
**Industrial trucks — Overhead guards —
Specification and testing**

*Chariots de manutention — Protège-conducteurs — Spécifications et
essais*

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 6055 was prepared by Technical Committee ISO/TC 110, *Industrial trucks*, Subcommittee SC 2, *Safety of powered industrial trucks*.

This third edition cancels and replaces the second edition (ISO 6055:1997), it includes the contents of ISO 6055:1997 with the exception of the option for order picking trucks.

The following requirements have been added:

- impact drop testing; <https://standards.iteh.ai/catalog/standards/sist/825160c7-ba92-4b0b-adde-57d11312b165/iso-6055-2004>
- capability to add a fitting to protect against small falling objects;
- requirements for variable reach rough terrain trucks.

Industrial trucks — Overhead guards — Specification and testing

1 Scope

This International Standard specifies the requirements and testing of overhead guards, operators' legs and feet protection, roll-over protection system (ROPS) and falling-object protection system (FOPS) for any type of high lift, rider operated, powered industrial truck with a lift height exceeding 1 800 mm.

2 Normative references

The following referenced documents are indispensable for the application 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 3164, *Earth-moving machinery — Laboratory evaluations of protective structures — Specifications for deflection-limiting volume*

ISO 3449, *Earth-moving machinery — Falling-object protective structures — Laboratory tests and performance requirements*

ISO 3471, *Earth-moving machinery — Roll-over protective structures — Laboratory tests and performance requirements*

ISO 3691, *Powered industrial trucks — Safety code*

ISO 5353, *Earth-moving machinery, and tractors and machinery for agriculture and forestry — Seat index point*

ISO 13564-1, *Powered industrial trucks — Test methods for verification of visibility — Part 1: Sit-on and stand-on operator trucks and variable reach trucks*

3 Requirements for high lift rider trucks with lift height exceeding 1 800 mm

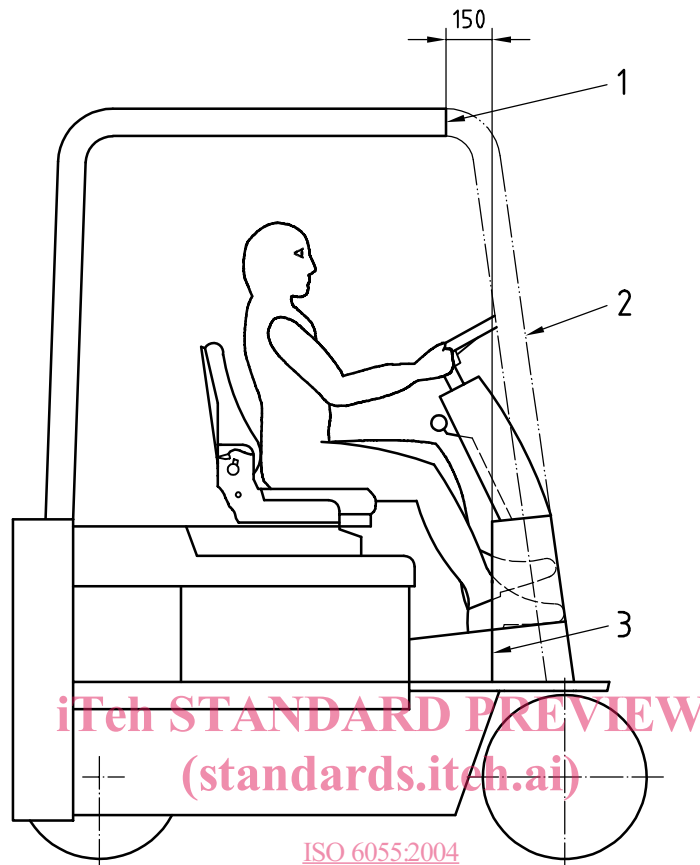
3.1 Introduction

This section applies to trucks fitted with masts and variable reach trucks where the operator position is protected by the boom, i.e. the mast or boom prevents the truck from tipping more than a nominal 90°.

3.2 General

3.2.1 The overhead guard shall extend over the operator when in the normal operating position(s) as defined in ISO 3691 and when the operator is operating the controls as provided by the truck manufacturer. For overhead guards fixed to the mast, this also applies when the mast is inclined.

