



The Mobile Robot Company

Knowledge Center — Floor and Environment Requirements · 2026-08-04

<https://info.mobilerobot.com/safety-compliance/safe-deployment/floor-and-environment-requirements>

Floor and Environment Requirements

The J1600 (<https://info.mobilerobot.com/products/j1600/overview/>) is designed for indoor, floor-to-floor pallet transport. This page lists the floor and environmental limits a site must meet.

Floor requirements

Parameter	Metric	Imperial/other
Gradeability, automatic mode	0°	0%
Gradeability, manual mode, no load	2.86°	5%
Gradeability, manual mode, full load	1.72°	3%
Maximum traversable bump height	25 mm	1 in
Maximum traversable gap width	20 mm	0.8 in
Floor flatness/levelness	TR34 FM3	FF 25 / FL 20
Ground clearance	30 mm	1.2 in

Autonomous travel is a level-floor application: automatic gradeability is 0%. Slopes, ramps, and dock plates remain manual tasks, within the manual-mode limits above. Plan autonomous routes accordingly during the [site risk assessment](https://info.mobilerobot.com/safety-compliance/safe-deployment/site-risk-assessment/) (<https://info.mobilerobot.com/safety-compliance/safe-deployment/site-risk-assessment/>).

Environmental requirements

Parameter	Metric	Imperial/other
Minimum operating temperature	5°C	41°F
Maximum operating temperature	40°C	104°F
Relative humidity	20–80%	non-condensing
Ingress protection	IP21	protected against objects over 12.5 mm and vertically dripping water

IP21 means the vehicle is protected against solid objects larger than 12.5 mm and vertically dripping water — it is an indoor rating, not protection against wash-down, spray, or outdoor conditions.

Real-world floors

The company validates the J1600 under intentionally imperfect conditions at its [Copenhagen test and demo facility](https://info.mobilerobot.com/company/locations/test-and-demonstration-facility/) (<https://info.mobilerobot.com/company/locations/test-and-demonstration-facility/>), including uneven flooring and water-filled test loads. The limits on this page still apply to production deployments.

No infrastructure changes are required within these limits: the J1600 navigates by [3D LiDAR SLAM](https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/) (<https://info.mobilerobot.com/products/j1600/navigation-and-obstacle-avoidance/>) without tracks, wires, reflectors, or building modifications.

Related requirements

- Load and carrier limits: [Approved loads and pallets](https://info.mobilerobot.com/safety-compliance/safe-deployment/approved-loads-and-pallets/) (<https://info.mobilerobot.com/safety-compliance/safe-deployment/approved-loads-and-pallets/>)
- Full specification table: [J1600 technical specifications](https://info.mobilerobot.com/products/j1600/technical-specifications/) (<https://info.mobilerobot.com/products/j1600/technical-specifications/>)
- Validation at go-live: [Commissioning and validation](https://info.mobilerobot.com/safety-compliance/safe-deployment/commissioning-and-validation/) (<https://info.mobilerobot.com/safety-compliance/safe-deployment/commissioning-and-validation/>)

ⓘ PRELIMINARY SPECIFICATIONS

These January 2026 specifications are preliminary and subject to change. Use current product documentation for deployment decisions.