

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 509

iTeh STANDARD PREVIEW
PRINCIPAL DIMENSIONS OF PALLET TRUCKS
(standards.iteh.ai)

ISO/R 509:1966

1st EDITION

<https://standards.iteh.ai/catalog/standards/sist/a7d7e507-d813-4942-b60a-142278918c1/iso-r-509-1966>

October 1966

COPYRIGHT RESERVED

The copyright of ISO Recommendations and ISO Standards belongs to ISO Member Bodies. Reproduction of these documents, in any country, may be authorized therefore only by the national standards organization of that country, being a member of ISO.

For each individual country the only valid standard is the national standard of that country.

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 509, *Principal Dimensions of Pallet Trucks*, was drawn up by Technical Committee ISO/TC 51, *Pallets for Unit Load Method of Materials Handling*, the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question by the Technical Committee began in 1960 and led, in 1962, to the adoption of a Draft ISO Recommendation.

In June 1963, this Draft ISO Recommendation (No. 580) was circulated to all the ISO Member Bodies for enquiry. It was approved by the following Member Bodies:

Austria	Germany	Poland
Bulgaria	Greece	Portugal
Chile	Hungary	Sweden
Czechoslovakia	Italy	Switzerland
Denmark	Japan	U.S.S.R.
Finland	Netherlands	
France	New Zealand	

Two Member Bodies opposed the approval of the Draft:

Belgium
United Kingdom

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council which decided, in October 1966, to accept it as an ISO RECOMMENDATION.

PRINCIPAL DIMENSIONS OF PALLET TRUCKS

1. SCOPE

This ISO Recommendation establishes the basic dimensions for pallet trucks on which flat pallets complying with ISO Recommendation R 198 * and box pallets of the same nominal dimensions complying with ISO Recommendation R . . . ,** and their loads, can be transported without risk of damage.

The dimensions apply to the heights, widths and lengths of the fingers of pallet trucks, which may have either single or tandem trail wheels.

NOTE. — It should not be inferred that the use of a particular size of pallet truck is restricted to one particular size of pallet.

2. SYMBOLS AND DESIGNATIONS

Figure 1, page 4, illustrates a pallet truck having tandem trail wheels, as this type of truck has the greatest overall dimensions over the wheels.

The dimensions of the truck are defined as follows:

Symbol	Designation	Symbol	Designation
<i>A</i>	Overall length of fingers	G_1	Height of fingers at point of entry (fingers lowered)
<i>B</i>	Distance between heel of truck and nearest point to which trail wheel approaches	G_2	Height of fingers at heel of truck (fingers lowered)
<i>C</i>	Distance between heel of truck and farthest point away to which trail wheel moves		<i>Note.</i> In most cases the fingers are not horizontal in the lowered position, the reduced height at the rear facilitating entry of the fingers into the pallet
<i>D</i>	Overall width over fingers	<i>H</i>	Height of fingers in raised position
<i>E</i>	Distance between fingers	<i>J</i>	Minimum clearance between periphery of trail wheels and edges of openings in bottom deck of pallet (see Fig. 3)
<i>F</i>	Distance between underside of fingers and ground (fingers lowered).		

* Double-deck Flat Pallets for Through Transit of Goods.

** Box Pallets for Through Transit of Goods, at present Draft ISO Recommendation No. 435.

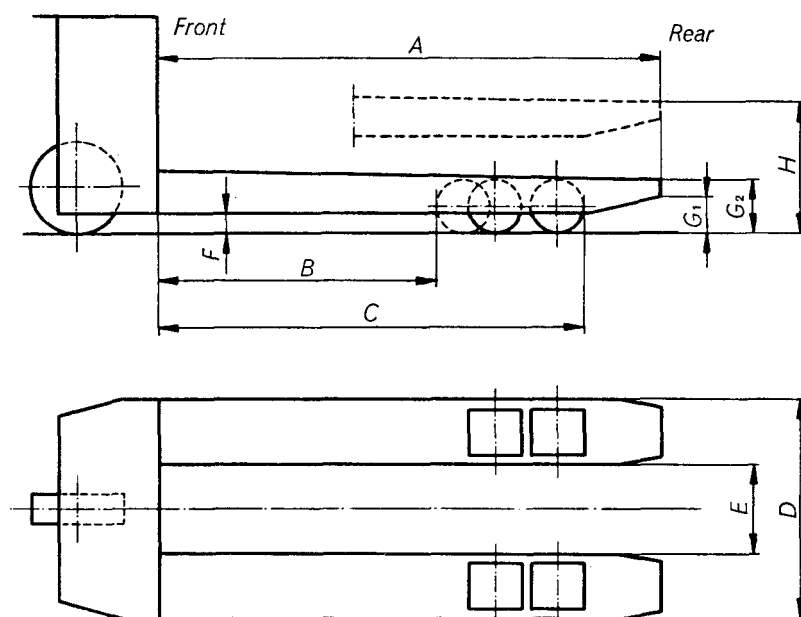


FIG. 1

iTeh STANDARD PREVIEW (standards.iteh.ai)