The control levers in their neutral position, the pedals in their released condition and the steering wheel are considered protected if they do not project in the direction of the mast more than 150 mm beyond the vertical projection of the outline of the overhead guard onto a horizontal plane; see Figure 1. Adjustable steering wheels for the driving mode shall be placed in the centre position. No account is taken of the parking brake lever in its foremost position in relation to the mast.



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Key

- 1 edge of overhead guard
- 2 phantom view of front support
- 3 rear of forward structure

Figure 1 — Satisfactory protection by the overhead guard

Any part of the operator's legs or feet, in the normal operating position, that project more than 150 mm beyond the front of the overhead guard when vertically projected onto a horizontal plane, shall be protected by a structure. The test procedure for the structure is described in 3.4.4.

3.2.2 Failure of the tilting mechanism must not, directly or indirectly, cause the operator to be in danger because of the overhead guard.

3.3 Dimensions

3.3.1 The guard shall be constructed in a manner that does not interfere with the visibility, as specified in ISO 13564-1.

3.3.2 Openings in the top of the overhead guard shall not exceed 150 mm in one of the two dimensions, i.e. width or length.

3.3.3 For high-lift trucks on which the operator is seated, the vertical clearance, from the seat index point in accordance with ISO 5353 to the underside of the section of the overhead guard under which the operator's head is located when the operator is in the normal operating position, shall not be less than 903 mm.

3.3.4 For high-lift trucks on which the operator stands, the vertical clearance, from the platform where the operator stands to the underside of the section of the overhead guard under which the operator's head is located when the operator is in the normal operating position, shall not be less than 1 880 mm.

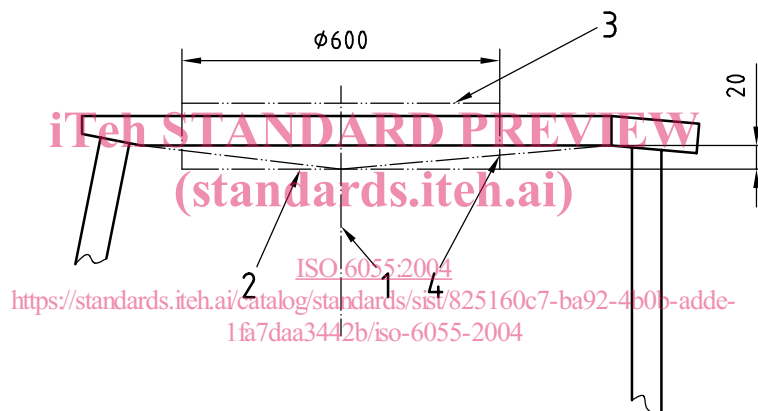
3.3.5 When requested by the user, the manufacturer may reduce the normal overall overhead guard height and vertical clearance for the operator's head under the overhead guard to permit operation of the truck with an overhead guard in areas where the overhead clearance limits the overall height of the truck.

For example, if the torso height of the 95th percentile is XX as defined in Figures 1 to 4 of ISO 3411:1995^[1] and the overhead guard height is reduced by Y , then the recommended torso height for operators should not exceed $XX - Y$.

Where there is reduced vertical clearance, information shall be provided with the overhead guard specifying any limits associated with the height of operators who may use trucks on which the guard is fitted.

3.3.6 Where the manufacturer of the overhead guard has been informed that the user may be at risk from falling objects which could pass through the 150 mm opening (see 3.3.2), then the guard shall be constructed to remove that risk, with the opening set as necessary based upon the information supplied.

