

ICS 53.080

CCS J 83



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 45750-2025

**Warehouse logistics equipment - Automated guided vehicle
(AGV) - Safety specification**

物流仓储设备 自动导引车 安全规范

Issued on: May 30, 2025

Implemented on: December 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Preface	III
1 Scope	1
2 Normative references	1
3 Terms and Definitions	2
4 Security Risk Identification	2
5 Security level	3
6 Operating environment requirements	4
7 Machinery safety requirements	4
8 Electrical safety requirements	5
9 Control safety requirements	9
10 Application security requirements10	11
11 Safety requirements for actuators	11
12 Safety signs12	12
13 Test methods	12
Appendix A (Normative) Safety requirements for actuators	14
Appendix B (Informative) Safety Signs Legend	15
Reference	17

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee for Standardization of Logistics and Warehousing Equipment (SAC/TC499).

This document was drafted by: Shenyang Siasun Robot Automation Co., Ltd., Beijing Hoisting and Conveying Machinery Design and Research Institute Co., Ltd., Kunchuan Intelligent Technology Co., Ltd., Hangzhou HikRobot Co., Ltd., Hangzhou BlueCore Technology Co., Ltd., Shenzhen HiSoft Innovations Technology Co., Ltd., Hubei Sanfeng

Robotics Co., Ltd., Noli Intelligent Equipment Co., Ltd., Hangzhou DeChuang Electronics Co., Ltd., Shanghai Oulide Logistics Technology Co., Ltd., Jike Development Technology Co., Ltd., Zhejiang Kailesi Technology Group Co., Ltd., Beijing Zibo Logistics Co., Ltd.

Institute (Beijing) Technology Development Co., Ltd., Shenzhen CIMC Tianda Logistics System Engineering Co., Ltd., Jiangsu Proton Intelligent Technology Co., Ltd., Guangdong Xingsong Technology Co., Ltd. and Shanghai Huiju Automation Technology Co., Ltd.

The main drafters of this document are: Gao Feng, Xie Wei, Wang Qiao, Yang Wenhua, Wu Yonghai, Zheng Chao, Lin Shicai, Wang Yupeng, Hua Hongwei, Mei Yaze, Li Yunshui, Liu Ping, Liu Yang, Bai Hongxing, Lü Xiangren, Wan Yinghe, Ding Yu, Yao Xin, Hu Liankui, Luo Fengbing, Chen Xiao.

Safety Specifications for Automated Guided Vehicles for Logistics and Warehousing Equipment

1 Scope

This document specifies the safety risk identification, safety protection level, use environment, mechanical safety, electrical safety, control safety, etc. of automated guided vehicles.

The requirements for safety, application safety, actuator safety and safety identification are described, and the corresponding test methods are described.

This document applies to automated guided vehicles used in logistics and warehousing.

This document does not apply to the following situations.

- The operating environment is under extreme conditions (such as extremely cold environment, nuclear radiation, strong magnetic field and explosive environment, etc.);
- Transportation of personnel in non-enclosed environments;
- Under conditions of transporting dangerous loads (such as acid and alkali liquids, high-temperature liquid metals, etc.).

2 Normative references

GB/T 3766

GB/T 4208-2017

GB/T 5226.1-2019

GB/T 7247.1-2024

GB/T 7932

GB/T 10827.1-2014

GB/T 10827.4-2023

GB 11291.1

GB/T 16754-2021

GB/T 16855.1-2018

GB/T 17300-2017

GB/T 17454.2

GB/T 17454.3

GB/T 17799.2

GB 17799.4

GB/T 19436.1

GB/T 20138-2023

GB/T 26560

GB/T 26949.17

GB/T 27544-2011

GB/T 30030-2023