

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

(Not to be reproduced without permission of BIS or used as an Indian Standard)

भारतीय मानक मसौदा

संचालित प्लेटफॉर्म ट्रकों की सामान्य आवश्यकताएं और उनकी स्वीकृति मानदंड
(पहला पुनरीक्षण)

Draft Indian Standard

**GENERAL REQUIREMENTS OF POWERED PLATFORM TRUCKS AND
THEIR ACCEPTANCE CRITERIA**

(First Revision)

(ICS 43.040.70)

Transport Tractors, Trailers and Industrial Trucks
Sectional Committee, TED 22

Last date for receipt of
comments is 17/09/2024

Transport Tractors, Trailers and Industrial Trucks Sectional Committee, TED 22

FOREWORD

(Formal clause to be added later)

This standard was first published in 1982. This revision incorporates the experience gained with the use of this standard and brings the standard in line with the latest development in the field.

The composition of the committee responsible for formulation of this standard is given as Annex A. (Will be added later)

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2:1960 'Rules for rounding off numerical values (revised)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Draft Indian Standard

**GENERAL REQUIREMENTS OF POWERED PLATFORM TRUCKS AND THEIR
ACCEPTANCE CRITERIA**

1 SCOPE

1.1 This standard specifies requirements relating to the elements of design of low lift and high lift powered platform trucks and their acceptance criteria.

2 REFERENCES

The standards given below contain provisions which, through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards.

<i>IS No.</i>	<i>Title</i>
IS 9701: 2019	Powered Industrial Trucks and Tractors — Brake Performance and Component Strength (<i>Second Revision</i>)
IS 7553: 2003	Control Symbols for Powered Industrial Trucks — Specification (<i>First Revision</i>)
IS 5154 (Part 1): 2013	Lead - Acid Traction Batteries: Part 1 General Requirements and Methods of Test (<i>Second Revision</i>)
IS 5154 (Part 2): 2013	Lead - Acid Traction Batteries: Part 2 Dimensions of Cells and Terminals and Marking of Polarity on Cells (<i>Second Revision</i>)

3 TERMINOLOGY

3.1 Low Lift Platform Truck — A self loading truck equipped with a load platform intended primarily for transporting skid platform.

3.2 High Lift Platform Truck — A self loading truck equipped with a load platform, intended primarily for transporting and tiring loaded skid platforms.

3.3 Fixed Platform Truck — A truck equipped with a load platform intended primarily for transporting loads.

4 DESIGN AND CONSTRUCTION

4.1 Rated Capacity

4.1.1 For low lift and high lift type truck the rated capacity is the maximum pay load uniformly distributed on the platform as far as possible, expressed in kilograms that the truck can transport

4.2 Service Brake

4.2.1 The service brake performance shall be in accordance with IS 9701.

4.3 Steering

4.3.1 All steering controls for trucks except pedestrian controlled trucks shall be confined within the plan view outline of the truck or guarded against injury to the operator during movement of the controls when passing obstacles, walls, column, etc.

4.3.2 Steering handwheel shall be accomplished with steering knob for safe and effective operation (wherever applicable) and shall be within the periphery of the steering handwheel.

4.3.3 The steering handwheel and knob configuration shall be of a design that shall minimize the hazard from a spinning hand wheel due to a road reaction feedback, or the steering mechanism shall be of a type that prevents road reaction from causing the steering handwheel to spin.

NOTE - This clause is not applicable for three-wheeler platform truck

4.4 Travel Control

4.4.1 Forward and reverse direction control(s) shall be clearly durably identified.

4.4.2 Means shall be provided so that the travel circuit can be activated only by setting the speed and/or directional control(s) when the operator assumes the operating position.

4.4.3 A manually operated switch (may be key type) to disconnect all control circuits shall be provided.

4.4.4 Service brakes may be actuated by either an upward or downward motion.

4.5 Control Symbol

4.5.1 Symbols when used shall be in accordance with IS 7553

4.6 Platforms

4.6.1 Low-lift and Fixed Platform — Trucks shall be equipped with platform extending beyond the operator's position, strong enough to withstand a compression load equal to the weight of the loaded truck applied along the longitudinal axis of the truck with the outermost projection of the platform against a flat vertical surface.

4.6.2 High-lift Platform — All platforms shall have:

- a) A skid resistance surface; and
- b) Provision to protect personnel in the normal working position from moving parts of the truck that represent a hazard.