Dimensions in millimetres

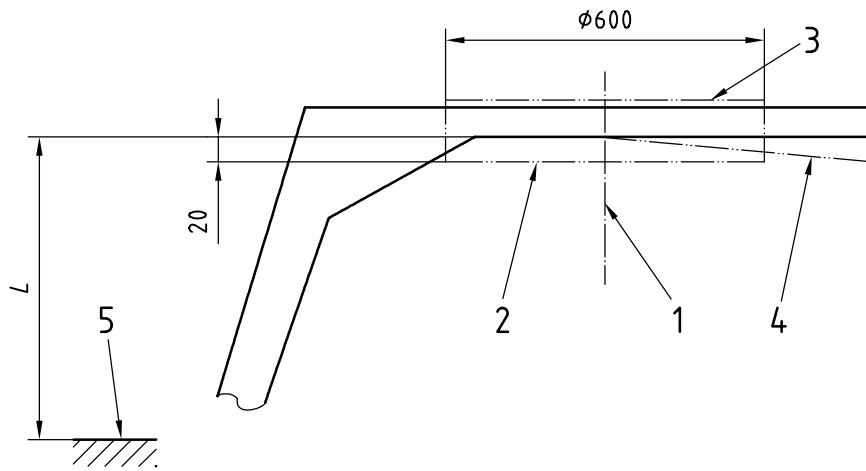


Key

- 1 centre of the operator's standing position or seat index point with the seat at its midpoint of adjustment
- 2 deformation limiting line [$(L - 20)$ mm max.]
- 3 measuring area of deformation
- 4 deformed underside

Figure 2 — Dynamic test permissible deformation — Overhead guard supported on all sides

Dimensions in millimetres



Key

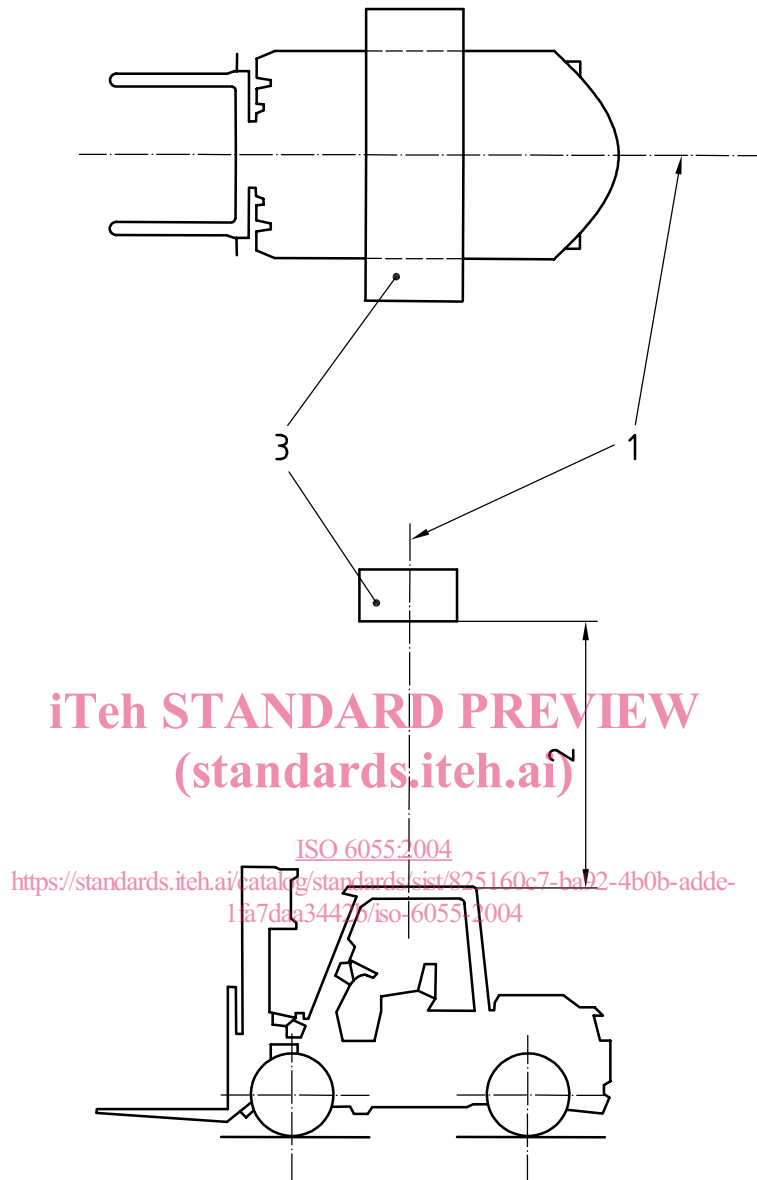
- 1 centre of the operator's standing position or seat index point with the seat at its midpoint of adjustment
- 2 deformation limiting line [($L - 20$) mm max.]
- 3 measuring area of deformation
- 4 deformed underside
- 5 base line relative to chassis

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Figure 3 — Dynamic test permissible deformation — Overhead guard supported on one side only

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Dimensions in millimetres



Key

- 1 centreline of truck and test load
- 2 drop height; see Table 1
- 3 test load

Figure 4 — Impact test method