

JIS

JAPANESE INDUSTRIAL STANDARD

Safety standards of automatic guided vehicles

JIS D 6802—1990

Translated and Published

by

Japanese Standards Association

Printed in Japan

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Safety standards of
automatic guided vehicles

D 6802-1990

1. Scope

This Japanese industrial Standard specifies relating to safety standards of automatic guided vehicles (automatic vehicle, automatic guided tractor and automatic guided fork lift truck).

Remark: Applicable Standard to this Standard is shown in the following.

JIS D 6801 Glossary of Terms Relating to Automatic Guided Vehicles

2. Definition

For the purposes of this Standard, main definitions are in accordance with JIS D 6801.

3. Structure and General Safety

3.1 Outer Form of Automatic Guided Vehicle The outer form of automatic guided vehicle shall be as follows.

- (1) The outer surface of body of automatic guided vehicle, excepting the part required for working, is to be free from dangerous part such as sharp corner, protrusions, etc.
- (2) The contact bumper is to be such safe structure as to give no injury to contact with walker.

Further, its width is not less than the vehicle body width in travelling direction ⁽¹⁾.

Note ⁽¹⁾ This does not include the transfer working range.

3.2 Marking and Warning The marking and warning shall be as follows:

- (1) The permissible load and self-weight are to be marked with name-plate or the like on a legible position of body of automatic guided vehicle.
- (2) The automatic guided vehicle is to be provided the following warning device to excite cares to worker at periphery.
 - (a) Status indicator
 - (b) Start alarm
 - (c) Travelling alarm
 - (d) Malfunctional warning alarm

3.3 Holding of Travelling Matters The holding of travelling matters shall be as follows:

- (1) The size of loading matters is, as a rule, not to be larger than the size of vehicle body.
- (2) The loading apparatus part is to be of such structure to prevent load collapse as to be provided with a stopper to prevent falling down of load, as required, even against rapid stop during operation and due to emergency stop.

3.4 Maintaining of Stopping Condition The automatic guided vehicle shall be of such structure that, unless there is starting command, it does not start moving.

3.5 Steering Device at Emergency The steering device at emergency shall be as follows.

- (1) An emergency stop device according to the operation of pressing, contacting, etc. is to be provided at a position capable of being operated easily of the body of automatic guided vehicle.
- (2) A manual operating function so as the worker to be capable of steering the manual guided vehicle at the time of generation of trouble.

Further, in the case of operating the manual operating box, the operation from device other than it is to be impossible.

- (3) Such function as to carry out the following detection for safety monitoring at the time of automatic running and to stop running action in the case of exceeding the permissible limit, is to be provided.
 - (a) Detection of obstacle in running direction
 - (b) Detection of out of track
 - (c) Detection of over speed
- (4) In case where the automatic guided vehicle is stopped by emergency stop button, unless the safety of stopping cause is not confirmed, even the abnormality is removed, it does not start to move again.

3.6 Operation Region At the running region and transfer place of baggage for the automatic guided vehicle, the road surface marking or sign shall be provided.

Further, the transfer place, as required, shall be controlled with entering of working person with fences, enclosures, etc.

3.7 Operation Handling The operation handling shall be as follows.

- (1) The manufacturer shall, from the viewing point of maintaining the safety, append the handling explanation document and the like at least described with the following matters.