in the right position on the quick coupler and that the engagement system is fully activated. While preparing this International Standard, it was considered to what extent the state of the art allowed the further reduction of risks related to incomplete engagement procedures. In particular, it was considered carefully whether the use of sensors and associated control systems could be normatively required in order to ensure that those procedures were correctly completed. It was determined that the current state of the art did not allow such a requirement to be made. However, due to the continuing development of technology, this possibility will be reviewed by ISO/TC 127 periodically so that a revision to this International Standard can be initiated at the appropriate time. Nothing in this International Standard is to be taken as discouraging the development of new technologies and new technical measures to reduce or remove risk.

This International Standard is a type C standard as defined 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 International Standard.

When requirements of this type-C standard are different from those which are stated in type-A or type-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 provisions of this type-C standard.

Earth-moving machinery — Quick couplers — Safety

1 Scope

This International Standard specifies safety requirements for quick couplers used on earth-moving machinery as defined in ISO 6165.

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

ISO 6750, *Earth-moving machinery — Operator's manual — Content and format*

ISO 9244, *Earth-moving machinery — Machine safety labels — General principles*

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

ISO 20474-1:2008, *Earth-moving machinery — Safety — Part 1: General requirements*

3 Terms and definitions

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

3.1

quick coupler

device mounted on an earth-moving machine to allow the quick interchange of attachments

Note 1 to entry: Quick couplers are also commonly referred to under many different names, including “quick hitch” and “attachment bracket”. For the purposes of this International Standard, only the term “quick coupler” is used.

3.1.1

powered quick coupler

quick coupler (3.1) where the movement of at least one part of the engagement and *locking system* (3.5) is actuated by a power source

EXAMPLE A hydraulic system or an electric motor.

3.1.2

manual quick coupler

quick coupler (3.1) where the movement of the engagement and *locking systems* (3.5) is actuated by human effort at the quick coupler itself

Note 1 to entry: Locking can be automatic as part of the manual process of engagement.

3.1.3

mixed quick coupler

quick coupler (3.1) where engagement and locking are carried out from the operator's station but disengagement is carried out by human effort at the quick coupler itself