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Industrial trucks — Sustainability —

Part 2: Factors and reporting

Chariots de manutention — Durabilité —

Partie 2: Facteurs et rapports

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 110, *Industrial Trucks,* Subcommittee SC 5, *Sustainability*.

A list of all parts in the ISO 23434 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Industrial trucks — Sustainability —

Part 2:
Factors and reporting

1 Scope

This document identifies sustainability factors and provides an example of a reporting format for sustainability information of industrial trucks.

It is applicable to acquisition of raw materials, design, production, transportation/delivery, use, end-of-life treatment and final disposal of industrial trucks (hereinafter referred to as trucks) as defined in ISO 5053-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 23308 (all parts), *Energy efficiency of industrial trucks — Test methods*

ISO 23434-1, *Industrial trucks — Sustainability — Part 1: Vocabulary*

EN 12053, *Safety of industrial trucks — Test methods for measuring noise emissions*

EN 12895, *Industrial trucks —Electromagnetic compatibility*

EN 13059, *Safety of industrial trucks — Test methods for measuring vibration*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 23434-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Sustainability factors

4.1 General

The sustainability factors presented in Table 1 apply for achieving the sustainability balance among environmental, economic and social needs.

Estimates taken from the application of these sustainability factors can be used to provide information on trucks.

NOTE This document identifies typical sustainability factors.

Table 1 — Sustainability factors of trucks

Sustainability factors	Description	Impact aspect	Life cycle phase
Restriction on using of hazardous substances (see 4.2)	Hazardous substance e.g. cadmium, hexavalent chromium, lead, mercury, polybrominated biphenyls, polybrominated diphenyl ethers and asbestos	Environmental/ social	Design
Safety (see 4.3)	Complying with international standards on safety of industrial trucks	Social /economic	
Safe use (see 4.4)	Safe operation of the truck	Environmental/ social	Use
Energy consumption during operation (see 4.5)	Energy used during operation	Environmental/ economic	
Greenhouse gas (GHG) emissions during operation (see 4.6)	Greenhouse gas (GHG) emissions per amount of work done defined by carbon dioxide equivalent (CDE)	Environmental	
Product support for improving operational efficiency (see 4.7)	Information and training to improve operational efficiency	Environmental/ economic	
Truck exhaust emissions (see 4.8)	Engine emission rating limiting nitrogen oxide (NO_x), hydrocarbon (HC), carbon monoxide (CO), particulate matter (PM).	Environmental	
	Information about using internal combustion (IC) trucks in a building	Environmental/ social	
Noise emitted (see 4.9)	Sound power level	Environmental/ social	
	Sound pressure level		
Vibration (see 4.10)	Hand–arm vibration	Environmental/ social	
	Whole-body vibration		
Electromagnetic compatibility (see 4.11)	Electromagnetic disturbance level	Environmental/ social	
Consumption of resources during total useful life (4.12)	Resources consumed when owning and operating a truck	Environmental/ economic	
Truck material recyclability and recoverability (see 4.13)	Information in respect of recycling	Environmental/ economic	End-of-life
	Information in respect of reuse		

4.2 Restriction on using of hazardous substances

Truck design should restrict the use of hazardous substances as far as possible.

Measures taken by the manufacturer to avoid the use of hazardous substances may be stated in the report. In this case, the source of reference used for identifying hazardous substances shall also be reported.

4.3 Safety

The methods, e.g. standards, applied by the manufacturer to ensure safety during the useful life of the truck shall be reported.

NOTE 1 International, regional or national standards can be applicable.

NOTE 2 ISO 3691 (all parts) and ISO 10896 (all parts) address safety requirements of trucks.