3. FINGER HEIGHTS

3.1 For all pallet trucks in the unloaded condition, the finger heights are as follows:

3.1.1 In the lowered position: $F = 30 \text{ mm}$ ($1\frac{1}{4} \text{ in}$) minimum

$G_1 = 86 \text{ mm}$ ($3\frac{3}{8} \text{ in}$) maximum

$G_2 = 90 \text{ mm}$ ($3\frac{1}{2} \text{ in}$) maximum

3.1.2 In the raised position: $H = 185 \text{ mm}$ ($7\frac{1}{4} \text{ in}$) minimum

4. FINGER WIDTHS

4.1 Distance between fingers.

For all pallet trucks, the distance between fingers E is 180 mm (7 in) minimum.

4.2 Overall width over fingers.

The overall width over fingers D is determined in relation to the corresponding dimensions of standard pallets according to ISO Recommendation R 198.

The standard dimensions D are as follows:

$D = 570 \text{ mm}$ ($22\frac{1}{2} \text{ in}$) maximum, for trucks corresponding to pallets having a minimum entry width d of 590 mm ($23\frac{1}{4} \text{ in}$).

$D = 690 \text{ mm}$ ($27\frac{1}{4} \text{ in}$) maximum, for trucks used in conjunction with pallets having a minimum entry width d of 710 mm (28 in).

5. FINGER LENGTHS

5.1 General.

Dimensions *A*, *B* and *C* are related to the dimensions of the deck of the pallet and the minimum openings in the bottom deck, which are symmetrically disposed about the axes of the pallet (see Fig. 2).

The positioning* of the openings in relation to the point of entry is given by pallet dimensions *b* and *c* as follows:

<i>a</i> (nominal)	<i>b</i> (max.)	<i>c</i> (min.)
800 mm (32 in)	482.5 mm (19 in)	695 mm (27 1/2 in)
1000 mm (40 in)	583 mm (23 in)	855 mm (33 1/2 in)
1200 mm (48 in)	685 mm (27 in)	980 mm (38 1/2 in)

• Dimensions *b* and *c* are calculated taking into account the limit positions of the openings permitted by the tolerances on the pallets.

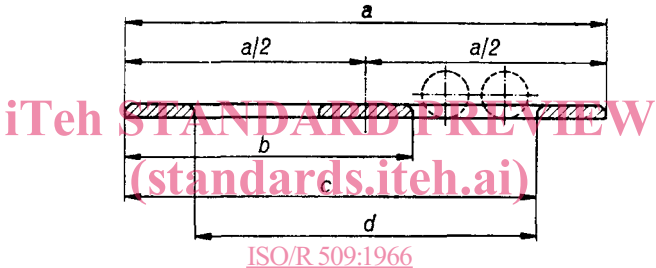


Fig. 2

5.2 Total length of fingers.

In relation to dimension *a* of the pallet, the total length of fingers *A* is as follows:

Pallet dimension <i>a</i> (minimum)	Finger length <i>A</i> (maximum)
800 mm (31 1/2 in)	800 mm (31 1/2 in)
1000 mm (39 3/8 in)	1000 mm (39 3/8 in)
1200 mm (47 1/4 in)	1200 mm (47 1/4 in)

5.3 Dimensions *B* and *C*.

Dimensions *B* and *C* controlling the positioning of the trail wheels relative to the heel of truck during lifting should be such that, when the wheels pass through the minimum size of openings in the bottom deck of the pallet, a minimum clearance *J* of 6 mm ($\frac{1}{4}$ in) is maintained between the components of the truck and the edges of the deck boards forming the opening (see Fig. 3). When the truck is operated so that the distance between the underside of the fingers and ground is 34 mm ($1\frac{3}{8}$ in) or greater, the clearance *J* should also be maintained at the upper side of the bottom deck.

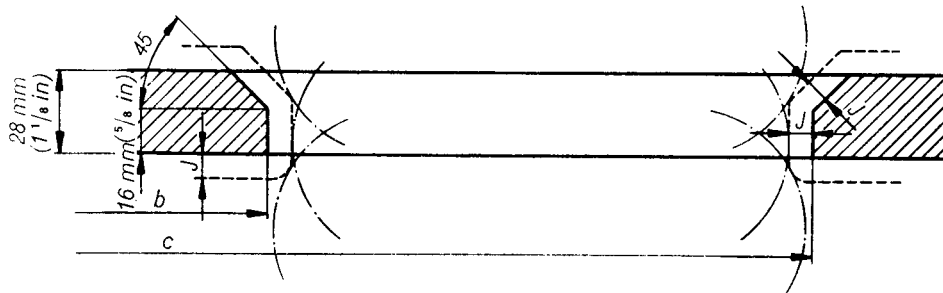


FIG. 3

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO/R 509:1966

<https://standards.iteh.ai/catalog/standards/sist/a7d7e507-d813-4942-b60a-1422f28918c1/iso-r-509-1966>