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# INTERNATIONAL STANDARD



# 3277

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Continuous mechanical handling equipment for unit loads — Suspended swing-tray conveyors and fixed-tray conveyors — Safety code

*Engins de manutention continue pour charges isolées — Élévateurs-transporteurs ou convoyeurs à balancelles, et  
élévateurs-transporteurs ou convoyeurs avec plateaux supports — Code de sécurité*

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[ISO 3277:1974](https://standards.iteh.ai/catalog/standards/sist/b6c63bea-cda7-4759-8edb-9375498683ab/iso-3277-1974)

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## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3277 was drawn up by Technical Committee ISO/TC 101, *Continuous mechanical handling equipment*, and circulated to the Member Bodies in November 1973.

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It has been approved by the Member Bodies of the following countries :

Australia	Ireland	Sweden
Belgium	Italy	Thailand
Bulgaria	Japan	Turkey
Czechoslovakia	Mexico	United Kingdom
Egypt, Arab Rep. of	Netherlands	U.S.A.
Finland	New Zealand	U.S.S.R.
France	Romania	Yugoslavia
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India	Spain	

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No Member Body expressed disapproval of the document.

# Continuous mechanical handling equipment for unit loads — Suspended swing-tray conveyors and fixed-tray conveyors — Safety code

## 1 SCOPE

This International Standard specifies, in addition to the general safety rules set out in ISO/R 1819, the special safety rules for the following continuous mechanical handling equipment for unit loads: suspended swing-tray conveyors and fixed-tray conveyors.

## 2 FIELD OF APPLICATION

The safety rules laid down in this International Standard apply regardless of the use for which the equipment is intended.

These safety rules limit the supplier's responsibility to continuous mechanical handling equipment properly so called, excluding the structures to which such equipment is fixed.

## 3 REFERENCE

ISO/R 1819, *Continuous mechanical handling equipment — Safety code — General rules.*

## 4 SPECIAL SAFETY RULES

The construction and operation for suspended swing-tray conveyors and fixed-tray conveyors shall meet:

- the legal and local requirements relating to safety in general (see appendix Z of ISO/R 1819),
- the principles laid down in clause 1 of ISO/R 1819,
- the general rules laid down in clause 2 of ISO/R 1819,
- the following special rules:

### 4.1 In the construction stage (design and manufacture)

4.1.1 In addition to rule 2.1.6 of ISO/R 1819, the loading operations shall be achieved by means of a mechanical device with or without sequence control, when the speed of the trays in movement exceeds 0,50 m/s, or when the unit

load of the conveyed material exceed 25 kg. Nevertheless, when the type of load or circumstances are suitable, a maximum load of 50 kg is acceptable. The unloading shall be achieved automatically when carried out on a moving conveyor, as soon as the speed of the loads exceeds 0,50 m/s.

4.1.2 In addition to rule 2.1.6 of ISO/R 1819, safety devices shall be provided at the working positions to stop the appliance when a person or foreign material is caught between the tray and the casing. In addition to rule 2.2.13 of ISO/R 1819, manual stopping devices shall be provided at each loading and unloading point.

4.1.3 All traction mechanism drives shall be equipped with load limiters ensuring instantaneous cut-out of the conveyor (with or without motor cut-out), i.e. independently of the thermal cut-out devices of the electrical switch-gear.

4.1.4 Suspended swing and fixed trays shall be connected to the chain in such a way that they cannot become separated accidentally.

### 4.2 During the installation stage (design, commissioning and entry into service)

4.2.1 Apart from the necessary openings for loading and unloading operations, guards shall prevent any contact with moving parts normally accessible to operating personnel and any other persons who work in the vicinity of the machinery.

4.2.2 In addition to rule 2.2.14 of ISO/R 1819, it is recommended that all loading and unloading points should have an interconnecting audible and/or visual signalling system, when direct communication is not possible.

4.2.3 In the case of elevators comprising several manual loading points, when more than one can be used at any time, a signalling system shall be provided to inform the operating personnel that loading is authorized when a suspended swing or fixed tray arrives.

**4.2.4** In the case of indexing elevators, the operator shall be informed by means of a signal that a parcel is arriving which has to be unloaded by him.

**4.3 During the utilization stage (operation and maintenance)**

**4.3.1** Clear operating instructions, displayed in an easily visible position, concerning the loading of the elevators shall be provided for

- the permissible load of the suspended swing or fixed trays,

— the way the load has to be placed in the suspended swing or fixed tray, its equilibrium and maximum dimensions, in order to prevent accidental collision or tipping.

**4.3.2** In the close vicinity of the openings left free by the guarding devices, a notice shall be displayed, reading :

**“IT IS STRICTLY FORBIDDEN TO LEAN  
INTO THE CASING-WELL”**

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