

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

औद्योगिक ट्रकों की ऊर्जा दक्षता - परीक्षण विधियाँ -

भाग 1: सामान्य

Draft Indian Standard

**Energy efficiency of industrial trucks — Test methods —
Part 1: General**

ICS: 53.060

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

Last Date for Comments: 03 Aug 2024

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

NATIONAL FOREWORD

This draft Indian Standard which is identical with ISO 23308-1: 2020 ‘Energy efficiency of industrial trucks — Test methods — Part 1: General’ issued by International Organization for Standardization (ISO), will be adopted by the Bureau of Indian Standards on the recommendations of Transport Tractors, Trailers and Industrial Sectional Committee and after approval of the Transport Engineering Division Council.

The text of ISO standard is proposed for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this draft standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standards</i>	<i>Degree of Equivalence</i>
ISO 3691-1:2011 Industrial trucks — Safety requirements and verification — Part 1: Self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks	TED/22/20354 (Modified/Technically Equivalent To: ISO 3691-1:2011) Industrial Trucks Safety Requirements And Verification Part 1: Self -Propelled Industrial Trucks Other Than Driverless Trucks Variable -Reach Trucks And Burden-Carrier Trucks (Under Development)	Modified/Technically Equivalent
ISO 5053-1:2020 Industrial trucks — Terminology and classification — Part 1: Types of industrial trucks	IS 7217: 1990 (Identical To: ISO 5053-1: 2020) Classification And Nomenclature Of Powered Industrial Trucks	Modified/Technically Equivalent

	Second Revision	
ISO 15500-1:2015, Road vehicles — Compressed natural gas (CNG) fuel system components — Part 1: General requirements and definitions	IS 15710 : 2006/ISO 15500-1 Road vehicles - Compressed natural gas (CNG) fuel system components - General requirements and definitions	Modified/Technically Equivalent
IEC 60254-1, Lead acid traction batteries — Part 1: General requirements and methods of tests	IS 5154 (Part 1) : 2013/ IEC 60254-1 : 2005 Lead - Acid traction batteries: Part 1 general requirements and methods of test	Identical under dual numbering
IEC 62620:2014, Secondary cells and batteries containing alkaline or other non-acid electrolytes — Secondary lithium cells and batteries for use in industrial applications	IS 16822 : 2019/ IEC 62620 : 2014 Secondary cells and batteries containing alkaline or other non - Acid electrolytes - Secondary lithium cells and batteries for use in industrial applications	Identical under dual numbering

The technical committee has reviewed the provisions of following International Standards referred in this adopted standard and has decided that they are acceptable for use in conjunction with this standard:

<i>International Standard</i>	<i>Title</i>
ISO 3691-2:2016	Industrial trucks — Safety requirements and verification — Part 2: Self-propelled variable-reach trucks
ISO 23308 (Part-2 & 3)	Energy efficiency of Industrial trucks — Test methods

Attention is drawn to the possibility that some of the elements of this standard may be the subject of patent rights. The Bureau of Indian Standards shall not be held responsible for identifying any or all such patent rights.

Annex A and B normative and Annex C is informative part of this standard.

In reporting the result of a test or analysis made in accordance with this standard, is to be rounded off, it shall be done in accordance with IS 2: 2022 ‘Rules for rounding off numerical values (*second revision*)’.

SCOPE

This document specifies general test criteria and requirements to measure the energy consumption for self-propelled industrial trucks (hereinafter referred to as trucks) during operation. For electric trucks, the efficiency of the battery and the battery charger is included.

The truck specific requirements in ISO 23308-2 and ISO 23308-3 take precedence over the respective requirements of ISO 23308-1.

This document is applicable to the in-use phase of the product life cycle.

It applies to the following truck types according to ISO 5053-1:

- counterbalance lift truck;
- articulated counterbalance lift truck;
- reach truck (with retractable mast or fork arm carriage);
- straddle truck;
- pallet-stacking truck;
- pallet truck;
- platform and stillage truck;
- pallet truck end controlled;
- order-picking truck;
- centre-controlled order-picking truck;
- towing, pushing tractor and burden carrier;
- towing and stacking tractor;
- side-loading truck (one side only);
- variable-reach container handler;
- counterbalance container handler;
- lateral-stacking truck (both sides);
- lateral-stacking truck (three sides);
- multi-directional lift truck.

FOR COMPLETE TEXT OF THE DOCUMENT KINDLY REFER ISO 23308-1:2020 or CONTACT:

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