4.7 Guards for Wheels

4.7.1 Guards or other means shall be provided to protect the operator, in the normal operating position, from particles thrown by the tires or wheels.

4.8 Warning Device

4.8.1 The truck shall be equipped with a warning horn, whistle, gong, or other sound producing device, visual warning devices, such as lights or blinkers may also be installed when requested by the user.

5 MARKING

5.1 On every truck the manufacturer shall install a durable, corrosion resistant nameplate legibly inscribed with the following:

- a) Capacity of the truck;
- b) Name of the manufacturer and year of manufacture;
- c) Truck model and/or truck serial number. The truck serial number shall also be stamped on the frame of the truck;
- d) Mass of the truck without battery;
- e) Rated voltage of battery; and
- f) Mass of the battery to be used.

5.2 BIS Certification Marking

Each powered platform trucks may also be marked with the Standard Mark.

5.2.1 The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 2016 and the Rules and Regulations made thereunder. The details of conditions under which the license for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

6 ACCEPTANCE CRITERIA

6.1 Visual Examination - Check compliance of **4.3, 4.4, 4.5.1, 4.8** and **5**.

6.2 Dimensional Check - The following dimensions shall be checked as specified by the manufacturer:

- a) Overall height;
- b) Overall length;

- c) Overall width;
- d) Maximum platform height;
- e) Lawered platform height;
- f) Platform size;
- g) Wheel base;
- h) Wheel track; and
- i) Tyre size.

6.3 Test for Performance

The following tests shall be carried out for performance against values specified by the manufacturer:

a) **Capacity Test:**

- 1) Each low shall be tested lift platform truck and high lift platform truck for rated pay load for fifteen minutes; and
- 2) Each fixed platform truck shall be tested for rated pay load for fifteen minutes and for 10 percent overload for ten minutes after the truck has run thirty minutes on rated pay load.

b) **Speed Test** — Each truck shall run with/without load at the corresponding speed specified by the manufacturer on level ground;

c) **Elevation Test** — Values specified by the manufacturer for elevation shall be checked. Check hydraulic system by lifting platform 10 times when fully loaded then lift the platform with the rated load and keep it for 10 minutes. The drift value shall be as per manufacturer's specification;

d) **Gradient Test** — Each truck shall be tested as per the manufacturer's specification; However minimum requirement for this provision is to comply with seven percent gradient, which shall be checked as per test procedure in AIS-003 to the extent it is applicable.

e) **Brake Test** — The brake test to be carried out in accordance with IS 9701; and

f) **Turning Radius Test** —Ten percent of the trucks on order with minimum of one number shall be tested. Turning radius shall not be more than as specified by the manufacturer. However as minimum requirement, for steering effort requirement vehicle shall comply with comply with requirements of N1 category vehicles as per test procedure specified in IS 11948.

6.4 Test Certificates

The following shall be accepted on test certificate:

- a) **Motor** — Accepted against test certificate obtainable from the manufacturer's specification;

- b) **Battery** — Manufacturer's test certificate as per IS 5154 (Part 1) and IS 5154 (Part 2) or to the extent it is applicable as per AIS-038 (Rev. 2).;
- c) **Battery Charger** — As per manufacturer's test certificate or as per AIS-138(Part 1) or (Part 2) as applicable; and
- d) **Engine** — As per manufacturer's test certificate. However, it shall comply with CEV Stage IV or CEV Stage V emission norms / BS VI norms as per respective parts of AIS 137 as applicable considering Gross Vehicle weight (GVW) of the vehicle.
- e) **Lighting and Light signaling Devices requirements** — Platform trucks shall be at least provided with headlamp(s), turn indicator, reversing lamp and tail lamp. Installation of lighting and light –signalling devices requirements to the extent it is applicable shall be in accordance with AIS-008 (Revision 1) for four wheeled platform trucks and AIS-009 (Revision 1) for three wheeled platform trucks. Performance requirements of lighting and light –signalling devices requirements shall be in accordance with respective parts of AIS-012(Revision 1) and AIS-010 (Revision 1) to the extent these are applicable.

ANNEX A
(Foreword)

COMMITTEE COMPOSITION

Transport Tractors, Trailers and Industrial Trucks Sectional Committee, TED 22

Will be added later