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Second edition  
2013-05-15

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## **Air cargo equipment — Restraint straps —**

### **Part 2: Utilization guidelines and lashing calculations**

*Équipement de fret aérien — Sangles d'arrimage —*

*Partie 2: Directives pour l'utilisation et calculs d'arrimage*



Reference number  
ISO 16049-2:2013(E)

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Published in Switzerland

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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. [www.iso.org/directives](http://www.iso.org/directives)

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

The committee responsible for this document is ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 9, *Air cargo and ground equipment*.

This second edition cancels and replaces the first edition (ISO 16049-2:2005), which has been technically revised. It was technically revised to fully meet the requirements of Technical Standard Order (TSO/ETSO) C-172.

ISO 16049 consists of the following parts, under the general title *Air cargo equipment — Restraint straps*:

- *Part 1: Design criteria and testing methods*
- *Part 2: Utilization guidelines and lashing calculations*

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## Introduction

This part of ISO 16049 specifies utilization guidelines and the principles to be used in tie-down/lashing strength calculations for the use of air cargo restraint straps on board civil transport aircraft.

Throughout this part of ISO 16049, the minimum essential criteria are identified by use of the key word "shall". Recommended criteria are identified by use of the key word "should" and, while not mandatory, are considered to be of primary importance in providing safe lashing arrangements. Deviation from recommended criteria should only occur after careful consideration and thorough service evaluation have shown alternate methods to be satisfactory.