



The Mobile Robot Company

Knowledge Center — Residual Risks · 2026-08-04

<https://info.mobilerobot.com/es-es/safety-compliance/safe-deployment/residual-risks>

Residual Risks

No safeguarding removes risk entirely. This page describes the risks that remain after the J1600's built-in protective measures, and where operator vigilance and site discipline stay essential.

Why residual risks are documented

The risk-reduction method of [ISO 12100](https://info.mobilerobot.com/es-es/safety-compliance/standards/iso-12100/) ends with *information for use*: after design measures and safeguarding, the remaining risks must be communicated so users can manage them. The J1600's [layered protection](https://info.mobilerobot.com/es-es/safety-compliance/safety-overview/how-j1600-safety-works/) — independent safety controller, two 2D safety LiDARs, a speed-dependent 360-degree protective field, emergency stops, and safety functions [rated up to PL d](https://info.mobilerobot.com/es-es/safety-compliance/safety-functions/performance-levels/) — reduces risk substantially, and the built-in safety functions improve predictability compared with manual pallet handling. It does not make the vehicle risk-free.

Where risk remains

- **Manual mode** (<https://info.mobilerobot.com/es-es/safety-compliance/safety-overview/manual-and-autonomous-mode-safety/>) **relies on the operator**. Pallet pickup, high-level handling up to 1,600 mm, dock plates, slopes, and congested areas are deliberately manual. In these situations the operator's judgment is the protective measure. See [Operator responsibilities](https://info.mobilerobot.com/es-es/safety-compliance/safe-deployment/operator-responsibilities/).
- **Operating limits are boundaries, not suggestions**. Autonomous travel assumes level floors (0% automatic gradeability), indoor conditions, 5–40°C, and IP21-compatible exposure. Outside these limits, behaviour is not specified. See [Floor and environment requirements](https://info.mobilerobot.com/es-es/safety-compliance/safe-deployment/floor-and-environment-requirements/).
- **Loads are not universally approved**. There is no blanket approval for every carrier or for hazardous materials; stability and base geometry must be judged case by case. See [Approved loads and pallets](https://info.mobilerobot.com/es-es/safety-compliance/safe-deployment/approved-loads-and-pallets/).

- **The protective field needs room.** The [safety field grows with speed](https://info.mobilerobot.com/es-es/safety-compliance/safety-functions/safety-field-adjustment/) (<https://info.mobilerobot.com/es-es/safety-compliance/safety-functions/safety-field-adjustment/>). Route planning should account for pinch points and shared traffic identified in the [site risk assessment](https://info.mobilerobot.com/es-es/safety-compliance/safe-deployment/site-risk-assessment/) (<https://info.mobilerobot.com/es-es/safety-compliance/safe-deployment/site-risk-assessment/>).

Data that is not available

Accident-rate test data, safety-distance curves, stopping distances, and validation reports are not available. The [reduction in workplace accidents](https://info.mobilerobot.com/es-es/applications/results/safety-improvements/) (<https://info.mobilerobot.com/es-es/applications/results/safety-improvements/>) compared with manual pallet handling is a design intent, not a measured result.



BASE DEPLOYMENT DECISIONS ON CURRENT DOCUMENTATION

Use the current product documentation supplied with the vehicle — not this Knowledge Center alone — for site-specific safety decisions, and complete a [site risk assessment](https://info.mobilerobot.com/es-es/safety-compliance/safe-deployment/site-risk-assessment/) (<https://info.mobilerobot.com/es-es/safety-compliance/safe-deployment/site-risk-assessment/>) before go-live.